SOUTHERN REGIONAL EXAMINATIONS BOARD

REGULATIONS

AND

SYLLABUSES

FOR THE

CERTIFICATE OF SECONDARY EDUCATION EXAMINATIONS

1965

PRICE 3/6

SOUTHERN REGIONAL EXAMINATIONS BOARD

REGULATIONS

AND

SYLLABUSES

FOR THE

CERTIFICATE OF SECONDARY EDUCATION EXAMINATIONS

1965

PRINTED BY
WARREN & SON LTD
THE WYKEHAM PRESS
WINCHESTER

SOUTHERN REGIONAL EXAMINATIONS BOARD

REGULATIONS AND SYLLABUSES
FOR THE
CERTIFICATE OF SECONDARY EDUCATION EXAMINATIONS, 1965

Introduction

The Southern Regional Examinations Board has been approved by the Minister of Education as the examining board to conduct examinations for the Certificate of Secondary Education in the geographical region comprising the areas of the Local Education Authorities for the Counties of Berkshire, Buckinghamshire, Dorset, Hampshire, the Isle of Wight, Oxfordshire, West Sussex, the County Boroughs of Bournemouth, Oxford, Reading, Portsmouth and Southampton, the States of Guernsey and Jersey and for Service Children overseas.

The C.S.E. is designed to meet the needs of sixteen-year-old pupils of average ability who have applied themselves to courses of study regarded by their teachers as appropriate to their age, ability and aptitude.

The Board is prepared to award Certificates of Secondary Education by examination in any of the three following ways:—

(1) by external examination on papers prepared by the Board on syllabuses as set out in this booklet,

(2) by external examinations on papers and syllabuses prepared by individual schools or groups of schools and approved by the Board,

(3) by examinations conducted internally by individual schools or groups of schools but assessed and moderated by the Board.

The Board is advised on all matters relating to examinations by its Examinations Committee, of which a large majority of members are serving teachers, and the Examinations Committee is advised on all matters relating to the administration of its examinations by Subject Panels, composed of serving teachers from schools within the region, who prepare and scrutinise syllabuses.

The constitution of the Board is given in Appendix 1 to this publication and a list of Chairmen of Committees and Subject Panels is given in Appendix 2.

Correspondence with the Board

All communications should be addressed to:—

The Secretary,
Southern Regional Examinations Board,
3 London Road,
Southampton.

Publications by the Board

Copies of these Regulations and Syllabuses may be obtained from the Secretary, price 3/6 post free in the United Kingdom. Heads of schools and other educational institutions within the region served by the Board may be supplied with free copies on application to the Secretary.
Leaflet copies of the separate subject syllabuses can be supplied, price 6*d.* for each subject, post free.

REGULATIONS

1. DATE OF EXAMINATIONS

The examinations will be held annually in May, beginning in 1965. Oral and practical tests and assessment of candidates' course work, when carried out, will normally take place before the written examinations. Timetables for the examinations will be published not later than September 1964.

2. ELIGIBILITY OF CANDIDATES

(i) Candidates attending schools must be aged 16 or in the final term of the fifth year of a five-year course of secondary education, or must have completed such a course (the expression 'a five-year course of secondary education' includes, for purposes of these conditions, any full-time course of five years' duration undertaken in any type of school after the normal age of transfer from primary to secondary education).

(ii) Where, for the time being, pupils are unable, because of lack of maintained secondary school facilities, to take their fifth year save in a further education establishment, candidates entered by such establishments shall be accepted for the examination if they have completed, or are in the last term of, five years' full-time secondary education partly in school and partly in a further education establishment.

(iii) Other candidates may be accepted provided that they are not less than seventeen years of age on the 1st September following the summer term in which the examination is taken.

3. DATE FOR ENTRIES

Entries for the examinations, on the prescribed form, must be received by the Secretary of the Board at its offices not later than the last Saturday in February of the year in which the examination is to be held.

4. METHOD OF ENTRY

Candidates will normally be entered by the school which they are attending and will then normally be examined at that school. The Head of the school will be responsible for examinations held in the school and all correspondence relating to the examination will be conducted through him.

5. EXAMINATION CENTRES

Application for registration of a school as an approved centre for the Board's examinations must be made on the official form of the Board, which will be supplied on request. A Local Examination Secretary, who should normally be the Head of the school, must be nominated for each examination centre and will be responsible for ensuring that the examinations are conducted in accordance with the Rules given in Appendix 3 to this publication. The Board reserves the right to send a representative to an examination centre at any time to inspect the arrangements and the manner in which the examinations are conducted.

6. SUBJECTS OF EXAMINATIONS

The Board is prepared to offer external examinations, on the syllabuses printed in this booklet, in the following subjects:

The Board is also prepared to conduct external examinations on syllabuses prepared by individual schools or groups of schools provided that application is made by the schools and the proposed syllabuses submitted to the Secretary of the Board at least one year before the date of the examinations.

Similarly, provided application is made and the scheme of examinations submitted to the Secretary at least one year before the date of the examination, the Board is prepared to consider the award of Certificates on the results of internal examinations conducted by individual schools and assessed and moderated by the Board.

Candidates may be entered, at the discretion of their school, for any one or more subjects in which the Board is offering examinations.

At its discretion the Board may disallow papers in any subjects for which a candidate has not been correctly entered.

7. EXAMINATION FEES

Examination fees will be subject to review annually. For the examinations to be held in 1965 they will comprise an entry fee of £1 per candidate plus a subject fee of 15s. per subject entry.

8. WITHDRAWALS AND REFUNDS

Candidates' entry fees will not in any circumstances be refunded. Subject entry fees may be refunded, at the discretion of the Secretary, when a candidate withdraws from the whole examination. No refund of fees will be made in respect of candidates withdrawing or absent from part of the examination.

9. DISQUALIFICATION

Any attempt to use irregular or unfair practices at the examinations will be reported forthwith to the Secretary of the Board and may lead to disqualification.

10. EXAMINATION RESULTS

Results of the examinations will be expressed for each subject in the form of grades, from grade 1 to 5. A sixteen-year-old pupil of average ability who has applied himself to a course of study regarded by teachers of the subject as appropriate to his age, ability and aptitude, may reasonably expect to secure grade 4. A sixteen-year-old pupil whose ability is such that he might reasonably have secured a pass in the 'O' level of the G.C.E. examination, had he applied himself to a course of study leading to that examination, may reasonably expect to secure grade 1, having followed a course of study regarded by teachers of the subject as appropriate to his age, ability and aptitude.

As soon as possible after the examination, result lists will be sent to Local Examination Secretaries showing for all candidates their grades from 1 to 5 in each subject and all ungraded results.

11. CERTIFICATES

Certificates of Secondary Education will be awarded in accordance with the conditions laid down by the Ministry of Education, as described in Appendix 4 to this publication. All Certificates will be sent to the Local Examination Secretary, who will be responsible for their distribution. Duplicate Certificates cannot be issued in any circumstances.

SYLLABUSES

The syllabuses which follow are published as a guide to schools to indicate the ground covered in the various subjects. They are not intended to indicate the way in which the subjects should be presented to pupils and indeed it is hoped that they will not impose a pattern on the teaching in the schools. They have been prepared by Subject Panels consisting of practising teachers in the schools in the region and will be reviewed annually in the light of comments received from schools using the examinations.

In accordance with the Board's constitution there are two Subject Panels for each subject or combination of subjects, one for the northern part of the Board's region and one for the southern part. There are, therefore, alternative syllabuses, Syllabus A and Syllabus B, in each subject. Any school, whether situated in the northern or southern part of the Board's region, is free to choose either Syllabus A or Syllabus B in any subject.

Specimen question papers in the various subjects in which the Board is offering external examinations will be published by the end of the first school term in 1964.

1. ART AND CRAFT

SYLLABUS A

The syllabus includes any creative activity concerned with the aim of fostering and encouraging the development of the aesthetic senses, developing the ability to express ideas creatively in as wide a range of media as possible and cultivating artistic perception. The originality of neither the teacher nor the pupil is restricted. There is complete freedom of media and method.

Examinable work may fall into three overlapping categories, non-figurative, figurative and functional, as follows:

(1) Non-figurative. Any form appropriate to the material(s) used; it exploits sensitively the properties of the material(s); it is pleasing to the senses; it has reached that stage of completeness or wholeness where it cannot be altered except for the worse.

(2) Figurative. As (1) above but, in addition, introducing the subject, which from imagination, observation or both, is clearly interpreted in terms of the material(s) used. Apart from being clear and articulate, the interpretation should reveal awareness of, curiousity about, and personal reaction to the world and the things about us, perceived imaginatively or through the senses.

(3) Functional. As (1) above but is designed for a specific use and does its job efficiently.

The examination will be in two parts:

1. *Course Work*

Candidates are invited to submit five pieces of work which they have executed in a variety of media during their last two years at school. Other work from any year may be made available to the examiner. The work is to be unmounted and not presented in the form of a display.

2. *Set Work*

Only one piece of work will be required to be done under the examination conditions which follow:

(i) A question paper will be issued to each candidate on the examination day at the stipulated time. He will have a choice of questions. His response may take the form of creative work in either two dimensions or three dimensions.

(ii) The first three hours will be continuous, during which time the candidate must commit himself to a choice of question and produce work to show the idea which he intends to develop. If, in the development of the original idea, fresh materials are used or if there is a change of media all stages of development not contained in the finished product must be available to the examiner together with the finished product.

(iii) After the first three-hour session the organisation of the time the candidate needs to complete the work is left to individual schools.

(iv) The candidate may be permitted to leave the examination room at any time to carry out research or to obtain materials or tools but the actual work on the examination piece must be done under supervision and must be certified by the supervisor to be the unaided work of the candidate.

(v) Three weeks from the date of its commencement, the completed work, together with the Course Work, must be available for assessment.

In assessing both Course Work and Set Work the qualities looked for will be expressive power and personal imagery, awareness of visual relationships in the use of line, colour, rhythm, pattern, texture, form and mass, capacity to sustain a creative idea or feeling to its fulfilment and a sensitive understanding of the use of methods and materials.
Course Work and Set Work will be given equal weighting in arriving at the final assessment.

SYLLABUS B

The syllabus is framed so as not to restrict the scope of work in the art room. It is designed to encourage experiment and individual development and comprises the following sections:

A. Composition

Work submitted may be:

(1) in any medium (including three dimensions) and should be of a size appropriate to the medium,

(2) taken from observation, imagination, or a literary source,

The examiners will look for:

(*a*) the candidate's personal interpretation of the subject,

(*b*) his ability to express his ideas in pictorial form,

(*c*) his sensitivity of feeling for line, colour, tone, rhythm, pattern and texture,

(*d*) a creative use of the medium.

B. Two or Three Dimensional Work from Observation

Work submitted may be:

(1) in any medium,

(2) from one or more of the categories, life, natural, architectural and mechanical forms.

The examiners will look for evidence of the candidate's appreciation of qualities of form, shape, line, texture, colour and composition.

C. Pattern and Design

Work submitted may be:

(1) in any medium and may include three dimensional work,

(2) derived from natural or abstract forms, either invented or observed.

The examiners will look for:

(*a*) the candidate's ability to organise line, colour, tone, rhythm and texture in creating a pattern or design,

(*b*) his awareness of pattern and structure in the world around him.

D. Graphic Design

The work submitted may be from the following crafts:

lettering, calligraphy, typography, illumination, illustration, creative book crafts, print making, commercial and industrial design, photography, interior design and decoration.

The examiners will look for:

(*a*) an appreciation of materials, techniques and processes involved,

(*b*) suitability for purpose.

E. Textiles

The work submitted may include dyed, printed and woven fabrics, decorative needlework, including machine and hand embroidery and appliqué.

The examiners will look for the candidate's imaginative use of the technique chosen and awareness of the values of line, colour, pattern and texture in the completed work.

F. Pottery, Modelling and Sculpture

The work submitted may be:

(1) flat or three dimensional,

(2) thrown, built and cast pottery, fired or cast clay modelling, modelling in any other material, carvings or construction in any media, decorative panels in clay, plaster, mosaic, etc.

The examiners will look for qualities of imagination, vitality and a sympathetic treatment of the material.

G. Design for the Stage

The work submitted may include:

designs for sets, back cloths, models or sets for any form of stage, designs for props, costumes and masks or actual costumes, masks or puppets made by the candidate. Film making may be submitted under this section.

The examiners will look for:

(*a*) originality and suitability,

(*b*) a sense of drama,

(*c*) a feeling for the theatre.

The examination, which is intended to encourage an interest in the candidate's environment, stimulate creativeness and a sense of values, and not be merely a test of technical proficiency, will be in two parts:

(1) Course work, including evidence of study.

(2) Work under examination conditions.

The examiners will attach great importance to the course work exhibited and marks will be awarded in the following proportions: course work 55%, evidence of study 15%, practical test 30%.

1. *Course Work*

Candidates should offer work from at least two sections of the syllabus. They will be required to prepare for the examiners a small individual exhibition of their course work, which must include at least four examples, completed in their fourth and fifth years at school. Candidates will be responsible for the arrangement of their own work and credit will be given for good presentation. They should be available to discuss their work with the examiners if necessary.

The exhibition must include, in addition, evidence of study of some aspect of visual appreciation. This may be compiled by the candidate in any form and on any subject he may think interesting and appropriate and the examiners will expect to see evidence of personal research. For guidance a list of suggestions of the kind of study the examiners have in mind is given below:

(1) A collection of drawings illustrating one period of architecture or the evolution of one architectural feature, etc.

(2) A collection of brass rubbings made by the candidate.

(3) A collection of packages with comment on their design.

(4) A collection of photographs and drawings illustrating some aspect of the history of costume or current trends in fashion.

(5) A collection of drawings and photographs illustrating any aspect of the history of painting or the visual arts.

(6) A compiled history of ships, cars, bridges, chairs, teapots, etc.

(7) A collection of fossils, butterflies, etc., with drawings and notes.

(8) Studies of natural forms in relation to fabric design, etc.

2. *Work under Examination Conditions*

Examination papers will be set in Sections A, B and C. Candidates will be required to answer one question from one section only and may work in any media.

To allow time for preparation, the test papers will be given to candidates not later than one week before the date of the examination. Sketches made during this time may be taken into the examination room.

The provision of all necessary materials and equipment, which should be available at the start of the examination, is the responsibility of the school authorities.

The time allowed for the examination will be five hours in one school day but candidates may withdraw from the examination room as soon as they are satisfied that their work is complete. In special circumstances unfinished work may be completed after the examination, at the discretion of the head teacher, and the examiners should be informed.

2. BUSINESS STUDIES (COMMERCIAL SUBJECTS)

The Board will offer examinations in various subjects commonly described as Business Studies or Commercial Subjects. Of these, Commerce will rank as a full subject for the purpose of the Regulations and the award of a Certificate of Secondary Education. The other subjects, Commercial Calculations, Office Practice and Simple Accounts, and the skills of Shorthand and Typewriting, will not be counted as full subjects and a candidate who satisfies the examiners in one or more of these subjects alone will not be eligible for the award of a Certificate of Secondary Education. When, however, a Certificate of Secondary Education is awarded to a candidate who secures at least one grade in the range 1 to 4 in any full subject, success in Commercial Calculations, Office Practice and Simple Accounts, and in the skills of Shorthand or Typewriting, will be recorded as an endorsement on the Certificate.

SYLLABUS A

(*a*) COMMERCE

Much of the syllabus will be useful as part of the general education of a girl or boy. Other parts of the syllabus are included with the aim of helping pupils who will take up a career in any branch of commerce and of giving them an understanding of the need for the particular kind of work they will do and its place in the general structure of commerce.

It is intended that the subject should be treated as a preparation for living and employment in the adult world, as a discipline leading to the award of a certificate and as a preparation for further study.

It is considered to be important that the approach should be through the pupil's experience and observation, using among other sources newspapers, periodicals, journals, radio programmes, television and other visual aids and organised visits.

The order in which topics are taken need not be the order in which they are given below.

Difference between industry (production) and commerce (distribution); main types of industry; mass production and division of labour; distribution; independent retailer; multiple shop; variety chain stores; department store; supermarket; mail order business; mobile shops; street traders.

Retailer as a link in the chain of distribution from producer to consumer; relation between retailer, wholesaler and producer; profit margins; turnover and rate of turnover; payment of accounts; documents involved—advice note, delivery note, invoice, credit and debit notes and statements.

Kinds of ownership; sole trader (owner manager); partnership; limited liability company, public and private; co-operative society; the principles of public ownership; names and chief functions of nationalised industries and public corporations for the supply of coal, gas, electricity and water.

The individual as a producer and consumer; interdependence of individuals in modern communities; the interdependence of countries and Great Britain's dependence upon imports.

Buying wisely; money management; planned and impulse buying; estimating income and expenditure; the advantage of an individual budget and of a family budget; the constituent parts of the expenditure of the individual and the family; protection of the consumer.

Ascertaining needs; comparison of prices, quality and value; supply and demand; index of retail prices; advertising and publicity; need for discrimination; branded goods; retail price maintenance; indications of quality, trade marks and quality labels; British Standards Institution; consumer protection organisations; 'Which'; seasonal and other sales; using the advice of the sales assistant; after-sales services; discounts; importance of reading documents before signing; principles of minimum food standards; weights and measures.

Buying on credit; credit as a loan requiring the payment of interest; types of credit to be obtained at various types of shop; opening an account with a retailer; various types of customers' accounts; buying on hire purchase and deferred payments; calculating the rate of interest; loans; security for loans; borrrowing from moneylenders; banks; insurance companies; building societies; credit trading clubs.

Savings and investment; the need for saving; reasons for saving; importance of degree of safety, speed of withdrawal and rate of interest earned; methods of saving such as National Savings, Post Office Savings Bank, bank deposits, insurance policies, building societies, investing in shares, dividends, unit trusts.

Money and banks; present British monetary system; cash; notes, legal tender; why money is essential in a modern community; commercial banks; deposit and current accounts; opening an account; types of cheque; banking facilities to individuals; loans, overdrafts, night safes, standing orders, safe deposit of valuables, foreign currency and travellers' cheques; Post Office facilities for the transfer of money; postal orders, money orders.

Insurance; kinds of personal risks, how insurance protects the individual and his property; accident, fire and motor insurance; main varieties of life assurance; effecting insurance.

Risks against which a business man is advised to insure; utmost good faith; insurable interest; taking out an insurance policy; the proposal; the policy and exclusion clauses; the premium, the claim.

Communication and transport; comparison of transport of goods by land, water and air; the importance of rapid communication; written and oral communication; communication by letter, telephone, telegram and other facilities of the G.P.O.; the use of the telephone directory; Post Office Guide; technique of using the telephone.

The examination will consist of a written paper carrying 85% of the total marks and course work carrying 15% of the total marks.

(1) *Written Paper*

Section A, of 30 minutes' duration and carrying 25% of the total marks, will comprise questions requiring short answers of a single word, phrases or sentences, also a number of questions with alternative answers to be struck out, as applicable.

Section B, of two hours' duration and carrying 60% of the total marks, will consist of questions requiring answers of the short essay type.

(2) *Course Work*

A mark for course work will be made up from:

(i) an average of marks awarded by the teacher during the course, and

(ii) marks awarded for projects.

Candidates will be expected to submit one project of about 1,500 words on any chosen topic. Each project must be the work of the individual candidate and submitted in his own handwriting or own typing. It may be illustrated by cuttings, pictures, graphs, charts and other material.

It is strongly recommended that as far as possible pupils from the same school should each submit a different topic or aspect of a topic as a subject of the project. This should be a study in depth.

An oral test on the project work submitted may be given if the examiner considers this to be desirable in individual cases.

Organised Visits

It is proposed that several organised visits be made to a variety of organisations, which might include some of the following:

Factory using mass production	Public utility (gas, water or electricity)
Warehouse	Transport concern; railway, road or airport handling freight
Office	Commercial exhibition
Stock Exchange	Local Government office or undertaking.
Produce Exchange	One of a chain of retail stores
Large retail store	

The candidate must be prepared to answer in Section B of the written paper a question on any of the visits he or she has made. The school must send to the Chief Examiner, by a date to be fixed, well before the examination, names and addresses of organisations to which the school has organised visits.

(*b*) COMMERCIAL CALCULATIONS

The syllabus is intended as a general introduction to the mathematical basis of the world of commerce, as a preparation for the study of accounts and to provide arithmetic exercises for those studying the syllabus for Commerce.

It is recommended that attention be paid to methods of rapid calculation including vertical and cross casting of quantities and money to be applied throughout the course.

Ratio, proportion and proportional parts.

Decimalization and dedecimalization of money, weights and measures.

Metric system of weights and measures; conversion to British weights and measures; foreign currencies; exchange calculations.

Simple interest; compound interest (short term); problems involving calculation of cash and trade discounts and purchase tax; hire purchase calculations. Logarithms may be used.

Percentages, calculation of working capital; calculation of gross profit, purchases, sales, returns and carriage inwards, cost of sales; opening and closing stocks and their valuation; percentage of gross profit to turnover; calculation of net profit on turnover and of individual expenses to turnover; percentage of net profit on capital invested; calculation of profit on capital invested in stocks and shares on nominal value and market value.

Mark-up and mark-down of prices; calculation of gross profit on cost price and selling price.

The preparation of invoices, credit notes, statements, etc., and the calculations involved.

The preparation of a single payroll to include overtime, bonuses, etc., and deductions for National Insurance, pensions, P.A.Y.E., etc.

Basic principles of double entry book-keeping; recording of all transactions, ledger, cash book including petty cash book, day book including columnar book; simple reconciliation statements and trial balances.

Simple examples of the use of tax tables and the calculation of net taxable pay.

Preparation of simple graphs and charts to represent costs, sales, production, allocation to profits, etc., of the pound spent.

Methods of depreciation of fixed assets; straight line, reducing balance.

Simple problems on general family expenses, simple problems on circles, rectangles, volume; time, speed and distances.

The examination will consist of:

(*a*) a paper on quick calculations requiring only the minimum amount of working to be written down. This will be of $\frac{1}{2}$ hour duration and will be allotted 20% of the marks,

(*b*) the main paper, which will be of two hours' duration and will be allotted 80% of the total marks.

(*c*) OFFICE PRACTICE

The aim of the syllabus is to give a basic idea of general office routine, various business procedures, documents and machines, and the importance of human relationships in office practice.

Introduction to office life; etiquette in business; receiving and entertaining callers; applying for a vacancy; on being interviewed; preparation for a post; general office organisation.

Control and distribution of incoming mail and enclosures in large and small offices; handling of outgoing mail; the postage book; addressing envelopes; collation of documents.

Filing systems; card indexes; visible card records; the importance of cross reference.

Methods of communication—internal and external.

The services of the G.P.O.; the Post Office Guide; the use of the telephone; preparation of telegrams.

Methods of payment—cash, postal orders, money orders, cheques; cheque crossings and endorsements and simple bank current account procedure.

The construction of business letters; different forms of salutation and subscription; forms of address, social customs, titles, answering invitations; the construction of business letters from brief notes; common business terms and abbreviations.

Office machinery and appliances; duplicators, typewriters, dictating and recording machines, addressing machines, adding and listing machines, collating machines, etc.; care of typewriters and duplicators; the various methods of reproducing documents; care of carbon paper.

Preparation of memos; the use of the diary; appointments, reminders, etc., office memory aids; the use of reference books, reference libraries and other sources of information; preparation of circulars, notices and matter for printer; checking and correction of proofs; simple statistical records, graphs and charts.

Office cash, petty cash book; the imprest system; control of consumable office stores; requisitions and orders; general knowledge of the main structure of Income Tax and the P.A.Y.E. system; National Insurance scheme.

The examination will consist of one paper of two hours' duration.

(*d*) TYPEWRITING

The aim is to develop the ability to operate and maintain the typewriter efficiently, to build a fund of typewriting theory, to form good working habits and the thorough mastery of the keyboard by the touch technique and to appreciate the aesthetic importance of neatness and display.

Adequate attention must be paid to

(*a*) Letters with

(i) Subject headings.

(ii) Hanging paragraphs.

(iii) Simple, tabulated statements, etc.

(iv) Continuation sheets.

(v) Carbon copies.

(*b*) Manuscripts of various kinds with abbreviations and correction signs such as stet., yrd., cd., wd.; use of Roman numerals, combination signs, etc.

(*c*) Envelope and post-card addressing.

(*d*) Invoices and other printed forms.

(*e*) Tabulation up to five columns in print and manuscript.

(*f*) The correct use of an eraser should be taught.

Great attention to be paid to good style in all its aspects—evenness of typing, position of work on paper and correct line endings, and above all, accuracy.

Throughout the training there should be accuracy and speed tests so that at the end of the course the pupil should be able to type continuous material at a minimum speed of 30 w.p.m.

Some attention should be paid to audio-typewriting. If a school wishes its pupils to be tested by this method, sufficient notice must be given to the Secretary of the Board.

The examination will include:

(*a*) Ten minute warming-up test of plain, straightforward typing.

(*b*) Accuracy test of ten minutes—1,500 strokes (no eraser to be used here) (provision will be made for higher speeds in this test).

(*c*) Letter and carbon from manuscript, with corrections, and addressed envelope.

(*d*) A piece of typescript involving simple display.

(*e*) Tabulated statement.

(*f*) Completion of a short, simple printed form.

(*g*) A five-minute optional audio-typing test, success in which will be recorded on the certificate awarded.

(*e*) SHORTHAND

Each school must give adequate notice to the Secretary of the Board of the system in which its pupils are to be examined.

Paper I

Transcription of a printed passage in shorthand outlines of approximately 150 words. Half-hour allowed.

Two readings of three minutes each at 50 w.p.m. and two at 60 w.p.m. Each pupil must submit transcriptions of the two passages at one speed only.

Total effective time will be one and three-quarter hours.

Paper II

Two readings of four minutes each at 70 w.p.m. and two at 80 w.p.m. Each pupil must submit transcriptions of the two passages at one speed only.

Total effective time will be one and three-quarter hours.

Paper III

Two readings of four minutes each at 90 w.p.m. and two at 100 w.p.m. Each pupil must submit transcriptions of the two passages at one speed only.

Total effective time will be two and a half hours.

The subject matter will consist of a business letter or report and a passage of more general character, of interest to the candidate.

Transcription may be written in ink. If a typewritten transcription is made, a suitable acknowledgment will be made on the certificate awarded.

SYLLABUS B

(*a*) COMMERCE

The emphasis throughout the course should be on the presentation of general principles in the context of everyday Commercial practice. The topics enumerated in the syllabus should be understood by the pupil in relation to their practical application, and not be studied from a purely theoretical standpoint; a broad understanding rather than a detailed knowledge will be expected, based on the requirements of the pupil and his family as consumers.

The subject might profitably be followed by way of a planned approach related to some firm or commercial activity operating in the school's locality, e.g. a co-operative store, supermarket, public transport undertaking, a family grocery business or even a village store might well afford much of the material necessary for the successful co-ordination of form-room lessons with real life practice.

Candidates will be expected to show an elementary knowledge of the commercial working, and some appreciation of the influence on business, of past and present developments in commerce and industry, but more importance will be attached to a broad understanding of the structure of the business world than to detailed description of those more advanced features and of the forms and procedures in common use.

Trade.

Retail trade; functions of the retailer, sole trader, various types of retail organisation; independent retailer; the departmental store; multiple shops; chain stores; retail Co-operative Societies; mail order houses; ordering and delivery of goods; facilities for credit, budget accounts; the local retail market and its operation and organisation; modern trends in retailing, e.g. branding, packaging, proprietary articles, price maintenance, after-sales service, self-service; the reasons for these trends and their effects; hire purchase, its advantages and disadvantages.

Wholesale trade; functions of the wholesale market; outline of the organisation of a wholesale warehouse; working back from retailer to wholesaler to manufacturer.

Transactions between wholesalers and retailers; the function of quotation, catalogue, order, invoice, debit note, credit note, statement of account, receipt, cash and trade discounts.

A knowledge of one or two specific industries and their commercial background.

Transactions between home trade and foreign trade; the work of H.M. Customs; the means of payment; imports, exports; import duties and licences; insurance; shipping (and agents); sales representatives.

Communications and transport.
The principle features of the various forms—road, rail, canal, sea, air; the purposes for which they are suitable; importance of docks, ports, harbours, airports.

Insurance; working back from pupil to an enlargement upon services performed by Insurance Companies; banking; Post Office services; Post Office Guide; exchange and money.

Forms of business units such as limited companies and partnerships.

The examination will consist of a two-hour written paper requiring short, factual answers to a wide range of questions and, in addition, each candidate will be required to submit evidence, in the form of an individual project, of his studies of the practical application of commercial principles to some local undertaking. Suggested topics for such projects include:

Local services; distribution of consumer goods; investigation of local shopping habits.

Use of libraries and other sources of information; historical topics, compilation of literary references, transport problems.

Collection and presentation of literature, office machinery, manufacturers' literature, advertising.

Visits to exhibitions, commercial organisations, Local Government offices, local public figures.

(*b*) SIMPLE ACCOUNTS

There will be one two-hour paper in which candidates will be expected to show a knowledge of the practice of double entry book-keeping as applied to the accounts of a sole trader, a simple partnership and a small non-trading organisation. They should be familiar with the documents involved in these types of business.

They will be expected to understand the principles of book-keeping involved in the classification and uses of the ledger accounts, trial balance, trading, manufacturing, and profit and loss accounts, income and expenditure accounts and balance sheet.

Questions set may require the use of the journal, 'with appropriate narrations, including correction of errors', day books, three-column cash books, petty cash books, and the various ledgers. A knowledge of the following topics and techniques is assumed on the part of candidates: the extraction of a trial balance and the preparation of final accounts; the bank accounts (current and deposit) and cheques, and bank reconciliation statements; partnership; the adjustment of partnership current accounts; appropriation of profits or losses; the treatment and calculation of stock; depreciation, bad debts, adjustment for accounts unpaid and for pre-payment; the calculation of profit and loss per cent on turnover and capital; the classification of assets

and liabilities; balance sheet analysis and comparison of results; the idea of profit as an increase in capital; distinction between capital and revenue income and expenditure.

Neatness, arithmetical accuracy and conformity with the usual conventions are important in this subject.

(*c*) OFFICE PRACTICE

The purpose of this examination is to test an elementary knowledge of the functions of an office, combined with general knowledge such as would be acquired by a Fifth Former during normal schooling and observation of things he has done himself—e.g. Post Office savings, letters registered, recorded delivery, sealed and unsealed, normal books of reference and so on.

There will be one written paper of two hours with five questions to be answered.

The syllabus includes:

Office Organisation.
Telephone messages and receiving callers; incoming and outgoing post; postal room equipment; inland and overseas postal services; duplication processes; filing—geographical, numerical and cross indexing.

Business Communications.
Business letters, addressing envelopes, telegrams, telephones—internal and external, teleprinters.

Business Forms
Quotations, orders, invoices (and copies, despatch, advice and office), statements.

Records.
Petty cash book, postage books, stock cards.

Methods of Payment.
Use of registered letters, postal orders, money orders, cheques, credit transfer.

Banks.
Current accounts and deposit accounts; methods or procedure for depositing money and cheques into a bank account and withdrawal.

Reference Books.
The candidate will be expected to show some familiarity with such works of reference as English Dictionary, Whitaker, telephone directories, Post Office Guide, timetables, *Radio Times*, Ordnance Survey Maps.

Methods of dispatching Goods.
Train—passenger and goods; sea—cargo, liner, coastal steamer; canal; air, G.P.O. and British Road Services.

(*d*) SHORTHAND

Knowledge of the theory is specially stressed, and an appreciable proportion of the marks will be allotted to the shorthand notes, in which the candidate must satisfy the examiner. Spelling errors and faulty punctuation will be penalised.

The shorthand notes may be taken with either pen or pencil, but the transcripts must be written in ink, or by means of the typewriter. *In no circumstances is a fair copy of the shorthand notes to be made and substituted for the original* nor may alterations be made to the original notes. Candidates may, if they wish, indicate in the margin the correct outlines if a mistake has been made in the original notes.

Dictation will be given at the speeds of 50, 60, 80 and 100 words per minute. Dictation at 50 and 60 w.p.m. will be given on one day and at 80 w.p.m. and at 100 w.p.m. on two other days. Candidates may opt for any two speeds only.

The examination will consist of two passages:

(*a*) one to be a letter,

(*b*) one to be a commercial passage, political report, company report or literary matter.

For speeds of 50 and 60 w.p.m. the passages will be within the 700 common words.

For speeds of 80 and 100 w.p.m. there will be unlimited vocabulary.

The passages will be read for three minutes each, with one minute interval; the high rates will be read for four minutes each.

Candidates may, if they wish, take down more than one passage, but must submit a transcription of the two passages at the same speed.

A passage of printed shorthand will be set for transcription at the lower speeds (20 minutes allowed).

The total examination time will be two hours.

(*e*) TYPEWRITING

The examination will test a candidate's ability to perform tasks that might be expected of a typist in a first appointment. A good standard of work and a reasonable output is therefore required and attention must be paid to accuracy, neatness, display and English. Marks will be deducted for all errors, and in particular for over-typing, untidy erasures, omissions, transpositions, mis-spellings and words incorrectly divided at line-ends. Any recognised system of spacing after punctuation marks will be accepted, provided it is used consistently.

The examination, for which two hours will be allowed, will begin with a warming-up exercise, of five minutes' duration.

There will be an accuracy test of ten minutes' duration, minimum rate 25 words (125 strokes) a minute. Although the minimum rate is to be 25 words a minute, whatever speed is attained will be endorsed on the Certificate. Candidates will type for the full 10 minutes. No erasures will be allowed during this test.

Copying from a wide variety of printed matter, and transcript, involving the meaning of signs for correction. Business letter—with the use of a carbon. Tabulation, with the figures preferably in print. Display work and Column work—with or without lines.

Invoice or other forms—into which the candidates will type details. Candidates will use printed paper. Telegram or Memorandum.

Unless the size of paper to be used is stated, candidates must select the best size suited for each question. The use of an eraser is allowed, except in the Accuracy Test, but candidates must concentrate on accuracy. Excessive or inefficient use of an eraser will be penalised.

Time for the examination will be two hours.

3. DOMESTIC SCIENCE

SYLLABUS A

The object of the course is to encourage and develop a pupil's skill in using her/his own judgment and initiative in any situation, and to enable her/him to reach a good standard of craftsmanship. A candidate should have an understanding of the broad aspects of home-making including the well-being of the whole family and the simple management of time and money, buying and storing of food, planning balanced meals and the wise use of convenience foods, basic cookery processes with underlying principles, the care and maintenance of the home, family washing, accident prevention and first-aid.

The examination will take the form of:

(1) A Practical Test of 2½ hours' duration (with a planning period of up to two hours).

(2) A Written Paper of 1½ hours including one short compulsory question on basic principles and three out of six additional questions, three requiring sectional answers and three essays. Fifteen minutes will be allowed for reading, choice of question and final checking.

(3) A Special Study Folder.

Candidates are asked to select some special facet of home-making for detailed study in their final year. This will be presented to the examiner in the form of a folder with practical examples where applicable. For guidance the following topics are suggested: setting up home; use of leisure; entertaining; design in the home; good grooming; the neighbourhood; the production and use of a commodity, e.g. cutlery, flour; science in the home; preservation; shopping. Candidates, however, are free to make their own choice of topic if they so wish.

Marks will be allocated as follows:

1. Practical Test including Preparation . . .	55%
2. Written Paper	30%
3. Special Study	15%

It is expected that not more than eight candidates will be examined in practical work in any one session. Practical Tests will take the form of varied individual assignments. Each one will cover different aspects of Domestic Science, and will be flexible in interpretation. Schools will receive copies of tests so that the preparation can be done at least three days before the Practical examination, giving time to allow for shopping by the candidates where practicable.

The preparation should include:

(*a*) Choice of work.

(*b*) Recipes, as required, and costing.

(*c*) Time Plan.

(*d*) Shopping list.

Recipe, and reference, books will be available to candidates during both the Preparation and the Practical Test.

Examiners will have the freedom to ask oral questions informally during the Practical Test.

SYLLABUS B

The aim of the syllabus is to emphasize the importance of homemaking and to develop in the pupil an awareness of his/her environment and responsibilities as a future citizen.

A. HOUSE

Choice, care and maintenance of furnishings, surfaces and household equipment. Awareness of modern aids, equipment and commodities for daily, weekly and special cleaning and laundrywork.

B. HOME

Simple entertaining, hospitality. Appreciation of colour and form in the home. Family relationships. Grooming, personal hygiene, care of clothes.

C. THE FAMILY

(*a*) Basic cookery skills and nutrition. Costing. Choice and storage of food. Simple meal planning—children, old people, invalids, vegetarians. Snacks, packed meals. Party fare. Convenience foods. Preservation. Pressure cooking.

(*b*) Health—linked with nutrition. Simple First Aid. Safety in the home, including care and safe use of all fuel appliances, but not repair.

(*c*) Family wash.

(*d*) Care of children.

D. MANAGEMENT OF TIME AND MONEY

Planning of rooms and equipment. Planning time schedules. Use of leisure time. Value of routine. Guidance in the allocation of income—saving and spending with a sense of proportion.

E. SOCIAL SERVICES

Use of telephone and timetables. Knowledge of facilities available and where and how to obtain information. Voluntary work—thought and care for others.

The examination will consist of a three-hour practical test, with one hour's preparation on the day previous to the practical test, and a two-hour theory paper.

Practical Examination

The details of the practical test will be given to the candidates not more than one week and not less than three days before the practical examination. The candidates may take up to one hour to plan the test on the previous day, the time to be used for laundering articles ready for ironing, etc., but not for weighing of ingredients. Books may be used during this period and during the practical examination. The supervision of the planning session will be carried out by a member of staff other than the Domestic Science teacher. The time plans, made out in duplicate by the candidate, are to be sealed and locked away immediately.

The number of candidates per session should not exceed eight, not more than two to work at one stove.

Written Paper

This will include a compulsory section requiring short answers only and a choice of sectional and essay questions.

4. ENGLISH 1965

SYLLABUS A

The examination will be in a single subject, English, incorporating language, literature, special topics and oral work and will consist of three papers and an oral test. The final grading will depend on the aggregate result.

The written examination will demand that a reasonable standard of acceptable English should be sustained throughout the paper. Serious errors in spelling, punctuation and usage will be penalised. In all answers the examiners will look to the quality of the English in reaching their assessment of the positive marks awarded.

The use of dictionaries will be permitted in the examination room, the aim being to assist candidates to write more confidently rather than to spend excessive time looking up meanings of words found in questions.

The influence of the examination upon teaching has been borne in mind and it is hoped that pupils will be encouraged to follow an imaginative course based upon the needs of the adolescent in contemporary society and at the same time to develop their intellectual, aesthetic and spiritual resources.

Paper I (1¼ hours)

Candidates will be required to write on one of several topics which will give them the opportunity to write about personal experiences, to give opinions and to write imaginatively. Examiners will look for quality and orderly presentation of subject matter and imaginative and accurate use of language. Candidates are advised to spend about 15 minutes planning their compositions.

Paper II (2 hours)

Candidates will be required to answer four questions from the following sections:

(1) Letter-writing.

(2) Comprehension and interpretation.

(3) Summary or note-making.

(4) The writing of concise informative prose, e.g. simple explanation, description, direction or instructions.

(5) Interpretation of pictorial, graphical and statistical media.

It is to be understood that note-making and summarisation are two different processes and are alternatives for examination.

Paper III (2 hours)

Candidates will be required to show that they have read with understanding and appreciation literature selected from a given list of books, plays and poems. There will be no context questions and a detailed knowledge of particular extracts is not required.

In addition, questions of a general nature will be asked on special topics from a set list, the purpose of which is to promote study and discussion in schools of a range of interests relevant to English studies, especially those where personal judgment and expression of views are involved.

Candidates must answer five questions taken from at least two of the following sections:

(1) Fiction and other Prose (2) Poetry

(3) Drama (4) Special Topics

Answers of the essay type will be expected and marks will be awarded for the appropriate use of language as well as for the factual correctness of answers. All questions will carry the same marks.

1. Fiction and other prose

People and Diamonds	ed. David Holbrook
Wuthering Heights	Emily Brontë
A Town Like Alice	Nevil Shute
Brighton Rock	Graham Greene
Great Expectations	Charles Dickens
Cider with Rosie	Laurie Lee
The Red Pony	John Steinbeck
Kipps	H. G. Wells
The Golden Apples of the Sun	Ray Bradbury
A Pattern of Islands	Arthur Grimble
The Day of the Triffids	John Wyndham
The Long Walk	Slavomir Rawicz

2. Poetry

Rhyme and Reason . . . . . ed. O'Malley and Thompson

The following sections:

(*a*) Sea and Adventure—page 26 (Lord Randal) to page 35 (The Jervis Bay).

(*b*) War—page 45 (A Burnt Ship) to page 50 (Memorial Tablet).

(*c*) Country Life and Seasons—page 86 (Summer Evening) to page 94 (To Winter)

(*d*) Animals—page 178 (Welsh Incident) to page 187 (Bestiary).

Fresh Fields. Discovering Poetry, Book 4 . . ed. E. W. Parker.

The following sections:

(*a*) Nature—page 56 (Prayer for Rain) to page 63 (Winter the Huntsman).

(*b*) Out and About—page 64 (The Way through the Woods) to page 81 (The West Wind).

(*c*) The Engineer—page 118 (Portrait of a Machine) to page 125 (The Express).

3. Drama

The Government Inspector	Nikolai Gogol
An Enemy of the People	Henrik Ibsen
Major Barbara	George Bernard Shaw
The Merchant of Venice	William Shakespeare
Le Bourgeois Gentilhomme	Molière
Our Town	Thornton Wilder

4. Special Topics

1. *Newspapers:* their functions and characteristics, their service to the community and their shortcomings.

2. *Radio or Television:* uses and abuses as a mass medium, balance of programmes, influence on people's minds.
3. *Libraries:* their role in the life of a school and of a community, their organisation and contents, their relevance to education and leisure.
4. *The Theatre:* its place in the contemporary arts and/or in the first Elizabethan age; its reflection of the life, values and moods of the people.
5. *Amateur Drama:* its purpose in school or club, the problems of production, acting and backstage work. (This topic would, of course, be related to actual participation in drama.)
6. *Discussion and Debate:* purposes and techniques, the influencing of opinion, substantiating a viewpoint, false and valid arguments, the proper conduct of sessions.
7. *The Development of Language:* the idea of a living language, the influences to which it is subjected, its change and modification, slang and colloquialism.
8. *Advertising:* the use of language for the purposes of persuasion, emotive language in advertising compared with emotive language in literature, distinguishing between fact, opinion and mere assertion in advertisements.
9. *Other Special Studies:* schools may give prior notice of study of forms of literature or periods of literature or of other topics closely related to English studies.

Spoken English (10–15 minutes)

The Spoken English examination will consist of the following:

(1) A Conversation, during which the candidate will be led by the examiner to speak more fully on any particular personal interest.

(2) Reading. There will be one passage which shall be seen by the candidate several minutes before the examination and chosen by the examiner from a book studied by the candidate during the year.

The examiner will look for the ability to communicate ideas and sustain conversation, clear and distinct articulation, lively and expressive delivery. The interview should not be regarded as an elocution test. Regional characteristics will not be penalised as long as speech is clearly understandable to any English listener.

SYLLABUS B

There will be an examination in a single subject called English. All sections of the examination must be taken by the candidate, the final grading depending on the results in all sections considered together. (Note. A pupil certified by his head teacher as suffering from a speech defect may be excused the Oral Test, but he should not consider himself debarred from entering it.)

The examination will consist of two written papers, each of two hours' duration, and an oral test of about 15–20 minutes.

The written papers will be so drafted that the average candidate need not be rushed for time. These papers will generally ask for continuous writing about subjects and material which are likely to involve the candidate's interest, experience and imagination.

The influence on teaching of the syllabus and examination has been borne in mind, and it is hoped that they will assist in directing pupils to a lively course that recognises the needs of the adolescent seeking his way in contemporary society, helping him to become articulate, fostering his sensitivity in the experience of life and literature and establishing a habit of reading in support of living.

The candidate will be required:

(i) to write and speak English clearly and connectedly,

(ii) to have read, with understanding and profit, at least that range of literature required for the examination,

(iii) to show understanding for whatever else he may be required to read in the examination,

(iv) to show some capacity for discrimination in reading.

Paper I (2 hours)

The paper will be in two sections, approximately half the time available to be spent in each section.

The compositions asked for in this paper need not be of the maximum length possible in the available time, but they should have an orderly arrangement of material: time should be given to thought and planning. Rough work will not be judged in any way.

Dictionaries may be used in answering this paper.

Section A

A piece of continuous writing will be asked for, there being a wide choice of subjects drawing on the candidate's personal knowledge, interests and experience. Some subjects may require composition in forms other than the essay, e.g. letters, newspaper reports.

Section B

Continuous writing will again be required, in reply to direct, general and leading questions set over a range of thirty texts of prose and drama prescribed for general but thoughtful study. For examination purposes, these texts will be prescribed in ten groups and candidates are recommended to read at least one from each group. The questions set will not assume intensive class teaching of texts.

Paper II (2 hours)

The paper will be in three sections, approximately a third of the time available to be spent on each section.

This paper will require a more closely focussed approach.

Dictionaries may *not* be used in answering this paper.

Section A

Unseen passage(s) will be given, with questions thereon to test understanding in the fullest sense.

Apart from possible references to parts of speech, no demand will be made for knowledge of formal grammar. A grasp of the whole will generally be sought, and an awareness of the significance of detail in relation to the whole.

Section B

From a list of three books (at least one being a play) prescribed for this section the candidate will be required to answer questions on *one*. Detailed study will be necessary. Questions will seek for understanding of the organisation of plot, setting, characters and their development, all in relation to the work as a whole. Some grasp of the ideas and attitudes implicit in the work will also be looked for.

Section C

An unseen poem or passage of verse will be given, with questions on it to elicit and test understanding and response. It will be assumed that candidates have a wide experience of poetry. The questions will be such as might form the pattern of enquiry followed if the poem were studied in class, helping to relate the poem to the candidate's own experience. No knowledge of technical terms will be expected, any form of words that reveals genuine response will be accepted and the candidate should feel free to take every chance of putting down any ideas he has about the poem. Above all, the candidate's grasp of the poem as a whole will be sought even if some questions draw attention to detail. No questions will ask for mere labelling of figures of speech or for scansion.

Oral Test

The oral test for each candicate will last for approximately 15–20 minutes and will consist of the following:

(i) the reading aloud of a prescribed passage, time for preparation being allowed immediately beforehand,

(ii) discussion of topics such as the candidate's reading, school, intended career, current affairs and other interests, the choice of the opening subject being left to the candidate.

The examiner will look for the ability to communicate ideas and sustain conversation, clear and distinct articulation, lively and interesting delivery. The interview should not be regarded as an 'elocution' test. Regional characteristics will not be penalised as long as speech is clearly understandable to any English listener.

PRESCRIBED BOOK LIST, 1965

Books prescribed for Paper I, Section B:

	Title	*Author*	*Suggested Publishers*
(*a*)	Moonfleet	J. M. Falkner	Penguin 3/6; Eng. Lit. Series 5/3; Arnold 12/6.
	Treasure Island	R. L. Stevenson	Penguin 3/6; Dent (Everyman, with 'Kidnapped') 6/–.
	Jim Davis	J. Masefield	Longmans (Heritage of Literature Series) 4/3.
(*b*)	Jane Eyre	C. Brontë	Penguin 3/6; Dent (Everyman) 6/6.
	The Trumpet Major	T. Hardy	Macmillan 4/–.
	David Copperfield	C. Dickens	Dent (Everyman) 9/6; Univ. London 4/6.

(*c*)	The Overloaded Ark	G. Durrell	Penguin 3/6; Allen and Unwin 6/–.
	Seal Morning	R. Farre	Arrow 3/6; Hutchinson 5/6.
	Elephant Bill	J. H. Williams	Heinemann (New Windmill Series) 5/6.
(*d*)	A Pattern of Islands	A. Grimble	J. Murray 3/6.
	The Kon-Tiki Expedition	T. Heyerdahl	Allen and Unwin (School Edn.) 6/6; Corgi 2/6.
	Watkin's Last Expedition	F. S. Chapman	Chatto & Windus (Queen's Classics) 4/6.
(*e*)	Cider with Rosie	L. Lee	Hogarth 18/–.
	The Country Child	A. Uttley	Nelson 6/–.
	Brother to the Ox	F. Kitchen	Dent 5/–.
(*f*)	The Franchise Affair	J. Tey	Penguin 2/6; P. Davies 12/6
	The Otterbury Incident	C. Day Lewis	Penguin 2/6; Heinemann (New Windmill Series) 5/–.
	The Hound of the Baskervilles	A. Conan Doyle	Murray 3/6.
(*g*)	The African Queen	C. S. Forester	Penguin 3/6; M. Joseph 5/–.
	The Old Man and the Sea	E. Hemingway	Cape 8/6.
	Huckleberry Finn	M. Twain	Fontana 2/6; Nelson 5/–.
(*h*)	Lord of the Flies	W. Golding	Penguin 2/6; Faber 5/–.
	Animal Farm	G. Orwell	Penguin 2/6; Secker 6/–.
(*i*)	Our Town	T. Wilder	Longmans 4/9; Penguin (with other plays) 4/–.
	Noah	A. Obey	Heinemann 4/6.
	The Long and the Short and the Tall	W. Hall	Heinemann 10/6; Penguin (New English Dramatists) 2/6.
	Death of a Salesman	A. Miller	Penguin 2/6.
(*j*)	The Loneliness of the Long Distance Runner	A. Sillitoe	Pan Books 2/6; W. H. Allen 12/6.
	Cry the Beloved Country	A. Paton	Penguin 2/6; Cape 10/6.
	The Day of the Triffids	J. Wyndham	Penguin 2/6; Hutchinson 6/–.

Books prescribed for Paper II, Section B:

Macbeth	W. Shakespeare	Dent (New Temple Series) 6/–.
Silas Marner	G. Eliot	Cambridge 5/6; Dent (Everyman) 6/6.
Typhoon	J. Conrad	Nelson (with 'Tales of Unrest') 6/–; Dent (Everyman, with 'The Nigger of the Narcissus' and 'The Shadow Line') 5/–.

N.B.—The Book List suggests some reasonably priced editions, but particular editions are not insisted upon. There can be no certainty that prices quoted above will continue or that editions referred to will remain in print.

5. GEOGRAPHY

SYLLABUS A

The Syllabus is divided into two parts, each containing three sections, as follows:

PART 1

Section A. Field Study: Local Geography.
Section B. OS Map Reading, including study of three regions.
Section C. British Isles.

PART 2

Section D. Physical Geography.
Section E. World Geography, including special studies.
Section F. Regional Geography (excluding British Isles).

Each school must take two sections from each part and must state the choice of sections at the time of entry. Schools selecting sections E and/or F must also state the choice of sub-section at the time of entry.

Section A. Field Study: Local Geography

Candidates offering this section will submit their work and should be prepared for an oral examination some time before the written papers are taken. There will be no written questions on Section A.

A folder, loose-leaf file, or notebook should be submitted, containing individual work on some aspects of local geography and/or field work, not necessarily of the home area or the school area.

Maps, diagrams, models and specimens relating to the region studied, and individual records of observations made and data collected relating to such topics as relief, drainage, structure, weather, vegetation and human activities of the region would be suitable material for assessment.

A programme of field work might well include some of the following:

(1) A full-scale transect chart, showing relationships between surface rock drainage, land use, settlement, communications.

(2) A traverse between two points with a schedule of questions to be answered, based on observation.

(3) A comparative study of two or more settlements.

(4) A journey through an industrial area.

(5) An industrial visit, such as a factory site, with the emphasis on geographical material.

(6) A detailed examination of a selected rural or urban area.

(7) An annotated sketch of the landscape from a stated view point.

(8) Simple surveys, e.g. compass traverse, etc.

(9) Identification of physical features.

(10) Weather records.

A concentrated period of activity in the final year is not recommended. Records of field work undertaken during the previous two years may be submitted for examination. Examiners will expect to see the original work done by the candidate in the field.

Section B. OS Map Reading and Regional Studies

This section will be subdivided:

(1) Map reading from an Ordnance Survey map extract (2½ inches or 1 inch). This will assume

(*a*) a knowledge of the more common conventional signs, six figure grid references, use of scale and directions, and an understanding of the significance of contour lines and gradients, intervisibility of points illustrated with an accurate section, recognition of simple types of land utilisation.

(*b*) ability to interpret simple relationships. A photograph may be included in this section.

(2) Questions based on the activities of people in the geographical region from which the map is taken. For 1965 the map will be chosen by the examiner from one of the following regions: Scottish Highlands, North East England, South East England.

Section C. British Isles

A knowledge will be expected of:

physical features, climate (including common weather situations), major population centres, chief industries, including fishing and agriculture, communications and trade.

There will be a wide choice of questions so that candidates need not necessarily cover all regions or aspects in detail.

Section D. Physical Geography

(1) Day and Night. The Seasons. Latitude and Longitude. Time.

(2) Scenery. The effect on landscape of simple rock types, weathering and erosion. Formation and distribution of major land forms.

Section E. World Geography including Special Studies

(*a*) *General World Geography*

Questions will be set on the human response to environment in the major natural regions and on world trade.

One question may involve the use of a world outline map which will be provided.

(*b*) *Special Studies*

Racial problems in South Africa.

Movement of population in England.

Freedom from Hunger Campaign.

Preservation of Wild Life in Africa.

St. Lawrence Seaway.

Oil in the Sahara.

The Snowy Mountain Scheme.

European Common Market.

Themes may be submitted by schools for consideration by examiners.

Schools may select one of the following:

(i) subsection (*a*) only,

(ii) subsection (*a*) and *one* theme from subsection (*b*), in which case candidates will be expected to answer one question from subsection (*a*) and one from subsection (*b*),

(iii) subsection (*b*) only, in which case a school will be expected to choose *three* themes.

Section F. Regional Geography (excluding British Isles)

One of the following may be chosen:

(*a*) Western Europe: Norway, Sweden, Denmark, Benelux, W. Germany, France, Switzerland.

(*b*) North America: Canada, U.S.A.

(*c*) South and Central America, including the West Indies.

(*d*) U.S.S.R.

(*e*) Monsoon Asia, including Pakistan, India, S.E. Asia, China and Japan.

(*f*) Australasia.

(*g*) Africa.

(*h*) Mediterranean and the Middle East.

There will be a wide choice of questions.

The written examination will be in two parts. In the first part candidates offering Section A (Field Study) will be required to answer two questions from either Section B or Section C and will be allowed 1 hour 25 minutes; all other candidates will be required to answer two questions from each of the Sections B and C and will be allowed 2 hours 40 minutes. In the second part all candidates will be required to answer two questions from each of the two sections chosen and will be allowed 2 hours 40 minutes. In each case the time allowance includes 10 minutes for reading the questions, during which period candidates will not be allowed to begin writing.

Each section will carry the same number of marks. In Section B there will be only one question in sub-section 1 and this will carry 60% of the marks of Section B; in sub-section 2 there will be a choice of questions and the questions chosen will carry 40% of the marks of Section B. In Sections C–F there will be a wide choice of questions carrying equal marks.

The purpose of the questions set will be:

(i) to test the understanding of the tools of geography, i.e.

(*a*) making and using maps and diagrams,

(*b*) the accurate use of powers of observation,

(*c*) knowledge of the facts and methods of using source material,

(ii) to test the skill in the interpretation of facts.

In many instances the first part of the question will involve the addition of information to a sketch map or diagram, or the recognition of facts from material provided, with the question in the form of pictures, description or statistics. The second part will test the interpretation of facts and will need a written answer. Information should be precise and up-to-date.

SYLLABUS B

The examination will consist of four parts:

(1) An oral map reading test, carrying 20% of total marks.
(2) A paper on the British Isles, carrying 30% of total marks.
(3) A paper on World Geography, carrying 30% of total marks.
(4) Course Work, carrying 20% of total marks.

Candidates may be required to use an atlas in one or both of the papers.

Oral Map Reading Test

Approximately 10 minutes will be allocated for each candidate, of which about 8 minutes will be employed in active questioning of the candidate on an Ordnance Survey map in front of him. Maps, which may be of 1 inch or 2½ inch scale, and will include conventional signs, will be selected by the Board. The candidate will be allowed to study the map for 15 minutes before he is tested.

Paper on the British Isles (1½ hours)

The work on the British Isles is intended as a form of revision of work done earlier in the school course, but centred on the topics which are proposed. Some of these topics are self-explanatory, others require a little explanation which is given below; in all cases it is expected that reference will be made both to the local area and to the appropriate physical bases; candidates will have the opportunity to give evidence of local knowledge. It is not intended that the list of topics shall remain the same from one year to another.

The Fishing Industry.

Hill Farming

By hill farming is implied the kind of farming characteristic of the upland areas of the Pennines, Wales, Scotland, the Lake District and Ireland.

Market Gardening.

Opportunity should be taken here to link the activity both with the physical nature of the various areas as well as with factors connected with communications, settlements and climates.

Current Movements of Population.

This topic is concerned with the factors lying behind the movement of people from Ireland to England, from Wales to England, from Scotland to England and within England from North to South.

Town sites south of the Thames–Severn estuary line.

The topic should give an opportunity for those taking sample studies of selected towns and attention should be directed to the towns which have arisen as a result of well-defined inland or coastal features. Ports, therefore, are obviously included.

The Motor Industry.

The Industrial Northeast.

British weather.

Urban water supplies.

In this topic is included the problem of water supply to industrial areas in the North, which must of necessity look far afield, as well as to areas in the South of England where water supply comes partly from the impounding of surface water, partly from underground sources and partly from abstraction from rivers.

Paper on World Geography (1½ hours)

In this section of the syllabus again the paper will be based on work done in earlier years and now revised, brought up to date and given a bias in the direction indicated by the topics. It is not intended that the list of topics shall remain the same from one year to another.

Soil erosion and conservation in North America.

It is hoped that the study of this subject in relation to North America will serve to establish general principles, using North America as the area for illustration and examples.

The Oil Industry.

This topic is left in this form to give an opportunity for a world-wide study which would therefore involve sources and movements of the products as well as centres of refining and distribution.

Plantation agriculture.

It is expected that this type of agriculture will be dealt with on a world-wide basis in tropical areas, both in relation to production of food and raw materials and the lines of movements to world markets.

Meat supplies from the southern hemisphere.

This theme will have the grasslands of the southern hemisphere as its background. Movement to major markets will again be included.

Great ports and their hinterlands in North Western Europe.

Emphasis should be given to the definition 'great' and factors of the site should be dealt with.

Major air routes of the world.

Food supplies in South East Asia.

This theme is introduced to relate to the food supplies of the populations of the area and not to foods produced for export to Europe unless these are surplus from foods produced for the indigenous groups.

Irrigation in India and Pakistan.

This should be taken to include traditional as well as modern large scale methods.

Course Work

The work could take the form of:

Field study.

A special study of the local area or a topic of interest.

The subject of work or study is required to be notified to the Board not later than the final date of entry for the examinations.

Some form of individual work will be required. In the case of field study it is intended that the notebook used in the field shall be available, supported, where appropriate, by extended work. A special study can be taken from the widest possible range of topics and might include a series of observations and results over a period of time, a study of some topic involving reading, a survey of an area, or possibly an extended journey with some objective. The guiding principle is that the work must be done by the pupil with the teacher acting merely as guide.

6. HANDICRAFT

SYLLABUS A

(*a*) WOODWORK

The examination is designed to assess the candidate's practical skill together with his ability to apply his theoretical knowledge in a practical and pleasing form. Course work should reflect the freedom of a broad course in craftwork and should not be limited to the acquisition of skills through repetitive exercises.

The examination will comprise:

Practical Test . . .	3½ hours, carrying 60% of the total marks.
Craft Knowledge Paper .	2 hours, carrying 20% of the total marks.
Practical Course Work .	carrying 20% of the total marks.

Practical Test

It is important that the first 15 minutes of the time should be devoted by the candidate to studying the examination paper.

The essential dimensions will be given together with the types of joints required. Candidates will be required to work from dimensioned sketches or dimensioned scale drawings. The drawings for this test will conform to B.S.308/53. Candidates will be expected to supply simple constructional details and/or dimensions which will be deliberately omitted from the question paper. Credit will be given for interpretation of the drawing, the sound proportion of the joints and the design of the details. The test will be a straightforward test of construction and the examiner will be looking for quality of craftsmanship.

The candidate should have had experience of the usual woodworking tools in such constructions as:

(1) simple forms of box constructions, e.g. through and lapped dovetails, etc.

(2) flat frames incorporating a panel or pane of glass, e.g. using fillets, rebates, etc.,

(3) simple stool frames, e.g. various forms of mortice and tenon.

These are not the only constructions to be expected but they are cited to give general guidance to teachers.

Details of the materials and equipment to be provided by the school authorities will be supplied to head teachers, under confidential cover, at least two months before the commencement of the series of examinations.

The test piece may be returned to the candidate at the discretion of the examiner.

Craft Knowledge Paper

The paper, of 2 hours duration, is intended to test the candidate's knowledge of:

(1) Safety in the workshop.

(2) Tools: the use and maintenance of the common tools normally used in the school workshop.

(3) Materials: hardwood (oak, beech, ash, elm, teak, walnut and West African mahoganies) and softwoods (European redwood), plywoods, other manufactured boards and laminated plastics.

(4) Glues: natural and synthetic.

(5) Abrasives.

(6) Screws, nails, hinges and fittings.

(7) Wood finishes: wax and oil finishes, lacquers, varnishes, paints and preservatives.

(8) Construction: the common joints and their application.

(9) Gluing and assembling of small jobs.

(10) Design: the consideration of simple design and problems of planning.

The paper will consist of two sections:

Section A

Ten short questions on general workshop knowledge requiring answers of a few words or a sentence. Freehand sketches may be included. All ten questions should be attempted.

Section B

Part 1. Four questions on tools, materials, construction, processes and finishes, the answers to be reasonably comprehensive in content and to be supplemented with freehand sketches whenever possible.

Part 2. Four questions on simple design. Candidates will be required to plan and design a simple article including constructional detail, shaping and sound proportion. An adequate supply of drawing paper 11 inches by $7\frac{1}{4}$ inches should be available to each candidate and he should be encouraged to develop his ideas in the form of preliminary sketches before arriving at his final design. Drawing instruments may be used if desired.

Candidates will be required to answer four questions from Section B, of which at least one question must be from Part 1 and at least one from Part 2.

Practical Course Work

This should comprise practical work executed by the candidate over a period of not less than one year immediately prior to the examination. Unfinished work may be submitted.

(*b*) METALWORK

The examination is designed to assess the candidate's practical skill together with his ability to apply his theoretical knowledge in a practical and pleasing form. Course work should reflect the freedom of a broad course in craftwork and should not be limited to the acquisition of skills through repetitive exercises.

The examination will comprise:

Practical Test . . .	$3\frac{1}{2}$ hours, carrying 60% of the total marks.
Craft Knowledge Paper .	2 hours, carrying 20% of the total marks.
Practical Course Work .	carrying 20% of the total marks.

Practical Test

The time allowance of $3\frac{1}{2}$ hours includes 15 minutes for the candidate to study the question paper and to plan his work.

Candidates will be required to work from dimensioned sketches or dimensioned scale drawings. The drawings for this test will conform to B.S.308/53.

Candidates will be expected to supply simple constructional details and/or dimensions which will be deliberately omitted from the question paper. The test will, where possible, be a complete and recognisable article.

Provision will be made for alternative tests as follows:

(1) General Bench Fitting Test.

The working of common bench tools for work on metals and alloys used in the workshop. Basic constructional processes; setting-out, filing, hacksawing, fitting, riveting. The use of stocks and dies and taps. Brazing and silver soldering (involving simple work of short duration). The use of power drilling machine. Elementary lathe work (turning of shoulders and spigots, centre drilling and drilling with the taitstock). Simple forgework (bending, drawing-down and twisting).

(2) Beaten Metal Work

The working of suitable sheet, bar and rod metals used in the workshop. Single and double curvature work. Shaping. Development. Annealing. Basic constructional processes: setting-out, filing, hacksawing, riveting. The use of stocks and dies and taps. Soft and hard soldering. The use of the power drilling machine. Appropriate decoration.

Details of materials and equipment to be provided by the school authorities will be supplied to Head Teachers, under confidential cover, at least two months before the commencement of the series of examinations. A list of stockists who undertake to hold stocks of materials required for the practical test will be supplied.

Craft Knowledge Paper

The paper, of 2 hours duration, will be designed to test the candidate's knowledge of:

Recognition and practical use of common metals and alloys used in the workshop. Heat treatment of these metals: hardening, tempering, case-hardening and annealing. Care, uses and upkeep of the common hand tools and of light hand power tools (small portable power drill). The basic bench-work and beatenwork processes. Simple forgework. An elementary knowledge of the production of metals and alloys in common use in the workshop. Use of drilling and polishing machine and knowledge of the bench grinder. Basic lathework, excluding screwcutting. Casting in the workshop using non-ferrous metals. Marking out methods: uses of measuring tools including the micrometer and vernier calipers. Lubricants and cutting fluids. Methods of fastening used in metalwork: temporary and permanent methods. Common finishes for metal. Craft History. Development of tools. The use of abrasives in the workshop. Safety precautions in the workshop.

The paper will consist of two sections:

Section A

Ten short questions on general workshop knowledge requiring answers of a few words or a sentence. Freehand sketches may be included. All ten questions should be attempted.

Section B

Part 1. Four questions on tools, materials, construction, processes and finishes, the answers to be reasonably comprehensive in content and to be supplemented with freehand sketches whenever possible.

Part 2. Four questions on simple design. Candidates will be required to plan and design a simple article, including constructional detail, shaping and sound proportion. An adequate supply of drawing paper 11 inches by 7¼ inches should be available to each candidate for the design questions and he should be encouraged to develop his ideas in the form of preliminary sketches before arriving at his final design. Drawing instruments may be used if desired.

Candidates will be required to answer four questions of which at least one question must be from Part 1 and one from Part 2.

Practical Course Work

This should comprise practical work executed by the candidate over a period of not less than one year immediately prior to the examination. Unfinished work may be submitted.

SYLLABUS B

Examinations will be provided in both metalwork and woodwork designed to test creative talent, skill and craftsmanship together with the proper use of materials, within the field of general education. The examinations will attempt to measure the ability of the candidates in their use of a workshop, their knowledge of tools and materials and their understanding of design and the principles of construction in the kind of work normally carried out in their school workshop. It is suggested that a minimum of 80 hours per year or 240 hours over a three-year course is desirable to achieve the standard expected and that experience in the craft presented for examination should be continuous over the last two years. The examinations will make provision for those schools which have special interests.

No separate paper in drawing will be set but a knowledge of drawing on the part of all candidates will be expected from points of view of planning a project, interpretation, and for descriptive purposes in answering theoretical questions.

The examinations will be arranged in three sections as follows:

1. *Project Work.* This will involve practical work on a project carried out during normal workshop time and selected by the candidate from a list of projects approved by the Chief Examiner. The work will be executed during the final year of the course and assessed by the teacher as it progresses.

The candidate will be expected to plan his selected project and make a number of sketches. If it is found to be necessary the teacher may make modifications. Where modifications are made by the teacher, they should be clearly indicated to show where he has influenced the planning stages of the work. All sketches and modifications produced during the planning stage must be retained and handed in for assessment, together with any other preparatory work carried out by the candidate, when the finished project is assessed by the visiting examiner. Beyond verbal guidance the practical work as such must be the unaided work of the candidate.

2. *Theory Papers.* These will contain questions on the use, care and maintenance of tools, general workshop theory including safety precautions, and on general knowledge of materials and processes with which a candidate could be expected to be familiar.

The time allowed for this part of the examinations will be two hours and the questions will be grouped as follows:

Section A. This will consist of a number of questions. Each answer will consist of a short statement or a diagram. Questions requiring a one word answer or a plain 'Yes' or 'No' will not be set.

Section B. This will consist of several questions giving a reasonable choice and involving writing and sketching. The questions in this section will be more demanding and the answers expected more extended than those in Section A.

3. *Course Work.* An assessment based upon the quality of the candidate's work throughout the course will be made by the teacher and forwarded to the Chief Examiner.

The final grading of each candidate will be based upon marks earned by the candidate in the three sections of the examinations in the following proportions:

Project work	55%.
Theory paper	30%.
Course Work assessment . . .	15%.

The syllabuses for the examinations will be as follows:

(*a*) *Metalwork:*

Simple safety precautions in the workshop.

General Benchwork:	basic principles and techniques, including the use of drilling machines.
Forgework:	bending, twisting, drawing down, flaring, flattening, forging an eye, annealing, hardening, tempering and case-hardening.
Beaten Metalwork:	hollowing, raising, planishing, polishing, applied wires and decoration, hard and soft soldering.
Sheet Metalwork:	elementary tinplate work and soft soldering.
Foundry Practice:	simple moulding and casting.
Machine Practice:	lathework, including plain turning, taper turning using the compound slide, drilling, boring, knurling and faceplate work.
Materials:	the properties and uses of common ferrous and non-ferrous metals and their alloys.
Associated Theory:	as set out above.

(*b*) *Woodwork*

Practical Work:	operations calling for the use of the commoner woodworking tools in such constructions as:
	(i) simple forms of box and carcase constructions,
	(ii) flat frames incorporating a panel or pane of glass,
	(iii) simple stool frames.

These are not the only constructions to be expected, but they are cited to give general guidance.

Theory:	the theory paper will be arranged as set out above and applied to the candidate's experience of woodwork in school.

7. HISTORY

SYLLABUS A

The examination will consist of one written paper lasting 2½ hours. A wide syllabus has been provided to meet, as far as possible, the needs of individual schools, which will be free to choose any one of the following sections:

Section 1. *History of the British Empire and Commonwealth*

THE ENGLISH IN NORTH AMERICA

Attempts in Elizabethan and early Stuart times to find North West Passage, Frobisher, Davis, Henry Hudson, Hudson Bay Company, French explorers, La Salle and Champlain; conflict of interest between English and French.

Settlement in North America:

Plantation colonies, Raleigh, Smith and Virginia; other plantations, e.g. North and South Carolina, Georgia; New England, Pilgrim Fathers and New Plymouth; Roger Williams and Rhode Island; Middle Colonies, Penn and Pennsylvania, New York.

Anglo-French rivalry grows in America:

Wolfe and conquest of Canada.

War of American Independence:

How Britain lost her American colonies; George Washington.

Canada (From Conquest to Dominion):

Military rule, Quebec Act, Empire Loyalists 1791, divisions, 1837 rebellions, Durham Report; British Columbia and discovery of gold; growth of Dominion to 1867; problems of the new Dominion, North West Territories and Mounties; Red River and Louis Riel; British Columbia and Canadian Pacific Railway; steps towards self-government up to Statute of Westminster.

AUSTRALIA AND NEW ZEALAND

Australia:

Exploration and early settlement on eastern coast; Captain Cook; penal settlement under Captain Phillips; sheep farming and development after explorations of Sturt (New South Wales, Queensland, South Australia, Tasmania); Eyre (Western Australia); Burke, Wills, Stuart (Northern Territory); discovery of gold in Victoria and Western Australia; end of transportation; Australia attains Dominion Status; growth of Australia in the 20th century; importance of food production (refrigeration) and wool; population problems and defence (white Australian policy).

New Zealand:

Explorations of Cook; annexation, Maoris, Wakefield, Treaty of Waitangi 1840, Maori Wars, Sir George Grey; Dominion of New Zealand and progress up to modern times.

INDIA AND AFRICA

India:

East India Company; Spice Islands; Amboyna Massacre, factories in India; Anglo-French rivalry; Dupleix; Clive and Warren Hastings and their work in India; British rule and reforms up to the Mutiny; Bentinck; Dalhousie, the Indian Mutiny; movement towards independence; Gandhi, Nehru, Jinnah; independence and partition into India and Pakistan; India and Pakistan today.

AFRICA 'THE DARK CONTINENT'

Slave Trade and West Africa Company leading up to Wilberforce and abolition; Gordon; exploration of Africa, Mungo Park, Livingstone, Stanley; European annexations or the scramble for Africa; West and East Africa, movement towards independence, examples, Ghana, Nigeria, Kenya, Tanganyika, problems of independence; Boers, Britons and Bantus in South Africa; missionaries; British and Boer attitude to slavery; Great Trek and Zulu Wars; diamonds and gold; Rhodes and his work for Africa (Rhodesia); events leading up to Boer War (Botha, Kruger, Smuts); Dominion of South Africa; republicanism since Hertzog; Apartheid; Malan; resignation of South Africa from the Commonwealth.

THE ROAD TO SELF GOVERNMENT (EMPIRE BECOMES COMMONWEALTH)

Commonwealth support in two world wars; peace settlement and the Empire; Imperial conference since 1911; Statute of Westminster, 1931; Commonwealth conferences today; the place of the British Commonwealth in the 20th century world.

Section 2. *Europe in the* 19*th Century* (1815–1914)

BRITISH INDUSTRIAL SUPREMACY (1815–1870)

Cotton, wool, coal, transport, population.

INDUSTRIALISATION OF EUROPE (1870–1914)

Iron and steel, transport, Trade Unions, economic nationalism.

NATIONAL AND DEMOCRATIC MOVEMENTS

The effects of the Napoleonic War up to 1830.

Britain: parliamentary reform, Trade Unions, Chartism, Labour Party.

France and Belgium: from the revolutions of 1830 and 1848 up to 1871; the Third Republic to 1914.

Italy: the Young Italy Movement: Mazzini, Cavour, Garibaldi, Victor Emmanuel.

Central Europe: Austria-Hungary, Metternich; the rise of Prussia, Bismarck's internal policy; William 1st, Schleswig-Holstein and the war with Austria.

Russia: Poland; the Czars from Alexander 1st to Nicholas II.

The Eastern Question: the decline of Turkey; Balkan nationalism; the attitudes of the Great Powers.

OVERSEAS EXPANSION AND ITS EFFECT ON EUROPE

Survey of the overseas possessions of the old colonial powers, Britain, France, Spain, Portugal, Holland; the new imperialism, the grab for Africa; India and the Far East.

THE EVENTS LEADING TO THE FIRST WORLD WAR

This part of the syllabus will, to a large extent, include the work covered in previous parts.

The alliances; the Crises, North Africa, the Balkans, the arms race; Sarajevo to the invasion of Belgium.

Section 3. *British Social and Economic History from the mid* 18*th Century*

Credit will be given for knowledge of local history, where applicable.

AGRICULTURE

Farming in the early 18th century; enclosure and its effects on village life; pioneers of scientific farming, Townshend, Coke, Tull, Bakewell, Young; periods of prosperity and depression in agriculture in the 19th century; the effects on British farming of transcontinental railways, steamships and refrigeration; the state and the farmer in the 20th century.

INDUSTRY

The textile industry; the domestic system; inventions for the cotton industry of Kay, Hargreaves, Arkwright, Crompton and Cartwright; power; water power, Newcomen, Boulton, Watt and the steam engine; the iron industry, the Darby family, Wilkinson, Cort; the coal industry; the pottery industry, Wedgwood; the steel industry, Bessemer, Siemens, Gilchrist-Thomas; the motor car industry; power; gas, Murdock; electricity, Faraday; the turbine, Parsons.

TRANSPORT

Roads, turnpike trusts, coaches and inns; Metcalfe, Telford, Macadam; canals, Brindley; railways, Stephenson, Brunel; the steamship; underground railways; the motor car; the aeroplane.

COMMUNICATIONS

The penny post, the telegraph, the telephone, Telstar; wireless and television; newspapers and films.

TRADE

The Free Trade movement; foreign competition and the growth of Protection; the Common Market and E.F.T.A.; the growth of the business unit.

SOCIAL EVILS AND THEIR REFORM IN THE FIRST HALF OF THE 19TH CENTURY

Distress and discontent after 1815, Luddites, Peterloo; the reforms of Howard, Fry, Owen, Shaftesbury, Chadwick, Peel, Hill.

WORKING CLASS MOVEMENTS

Trade unions, Place, Owen, New Model unions; the Dock Strike, the Taff Vale Judgment; the Osborne Judgment; the General Strike, the T.U.C. and the place of trade unions in modern society; the Co-operative movement and Friendly Societies; Chartism; the rise of the Labour Party.

EDUCATION

Grammar Schools, Public Schools, Raikes and Sunday Schools, Lancaster and Bell; state aid and intervention from 1833 to 1944; the structure of education today, adult education and universities.

THE GROWTH OF DEMOCRACY

Central government; the reform of parliament; development of political parties; the cabinet system; how laws are made; local government; the development of local government since 1835; responsibilities of local councils; the rating system.

POPULATION

The growth and redistribution of population; the problems of industrial growth; public health; housing and town planning; medicine; the work of Jenner, Lister, Pasteur, Simpson, Nightingale, Ross and Fleming; the development of the welfare state in the 20th century.

Section 4. The World in the 20th Century

Part 1 is compulsory and two other Parts must be chosen for study.

PART 1

The Legacy of the 19th Century; Britain and the world in the 20th century; Imperialism to Liberalism; the nature of World War I; its human cost; the search for a settlement; Versailles; a bill to be paid; the idea of the League of Nations and the search for peace, 1920–31; economic depression and the drift to war; Munich to Hiroshima; the United Nations organisation and the charter of human rights; a divided world, 1945 to present day.

PART 2

POLITICS

Democracy:

The state and the citizen; the democratic ideal; (the rights and responsibilities of the citizen, as expressed in the U.N. declaration of human rights); democracy in action: the development of the Welfare State in Britain as from 1945; the New Deal from F. D. Roosevelt to President Kennedy.

Communism:

Karl Marx and the communist ideal; Lenin and the Russian revolution; Stalin and Khruschev.

Fascism:

Mussolini and the quest for empire; Hitler and the subjection of Europe.

Nationalism and the New Nations:

Gandhi, Nehru and the Birth of India; Mao Tse-Tung and China; the New Africa; colonialism and nationalism with particular reference to Ghana and Algeria; South Africa, Apartheid.

PART 3

THE SHRINKING WORLD

Communications:

Nansen, Scott, Hillary, Byrd; Marconi, Baird; Whittle, Parsons, Campbell; the Wright Brothers, Alcock and Brown, Lindbergh, Amy Johnson; Piccard, Cousteau; space exploration, Gagarin, Glenn; standardisation; mass production, automation, mass opinion; Northcliffe, Beaverbrook; Ford, Nuffield, Reith, Woolworth; world markets and world products; the Common Market and E.F.T.A.; G.A.T.T.

PART 4

World Economic Development—1900 to the present day.

This part will contain maps and simple statistical diagrams which the pupil will be required to interpret.

The growth and concentration of world population; have and have-not nations; reasons for unequal economic development; boom and slump; the World Crisis of 1929–31; the affluent society in America and Europe; poverty, ignorance and disease in South America, Asia and Africa; international co-operation in the fight against poverty, ignorance and disease; I.L.O., Red Cross, World Bank, International Monetary Fund, U.N.E.S.C.O. Arid Zone Research Organisation, World Health Organisation; scientific co-operation; nuclear power.

It is hoped that the examination will test historical training, rather than the cramming of historical facts.

Those who expect revolutionary changes may not find them in a cursory perusal of the syllabus. In fact there is a measure of compulsion which may at first seem retrograde. By making Part I compulsory, however, the aim is to avoid a limited outlook. Part I will comprise a short test of general historical knowledge. For this there will be a liberal choice of questions and a complete break before writing the longer answers.

It is recognised that many courses of history stop far short of modern times. If such a study is to help the school leaver to understand the society of which he forms a part, it must have some relevance to more recent history. It has been decided that a minimum of one question from the period since 1750 should be attempted by all candidates. As some schools may not be in a position to implement such a regulation at present, it will not become operative until 1967.

The examiners will give credit for evidence of local studies illustrating any part of the syllabus.

As an alternative to one question on Part II of the written paper the examination of an *individual assignment* done as *course work* will be accepted. It is hoped that local history will inspire most of the projects thus attempted.

Another alternative accepted in place of one question on Part II of the paper will be a *research topic* to be completed under supervision in the Library or History Room using recommended reference books, a list of which will be sent to schools notifying the Board of their intention of accepting this alternative. Such schools will be required to select the research topic from the topics listed in Part II (Section C) of the written paper. Candidates exercising this choice will not be allowed to answer any question from this same topic on the Part II written paper.

With the intention of avoiding the usual strain on candidates required to write long answers under pressure of time, Part II of the written paper, although designed to be answered in two hours, will be time-tabled for two hours and twenty minutes, giving an extra twenty minutes for those candidates needing the time. No candidate should leave the examination room before the end of one hour and a half but those who wish may have up to two hours and twenty minutes. This will include time for reading through the question paper and there will be clear guidance from the teacher in charge as to time and correct sections. For candidates offering course work or a research topic as an alternative question these times will be reduced by thirty minutes in each case.

So that candidates will not be faced with reading through all of the very large number of questions which will be set in Part II of the written paper, this will be issued in Sections and schools will be supplied only with the Sections required by them to cover the courses followed by their candidates.

PART I

Written Paper (30 minutes—including time for reading the questions through). 20% of the total marks.

Candidates will be required to answer ten questions to be selected from a wide choice covering general historical knowledge acquired over a five-year course of study, ranging from the earliest times to recent history. A break of ten minutes will then be taken before Part II is answered.

PART II

Written Paper

Candidates who are submitting an individual assignment or taking the research paper will only be required to answer three questions from any sections. All other candidates will be required to answer four from any sections. All questions may be taken from one section if desired.

Section A. The figures in brackets indicate firstly, the number of questions which may be answered, and, secondly, the number of questions to be set for each sub-section.

Prehistoric Britain. (1) (2)

Palaeolithic men—Neolithic men—Bronze and Iron-using men.

Early Mediterranean Civilisations. (1) (2)

Egypt—Mesopotamia. The Phoenicians—The Greeks and the Persians.

Britain in the Roman Empire. (1) (2)

Roman conquest of Britain—Roman-British towns—the roads—the northern frontiers—Roman Wall—barbarian attacks on the Empire—Roman withdrawal.

The Unification of England. (1) (2)

The various tribes and kingdoms—waves of invaders—Anglo-Saxons—the coming of Christianity—fury of the Northmen—rise of Wessex—Alfred the Great—the Norman Conquest—Doomsday Book.

Life in Mediaeval Times. (1) (8)

The Feudal System (Service, land tenure and agriculture)—Guilds and Town Life—growth of trade—The Church—Army and Crusades—the Black Death and its consequences—Justice and Government.

The New Learning and the Reformation. (1) (3)

Revival of Classical learning—invention of printing—Reformation and Counter Reformation—Dissolution of the Monasteries—the Universities—the English Bible.

Geographical Discoveries. (1) (4)

Marco Polo—Henry the Navigator—Bartholomew Diaz—Columbus—Vespucci—Vasco de Gama—the Cabots—Magellan—Balboa—Cartier—Elizabethan Explorers—Hudson—Cook.

Tudor England. (1) (4)

The ending of Feudalism—growth of strong monarchy—nationalism and power-politics in Europe—foreign policy and the struggle with Spain—the religious settlement—the wool trade—the Poor Law—commerce—the theatre—literature and music and painting—the social scene.

The Stuarts and the English Revolution. (1) (4)

Main religious, political and economic issues culminating in the clash between Monarch and Parliament—Civil War—Commonwealth—Restoration—Revolution and the accession of William and Mary. Social scene. Overseas settlement.

England in the 18th Century. (1) (4)

Queen Anne—Marlborough—Tories and Jacobites—Whigs and Hanoverians—Walpole and Chatham—Rivalry and War with France. The Social scene. The Rise of Methodism.

Section B. The Modern Period (c. 1750 to the present)

It is expected that the majority of schools will choose the modern period, having followed a broadly chronological study of history. For this reason the greater syllabus detail which follows is intended to be helpful. There will be a wide choice of questions but as far as possible these will be similarly specific, broken down where necessary into parts, and giving 'props' and 'guides' to the candidate on the information and type of answer required; broad questions will be avoided as far as practicable. Because of the wide choice in the modern period (a span of over two hundred years), the decision to teach near-contemporary history is in effect still the teacher's, and the syllabus gives an opportunity to those who wish it to bring their teaching up to the very recent past. Although in many respects the content of this syllabus cannot appear very different from G.C.E. 'O' level it is hoped that the real differences may be in teaching methods and techniques, and it is hoped in particular that the examination papers will demonstrate adjustment to the range of pupils for whom C.S.E. examinations are intended.

The figure in brackets is the number of questions to be set on each subsection.

British History c. 1750 *to the Present:* (Political, Social and Economic) (15)

Political (not intended to be 'watertight' compartments)

Loss of the American Colonies; Reaction to the French Revolution; Britain at War with France (emphasis on outstanding personalities and their achievements)—legacy of 'egalitarian principles'; After the Napoleonic Wars; Social Distress and Tory Repression; Age of Reform (Personalities and background connected with Reforms); Parliamentary Reform; Victorians—at work, at home, their Ideas (religion, politics, literature, art, leisure, etc.); The 'Two Nations'; the awareness of a 'submerged tenth'; Britain's power and prestige; relations with European and other Powers; Eastern Question (Crimean War); India; Canada and Australia and Home Affairs (including Irish Question) New Zealand and South Africa; Liberal Revival—and rule in the 20th Century; European Crisis and the First World War (Alliances, Causes and Results); Britain between the Wars—Boom, Depression and Recovery; World War II; Post-war Britain; (Outstanding personalities).

Social and Economic (not intended to be 'watertight' compartments)

The Agrarian and Industrial Revolutions and their consequences; Agriculture: Process of Enclosure—advantages and demerits; new farming methods—pioneers and innovators—population pressures; war conditions, etc.; Industry: changes in methods of production—textiles, coal, iron, steel; Communications in relation to changes: canals, roads, railways, post and telegraph; Effects of War of 1793–1815 (Enclosures, Corn Laws, Free Trade, etc.); Growth of Population; social distress; Poor Law and its reform; Factory and Public Health legislation—personalities and ideas; Trade Unions; Chartism; Co-operative Movement; Friendly Societies; Education—main stages and personalities; Developments in Agriculture ('Golden Age' to features of 20th Century); Decline of 'Laissez-faire'; Origins of Social Services; Modern Transport and Communications; Use of Leisure.

Britain and the World, c. 1793 *to the Present*

Britain and her neighbours in the 19th Century: (15)

Era of the French Revolution (New ideas and their impact; 'Welcome and Disillusion'; Rise and fall of Napolean; his legacy to France);

Principles of the Congress System (Survey of Europe in 1815—to aid understanding of the rise of 19th Century Nationalism);

Nationalism:

France after Napoleon I; eventual resurgence of pride and ambitions under Napoleon III—and aftermath;

Germany: Background; Bismarck and Unification (*v.* Denmark, Austria and France). Commercial policies and ambitions;

Italy: Mazzini; Cavour; Garibaldi; Victor Emmanuel II;

Rôle of Britain in the 19th Century World:

Commercial policies and Empire; attitude to France, Russia and other Powers.

Britain's neighbours in the 20th Century:

Europe: Causes of World War I—Versailles and the results of the War—Economic depression—Rise of Mussolini and Fascism—Hitler and Nazism—decline of France—events leading to Second World War—Europe after 1945—Resurgence of France—Partition of Germany—Iron Curtain—moves toward European Union.

U.S.A.: United States' development by the turn of the century; Entry into World War I; Wilson's '14 Points'; 'Withdrawal'; Isolation; Between the Wars—Boom and Slump (Roosevelt and the New Deal); Social scene—automobile industry—cinema, etc.; World War II—Marshall Aid—'Involvement' in Europe and Asia—commital to United Nations organisation, etc.); 'Cold War'—Korean War; Berlin; Cuba; Co-existence; Disarmament, etc.

U.S.S.R.: Russia at the turn of the century; Revolution of 1905; World War I; 1917 Revolution; Rise of Bolsheviks; Personalities (Lenin-Trotsky-Stalin); Economic Planning; Suspicions of Western World; Pact with Germany in 1939; Invasion of Poland; War with Finland; Hitler's attack on the U.S.S.R.: Alliance with Western Allies—War effort—Yalta—Victory—Potsdam—'Cold War'; death of Stalin; developments since; International Communism; membership of United Nations; General developments (especially in Science and material progress) since 1945.

Britain and the Commonwealth (15)

Canada: Background to the Durham Report; Act of Union (1840); the Oregon Boundary; responsible government; Quebec Conference (1864); British and North America Act (1867); Canadian Pacific Railway—its economic and political consequences; Prairie Provinces and British Columbia; agricultural and industrial progress; World War I, Statute of Westminster; prosperity and depression; role in World War II, development since.

India (from the Napoleonic Wars): Bentinck's social reforms; educational reforms; Lord Dalhousie's reforms; work of H. and J. Lawrence in the Punjab; reasons for and the results of the Mutiny; Government of India Act; the Indian National Congress; the work of Lord Ripon and Lord

Curzon in India; Afghan wars and Anglo-Russian relations; growth of Indian nationalism; Gandhi; Provincial self-government; India in the Second World War; Achievement of Independence of India, Pakistan and Burma. Progress since. (Pakistan and India.)

South Africa: Establishment of British Military rule; British immigration in the early 19th Century, impact of missionaries; conflicting views of British and Dutch; British frontier policy and annexations; the Great Trek; Natal; Basuto war; Sand River and Bloemfontein Conventions; the Transvaal; Zulu Wars; First Boer War; Pretoria Convention; Second Boer War; the Union; First World War and after; (Personalities: Sir Harry Smith, Sir George Grey, Lord Carnavon, Cecil Rhodes.) Social and Racial policies of the Union.

Australia and New Zealand: Australia (from the Settlement at Botany Bay to the present); developments in New South Wales from Convict Settlements to Colony and responsible government; Victoria; Queensland; Tasmania; Western Australia; South Australia; Geography and Exploration; Gold; Railways; Federation; Commonwealth Act; Commerce; World Wars; S.E.A.T.O. personalities: Gibbon Wakefield, explorers. New Zealand; Mission Settlements; British Sovereignty; British and Maori; self-government; Dominion Status; World Wars; links with Great Britain; developments.

Section C. 'Topics'

(The figures in brackets indicate firstly, the number of questions which may be answered, and, secondly, the number of questions to be set for each sub-section.)

The Story of the Atom: (2) (5)

(1) Early Greek views—Democritus; (2) Alchemists—philosopher's stone; (3) Beginnings of modern chemistry—Lavoisier—idea of an element; (4) Dalton's Atomic Theory—Avogadro; (5) X-rays and radio-active substances—Röntgen—Crookes—Curie—Becquerel; (6) The Periodic Table—Mendeleyev; (7) Constitution of the Atom—J. J. Thompson—Rutherford—Wilson—Chadwick—Hahn—Cockcroft and Walton—Bohr; (8) The Atomic Bomb—Alamogordo—Hiroshima—Nagasaki; (9) Hydrogen Bomb; (10) Peaceful uses of atomic power—Calder Hall—use of isotopes in medicine, etc.

Surgery, Medicine and Public Health: (2) (5)

(1) Primitive medicine—Totems—Witch Doctors, etc.; (2) Doctors in Ancient World—Greece—Hippocrates—St. Luke; (3) Circulation of the Blood—Harvey; (4) The Discovery of germs and antiseptic surgery—Jenner—Semmelweiss—Pasteur—Koch—Lister; (5) Development of asepsis; (6) Anaesthetics—Long—Simpson; (7) X-rays—Crooke—Röntgen; (8) Prontosil and sulphonamides; (9) Antibiotics—Fleming; (10) Radio-active tracers; (11) Influence of Florence Nightingale and Nursing today; (12) Pure water—sanitation—sewage—inoculation; (13) Public Health Acts—Health Service—Preventive Medicine—World Health Organisation.

Food and Agriculture: (2) (5)

Man as a hunter—nomad—farmer; development of agriculture in ancient times—calendar, plough, etc.; voyages of discovery bringing new foods, spices, fruits, potatoes, poultry, drinks, etc.; Medieval agriculture—Journals

—Rothamsted; Development of North American Prairies—Canada—U.S.A.—Argentine—Australia—New Zealand; Prevention of soil erosion; Types of food—discovery of vitamins—Hopkins—Scurvy and the Limeys: Mendelism leading to the development of new strains; Insecticides and Fungicides; Refrigeration and Canning; Lord Boyd Orr—Food and Agricultural Organisation of the United Nations—Population Pressure—Oxfam, etc.

Astronomy: (1) (3)

Importance of Astronomy in early civilisations—connections with the priesthood and Astrology, etc. Copernicus (and resultant confusion from his views); Circumnavigation of the world; Galileo and the telescope; Kepler; Radio telescope, Jodrell Bank.

History of Power Driven Ships: (1) (3)

Land Transport from Earliest Times to Present day: (2) (5)

The Story of Flight to the Present (including Space Flight): (1) (3)

Emancipation of Women: (1) (3)

Education—Opportunities in commerce and professions, etc., Voting rights—Legal status, etc.

World Organisations: (2) (5)

League of Nations and United Nations—Agencies and their work.

Development of Mass Media: (1) (3)

Newspapers—magazines—libraries—cheap books—Post Office—radio—cinema—television—Atlantic Cable—satellites.

Systems of Government: (1) (3)

The Greek City—State and the origins of democracy—Greek and Roman ideas—Despotisms—Feudalism—Eighteenth Century Whig Oligarchy—Benevolent Despotism—Napoleon's dictatorship—Parliamentary Institutions—Fascism and Communism—Checks on Government.

Civics: (2) (6)

Local government—Functions of local authorities—Types of Councils (their relations with each other and the Central Government)—the election and duties of councillors—the principal permanent officials—Sources of income and allocation of revenue—Central government.

The Crown; House of Lords: Constitution and Powers; House of Commons: General and Bye-elections; The work of an M.P.; The Party system (Conferences, Programme, Publicity, etc.); The appointment and functions of the Prime Minister; The Cabinet (H.M. Opposition and 'Shadow Cabinet'); The Ministries; Functions of Parliament: How a Bill becomes Law; The executive functions of the Civil Service and Local Authorities; The Budget and raising of Taxes; Parliamentary procedure—private members and question time; reporting of work of Parliament; The Law; Distinction between Civil and Criminal Law; Statute and Case Law; Magistrates' Courts, County Courts and Assizes; The work of J.P.s; The House of Lords as the final Court of Appeal; The duties of witnesses and jurors; The position of the Police; The liberties, duties and rights of the citizen.

(Candidates will be expected to have a general knowledge and a particular acquaintance with their own locality. A separate syllabus will be available for the Channel Islands on this topic.)

Building—Houses and Homes: (1) (3)
A study of British domestic architecture from Prehistoric to Modern Times.

History of Sail: (1) (3)
From the Vikings to Modern Times.

History of Sea Warfare: (1) (3)
From earliest times to Trafalgar.

History of Arms and Armies: (1) (3)
From Norman Conquest to Waterloo.

Story of Dress and Fashion in England: (1) (3)
From Norman Times to the Present Day.

8. MATHEMATICS

SYLLABUS A

Mathematics may be regarded as the language in which we discuss those parts of the real world which can be described by the relationships of number, space, quantity and shape. The techniques and manipulations we learn are the grammar of the language, but language is more than grammar and it is hoped the syllabus will be used to enable Mathematics to be expressed with understanding and imagination.

This syllabus is not intended to be read as an exhaustive list of topics or a scheme of work to be followed rigorously, but as a framework enclosing a common core of concepts round which the Mathematics of a school can expand. Schools should feel free to develop liberal forms of mathematical teaching and be more concerned with principles than processes.

Much new thought is being given to the subject matter of school Mathematics and as the present position is one conducive to change and continual experiment the need for options in some parts of the examination is recognised.

The common core includes much that is traditional in Mathematics syllabuses but it is the intention that questions should aim at testing both the understanding of fundamental mathematical concepts and the ability to apply basic calculations appropriately and accurately to realistic situations rather than the memorising of formulae and processes and the carrying out of complicated and artificial computations.

Candidates should be able to make reasonable estimates of answers and have due regard for the degree of accuracy obtained.

No formal geometrical proofs will be required and a practical approach to the work should be encouraged.

The Common Core Syllabus

Number systems: scale of 10 and others (particularly binary), directed, rational, irrational numbers.

Money, weights and measures in common use, including metric system.
Percentages, ratio, proportion, averages.
Simple and compound interest, decimalisation of money.

Index notation, expressing numbers in the form $A \times 10^n$.
Understanding and use of mathematical tables (Book of Logarithmic Tables, Castle (part 1, Macmillan)) and slide rule.

Approximations, degrees of accuracy.

Graphical representation and interpretation of statistics.
Importance of scale and axes.

Relationships expressed in general or symbolic terms, manipulation of algebraic symbols, operational rules of algebra, equations, simple linear, simultaneous, quadratic (solutions by formula or completing the square not necessary).
Identities, inequalities.
Graphical representation of simple algebraic relationships such as

$$y = mx + c: \; y = ax^2 + bx + c: \; y = kx; \; y = \frac{k}{x}: \; y = 2^x:$$

Fundamental ideas about shapes including some mensuration.
Recognition of shapes in two or three dimensions, shapes that can be drawn and shapes that can be constructed, shapes that arise from moving points (loci) and moving lines (envelopes).

Symmetry.

Regular plan figures.

Application of theorem of Pythagoras.

Use of drawing as a means of mathematical communication, including freehand illustration and instrumental drawing.

Similarity, congruency as a special case.

Circles, area, circumference.

The sphere and its circles, circular measure, angle, arc, area of sectors, including radians.

Volume and surface area of pyramid, prism, cylinder, cone, sphere.

Angles between planes (along lines of greatest slope).

Direction and change of direction, bearings, the fixing of position, simple navigational problems, solved by drawing to scale.

Trigonometrical ratios, acute and obtuse angles only.

Optional extensions to the Common Core Syllabus (catered for in Part 2 of the second paper).
Displacement, velocity and force as examples of vector quantities, addition and subtraction of vectors, simple application (relative velocity, etc.).

Permutations and combinations, probability, chance and odds, Pascal's triangle.

Concepts of calculus, elementary co-ordinate geometry.

It is intended eventually to include an optional section on Modern Mathematics when the syllabus for this new material has been formulated and the new symbolism involved has been standardised.

The examination will consist of two sections carrying equal marks:-

Section 1

A compulsory paper with questions of the multi-facet type (based upon the Common Core Syllabus).

Section 2

Part 1. A compulsory paper of the more formal type requiring the orderly setting-out of work (based upon the Common Core Syllabus), together with

Part 2. A paper of questions based upon the Common Core Syllabus *and* upon the Optional Extension to this syllabus. Enough choices will be given to allow the paper to be completed from the Common Core Syllabus alone.

SYLLABUS B

The wide variety of school organisation within the Board's region and the differences even in schools of the same type make the production of the perfect syllabus an impossibility. The circumstances surrounding the new examination, recent trends and the advent of 'modern' mathematics ensure that the candidates who offer themselves for the first papers in 1965 will do so against a background of continuing change. In order not to narrow down Mathematics teaching but to leave it wide open to experiment and imaginative thinking, the syllabus which follows is itself in the nature of an experiment, to be evaluated and amended year by year in the light of experience until some clear and acceptable pattern evolves. It centres on a core of fundamental concepts, arranged and annotated to suggest possible lines of thought and development—some of which, it is hoped, may be profitably followed especially with the abler pupils beyond what is prescribed for the examination—taking in much that is traditional but, perhaps, in a fresh and stimulating context. The various topics and applications which have been put forward as options for more intensive study can arise naturally from consideration of the common core, allowing schools freedom to choose and, given certain outlines, to develop their own syllabuses.

The examination will have as its aim the testing of a wide range of mathematical ideas and their application to realistic situations requiring insight and understanding on the part of the candidate. Techniques and computational ability will be tested only in so far as they fall within the pattern. Two papers will be set, each carrying 50 marks:

Paper 1. A compulsory paper set on the common core syllabus, containing questions of the short answer type (multi-facet but with answers to be discovered, not chosen). Time allowance up to 2 hours.

Paper 2. More conventional, in so far as it will test standards of presentation and the ability to tackle questions of more than one stage; this paper will contain two sections, one compulsory, based on the common core syllabus with certain additions, the other offering a wide range of options. Time allowance up to $2\frac{1}{2}$ hours.

In addition, a school may, if it so desires, have candidates' course work assessed and taken into account, provided that the work of all candidates who have followed the same course is submitted. A mark out of 20 will be awarded, to be added to the candidate's examination score. The overall mark out of 120 will be reduced to a percentage for ranking purposes.

Syllabus	*Notes*
Investigation of Number	
Number characteristics: odd, even, prime, etc. Exploration of number structure: recognition of patterns and sequences.	
Number systems: the scale of ten, numbers written in other scales, the use of the binary scale in mechanical computation.	Conversion from one scale to another may be called for but Addition, Subtraction, Multiplication and Division of numbers in scales other than ten will *not* be tested on this paper.
Extending the idea of number: positive and negative numbers; common and decimal fractions, equivalence, conversion, order of magnitude; percentage as a special form of decimal fraction.	
Powers and roots; rational and irrational numbers; index notation, large and small numbers expressed in the form $(a \times 10^n)$.	A thorough understanding of the use of positive and negative integral indices is required. Some acquaintance with simple fractional indices is desirable.
Generalised number: use of letters to represent number; symbols; brackets; substitution; steps in manipulation.	Candidates should appreciate that Algebra is essentially the written language of mathematics and be able to use it in making general statements and translating them.
Product of two binomial linear expressions; perfect square.	
Simple factorisation, including grouping of terms, quadratic trinomial and difference of two squares.	
Space, Shape, Size	
Recognition and investigation of the commoner solids: cuboid, cube, prism, pyramid, cylinder, cone, sphere. Curved and plane surfaces: faces, edges, vertices.	No questions will be set which require the formal learning of theorems as part of a systematic deductive treatment of this section. It is expected that candidates will have discovered the geometrical properties referred to by experiment, observation or in the course of practical work, e.g. by the use of models, frameworks, developments, dissection, paper folding or cutting; drawing will have been seen and practised as a means of mathematical communication.
Lines: curved, straight, vertical, horizontal, perpendicular, parallel, intersecting.	
Angles: direction and change of direction; three figure bearings, fixing position; angles of elevation and depression; angle properties of intersecting and parallel lines.	Candidates will be called upon to apply their discoveries to a given figure, as, for example, in calculating a length or an angle from known measurements.
Symmetry about a point, line and plane.	
Recognition of shapes: types of triangle and quadrilateral, trapezium, parallelogram, rhombus, rectangle, square; regular polygons. Application of their properties. Circle: circumference, area; chord, tangent and angle properties; cyclic quadrilateral.	
Length, Area, Volume, Capacity. Mensuration of triangular and rectilinear plane figures and commoner solids.	The more difficult formulae will be given where they are required for an answer.

Number as a tool	*Notes*
The important units of money, weights and measures, British and Metric, and their conversion.	Compound quantities will not be expressed in more than two units with the exception of £ s. d. and yds. ft. ins.
Decimalisation of money and compound quantities.	
Everyday calculations involving the four rules for number and compound quantities as applied to realistic situations and problems of a practical nature.	These will include: buying and selling, profit and loss, discount; percentage, saving, Post Office Savings Bank, Simple Interest, use of Compound Interest tables.
Logarithms as an aid to calculation.	The theory of logarithms is not required, but the use of Tables will be tested. At the examination candidates may use any standard Four Figure Mathematical Tables with which they are familiar, such as the Cambridge (publ. C.U.P.), Castle (publ. Macmillan), or Durrell (publ. Bell).
Approximations: degrees of accuracy.	
Relationships of Number, Space, Shape and Quantity	
Use of fractions for purposes of comparison: ratio, proportion; proportional parts; average.	
A particular relationship: distance, time, speed.	
Statement of relationship in general terms: making simple equations from everyday problems and solving them; solution of simultaneous linear equations in two unknowns. The formula: its construction and transposition.	
Relationships illustrated by graphs: interpretation of graphs of statistical data and simple algebraic equations.	Candidates should be familiar with graphs as a source of information and as an aid to calculation, e.g. as ready reckoners or conversion tables.
Similarity: comparison of sides, areas and volumes; congruency as a special case of similarity. Scale.	
Right angled triangle: Pythagoras Theorem.	Candidates should be familiar with the use of Four Figure Tables for squares and square roots.
Similar right angled triangles: constant ratios: sine, cosine, tangent.	
Solution of right angled triangles involving the use of sine and tangent tables.	Cosine tables may be used but the question set will be capable of solution without reference to them.

PAPER 2

This will be available in THREE forms as PAPER 2 (A) or PAPER 2 (B) or PAPER 2 (C)

Six questions will be set in the compulsory section (Section I) which will be identical for all three papers. The differences between the papers lie in the grouping of options for the respective Sections II, each of which will contain nine questions. Candidates will be required to answer *seven* questions in Paper 2, of which at least two, but not more than five, must be taken from Section I. Where a school enters more than one group of candidates, for the purpose of assessing course work (see page 1) all those who take the same form of Paper 2 will be deemed to 'have followed the same course'.

For the examination, set squares, rulers, protractors, compasses and a standard set of Mathematical Tables will be required. Unless the terms of a question impose specific limitations, a Slide Rule may be used in this paper where, in the judgment of the candidate, it will give an answer to the required degree of accuracy.

SECTION I

Six questions will be set.

Syllabus	*Notes*
A deeper knowledge of the common core syllabus than was expected for Paper 1, together with the extensions set out below.	
Number Systems: the four rules applied to numbers in the binary scale.	
Algebraic expressions: simplification of expressions including fractions with linear denominators.	Questions involving higher order denominators will not be set.
Quadratic equations.	Only questions which can be solved by factors will be set but solution by any known method will be accepted.
Graphical work: the straight line and the determination of the equation governing it. Solution of simultaneous linear equations. Graphical treatment of a quadratic.	Given an equation and some corresponding values, candidates may be required to calculate those omitted and draw its graph. They should be capable of reading values from this graph or from one supplied.
Loci: knowledge of: locus of point at fixed distance from a given point; locus of point equidistant from two fixed points; locus of point equidistant from a given line; locus of point equidistant from two fixed lines.	Questions may also be set on the locus of a point satisfying a combination of these loci.
Construction work: bisection of angles and lines; division of a line into equal parts or into proportional parts; construction of perpendiculars; construction of angles of 60°, 30°, 45°; construction of triangles from given data.	Questions may involve drawing, measurement, calculation or deduction, based on any of these constructions or a combination of them.
Trigonometry; solution of problems in two or three dimensions.	Only questions whose solution can be found by using right angled triangles will be set

PAPER 2 (A), SECTION II

Two questions will be set on each of topics (*a*), (*b*), (*c*), (*d*) and one question on (*e*).

Syllabus	*Notes*
(*a*) Force: representation by vectors; resolution into two components; parallelogram and triangle of forces and velocities. The Principle of Moments; levers.	Questions will relate to practical situations and may be partly descriptive in character to test knowledge of basic principles.
Motion: uniform motion; uniform acceleration; travel graphs.	The following formulae should be known: $v=u\pm at$; $s=\frac{1}{2}(u+v)t$; $s=ut\pm\frac{1}{2}at^2$; $v^2=u^2\pm 2as$.
Work and horse power. Inclined plane.	
(*b*) Navigation: symbols and abbreviations used; determination of positions by two bearings; a running fix; Mercator's projection; triangle of velocities. Speed and distance, nautical miles, knots.	Questions will be set which call for drawing and/or calculation.
(*c*) The Earth as a sphere: latitude and longitude; meridians, great and small circles. Measurement of the earth. Distance of visible horizon. Time: G.M.T.; Time Zones, Date line. Map problems: scale, distance; contour, gradient.	Candidates will be expected to know the intersecting chord properties of a circle and how to find the length of arcs.
(*d*) Surveying: preparing plans from field book; finding areas by trapezium method.	Practical experience of elementary surveying methods will be assumed and may be tested.
Heights and distances, including heights of inaccessible objects.	Solution by drawing and/or trigonometry may be called for.
(*e*) Solution of two or three dimensional problems by scale drawing.	Candidates should be familiar with angles between two planes and between line and plane.

PAPER 2 (B), SECTION II

Five questions will be set on topic (*a*), two on (*b*) and one on each of (*c*) and (*d*).

Syllabus	*Notes*
(*a*) Theory of sets: the idea of a set as a number of elements; subsets; null and universal sets; complement of a set; union and intersection of sets. The use of Venn diagrams for solving problems.	The following symbols will be used: $\in$ —is a member of $\notin$ —is not a member of $\subset$ —is contained in $\cap$ —intersection of $\cup$ —union of $\sim$ or $'$ —complement of ϕ or O—null set ξ or I (or U)—universal set. Questions will be set on the understanding of the theory as well as on the results obtained.
The idea of a group: commutative and non-commutative groups; determination of the identity and inverse members of a group; closure. Number groups. Modulo groups.	
Topology; the ideas of two dimensional topological space. The properties of closed networks; travelling a network. Relationships between regions, arcs and vertices.	Candidates should be familiar with the following ideas: inside; outside; region; boundary; paths; continuity; junctions and networks. They may be required to describe practical work undertaken during the course.
Movement Geometry: the effect of translation of a point or line or plane figure; effect of reflection of a point or line or plane figure in a given line; effect of the rotation of a point or line or plane figure about a given point.	A detailed knowledge of vector properties is not expected, but candidates should know the effect of combining two or more operations. Rectangular cartesian coordinates will be used whenever they suit a particular problem. Translation may be described verbally, e.g. '5 miles N.E.', or by conventional symbols. The term 'maps into' should be understood.
Geometry: similar shapes; congruent shapes. Area and regularity of shapes. Tessellations: regular, semi-regular and irregular.	
(*b*) Permutation: selection. Probability; Pascal's triangle.	Permutations: questions on the arrangements of up to 8 unlike items. Selection: simple problems needing no formulae.
Elementary statistics: collection and representation of data by histogram, bar charts, pie charts, frequency polygons and the interpretation of them; mean, median, mode. Validity and comparison.	Factual questions may be asked on the graphs drawn or given. Calculation of the mean and the location of median and mode may be required.
(*c*) Construction and drawing of designs based on the circle, triangle, square, hexagon and other regular polygons. Construction of nets of the cuboid and common polyhedra. Construction and drawing of circle, parabola, hyperbola, ellipse by means of envelopes.	
(*d*) History of: (i) Measurement and Mensuration. (Thales, Pythagoras, Eratosthenes, Apollonius, Archimedes, etc.) (ii) The Calendar. (iii) Measurement of Time.	Candidates will be required to write short notes on a certain number of items selected from these topics.

This section is concerned with the application of mathematics to the economics of everyday life. Candidates who choose it should be fully acquainted with the underlying principles of the topics which make up the syllabus, their social implications and the circumstances which give rise to them. Among the questions set will be those which will test these aspects; others will require the candidates to use diagrammatic and graphical methods to illustrate distribution and comparison.

Five questions will be set on topic (*a*) and two on each of (*b*) and (*c*).

Syllabus	*Notes*
(*a*) The pay packet: wages, salary, commission.	Candidates should be familiar with wage and time sheets, overtime, piece work, etc.
Deductions: Income Tax, P.A.Y.E.; National Insurance; Superannuation.	The general structure of Income Tax and National Insurance should be known but details need not be memorised.
Saving: Post Office and Trustee Savings Banks, Savings Certificates. Banking: current, deposit and loan accounts; rates of interest.	
Planned spending: personal accounts; budgeting for recurring expenses. Credit and instalment systems; hire purchase; deferred terms; hire or rental of domestic apparatus. Insurance of property: house and contents, car. Personal insurance; life and endowment policies.	
Holidays: distances; travelling times; comparative speeds, land, sea and air, fares and other expenses.	Questions involving a knowledge of travel graphs may be set.
(*b*) The Home: renting or buying; mortgages, deposit and repayments. Planning a house; laying out the garden; scale drawing. Upkeep: decoration and furnishing; measurement and area; costs. Paying the rates: rateable value. Paying the bills for heating, lighting, cooking; household accounts.	It is assumed that certain matters not specifically listed in the syllabus will be touched upon as they arise during consideration of this topic: what is involved in buying and building a house; land purchase; how Building Societies operate; local government budgeting and services; comparative costs of oil, coal, gas and electricity; reading meters.
(*c*) Commerce: partnerships, shareholders, dividends; bankruptcy. Buying and selling: profit and loss; percentage turnover. Depreciation; overheads and running costs. Discount: trade, cash, quantity. Rates of Exchange: conversions into and from foreign currency. Use of ready reckoners.	Candidates should have some knowledge of simple transactions in stocks and shares. The questions set will involve only one conversion; equivalents will be given.

9. MODERN LANGUAGES

SYLLABUS A

Examinations will be conducted in 1965 in French and possibly also in German and Spanish.

The test will comprise three elements, oral, aural and written.

The Oral Test (30 marks)

The oral test will open with a general conversation covering the normal courtesies of a first meeting.

The candidate will then read a passage set by the examiner, in the foreign language, of about 150 words. Candidates will be given the opportunity of studying the passage for about 5 minutes beforehand. The examiner will not put questions to the candidate on the subject matter of this passage.
The examiner will then hold a general conversation with the candidate. Reference will be made to the country whose language is being studied, its life and customs. It will be an advantage if a map of the country involved is displayed in the examination room.

Marks will be allocated out of a maximum of 8 for reading and 22 for conversation.

The Aural Test

The Aural Test will be based on two passages in the language, each read twice by the pupil's own teacher at reasonable speaking speed. Each passage will be about 150 words in length and the title will be given in English. Each passage will contain an anecdote or an account of a person's activities in a described situation.

Passage 1.—10 minutes' writing time: 10 marks.

After the first reading, the candidate will be given a question paper containing five questions in English. He will not, at this stage, be allowed to take notes. The passage will then be read a second time, after which the candidate will be required to answer the questions, in English.

Passage 2.—30 minutes' writing time: 20 marks.

The candidates will be provided with a brief skeleton in the foreign language, drawn entirely from the passage to be read, but will not be allowed to take notes during the readings. The passage will then be read twice, after which the candidate will be required to reproduce the subject matter of the passage in the language as fully as possible in writing, with the aid of the skeleton.

It should be noted that a candidate who, at any point, finds it necessary to substitute his own words or phrases for those given in the original will not be penalised, provided that his work is accurate and no alteration is made to the sense of the passage. The more unusual tenses and moods will be avoided. Candidates will be expected to use, in reproduction, the same tenses as those found in the original.

The Written Test (about 2 hours)

The written test will consist of two parts:

Free Composition (25 marks).

Comprehension or Translation (15 marks).

Free composition will take the form of a suitable reply to a letter in the foreign language with which the candidate has been provided. The letter will be about 250 words, requiring an answer of approximately equivalent length.

The second question will take the form of either a passage for comprehension or a passage in the language for translation into English. The comprehension passage will be about 250 words in length. About five questions, designed to test the candidate's understanding of the subject matter, will be set. Questions and answers will be in English. The alternative translation passage will be about 100 words in length.

No form of project work will be required, although examiners may refer to general course work in reviewing borderline cases.

Dictionaries will not be available at any time during the examination.

Although it will be observed that translation from the language may, if desired, be used as an alternative to comprehension tests, it is hoped that teachers will not be encouraged by this to make undue use of translation techniques in their teaching. Translation from English into the foreign language will under no circumstances be required.

SYLLABUS B

In 1965 it is proposed to conduct examinations in Esperanto, French, German and Spanish. Schools requiring an examination in any other language should indicate this without delay.

The examination will consist of a practical examination (oral, dictation, aural) carrying a possible 145 marks and a written examination, carrying a possible 105 marks, giving a maximum of 250 marks for the whole examination.

Practical Examination

(i) *Oral Examination*

The oral examination will be in four parts:

(*a*) The reading of an unseen text, prepared some 3–5 minutes in advance. It will not be used as a basis for comprehension. The text may include any tenses, except in French and German, in which tenses in the subjunctive will not be included. Maximum 10 marks.

(*b*) Conversation between candidate and interviewer. Questions will be graded in difficulty. Candidates may be asked to carry out commands and will be expected to understand and give directions (showing someone the way, etc.). A picture or series of pictures may be used to stimulate conversation. Questions may be asked in the following tenses:

Esperanto:	Present, Future, Past.
French:	Present, Future, Perfect.
German:	Present, Future, Imperfect.
Spanish:	Present, Future, Past Historic, Perfect, Present Subjunctive.

Maximum, 40 marks.

(*c*) Candidates will be required to talk in the language for up to four minutes on a topic of their own choosing, prepared in advance. Brief notes may be used for reference during the test. Questions will be asked on the substance of the talk, with no restriction of tenses. Maximum, 30 marks.

(*d*) Candidates will be expected to hold a conversation in the language, based on an everyday situation. This may be suggested by pictures or the candidate may be placed in an imaginary setting indicated by the interviewer (e.g. in a shop, at the station, police-station, etc.).

Conversation may be held in the following tenses:

Esperanto: Present, Future, Past.
French: Present, Future, Perfect.
German: Present, Future, Imperfect.
Spanish: Present, Future, Past Historic, Perfect, Present Subjunctive.

Maximum, 20 marks.

(ii) *Dictation*—total time allowance not more than 30 minutes.

The passage for dictation will be approximately 100 words long and will be based on an everyday situation. The passage will be read through four times in all:

1. At a moderate speed at the beginning of the test.
2. Each group of words will be dictated twice and the candidate will write them down. A pause of 3 minutes to allow the candidate to write any alterations will be allowed before the final reading.
3. Final reading at a moderate speed.

Three minutes will be allowed after the final reading for revision.

The passage may include any tenses, except in French and German, in which tenses in the subjunctive will not be included. Maximum, 30 marks.

(iii) *Aural Comprehension*—time allowed not more than 30 minutes.

The passage read for this test will be approximately 130 words long. It will recount a simple incident or narrative. Questions (about five) and answers will be written in English. The passage may include any tenses, except in French and German, in which tenses in the subjunctive will not be included. Maximum, 15 marks.

Written Examinations—1½ hours

The written part of the examination will consist of:

Free Composition (50 marks)—45 minutes.

Comprehension (30 marks) and Translation (25 marks)—45 minutes.

(*a*) Free Composition.

Candidates will be allowed 45 minutes in which to write 120–130 words in the foreign language on one subject of the type of a series of pictures or a given topic or a letter. Special attention will be paid to grammatical accuracy in this question. Credit will be given for use of tenses other than the present.

(*b*) Comprehension and Translation.

A passage of approximately 250 words will be set, of which a section of about 100 will be translated into English.

A comprehension test, questions and answers in the foreign language, will be based on the sections of the passage not required for translation. Approximately 10 questions will be set. The test may include any tenses, except in French and German, in which tenses in the subjunctive will not be used.

10. MUSIC

SYLLABUS A

The examination will consist of three sections:

Section 1. A practical examination of approximately twenty minutes' duration, carrying 40% of the total marks.

Section 2. An aural examination of thirty minutes' duration given to candidates as a group with the object of testing the power of assessing what is heard and carrying 25% of the total marks.

Section 3. A written paper of ninety minutes' duration plus ten minutes beforehand for reading questions, giving a wide choice of question and revealing ability to express answers in good English as well as to give short answers, carrying 35% of the total marks.

Section 1

Candidates may elect to do either Section 1 (*a*) or Section 1 (*b*).

(*a*) Ability to sing or play at sight. Two tests will be given, the first quite simple to give candidates confidence, the second to be within the following limits:

(i) Time signature of 2/4, 3/4, 4/4 and 6/8:
Semibreve; minim; dotted minim; crochet; quavers (in pairs of two in simple time and in groups of three in 6/8); dotted crochet followed by quaver in simple time; dotted crochet in compound time; crotchet followed by quaver in compound time; rests of beats or multiples of beats and simple anacrusis.

(ii) Suitable major keys will be used and the keynote will be given by the examiner (who may use his discretion to allow transposition for voices needing it).

(iii) Leaps between notes of the Tonic or Dominant and Sub-Dominant chords and stepwise passages involving any diatonic notes. (Sol-fa symbols to be shown over staff notation.)

(iv) For boys with changed voices where bass clef may be used the line will be similar to a bass part of a hymn tune or simple part song.

In all tests candidates may elect to whistle.

As an alternative to Section 1 (*a*), the examiner may, at his discretion, play one of four original melodies (to be repeated several times), and ask the candidate to identify the melody from a printed sheet of music. This is to provide for the boy with a changing voice or for the very nervous adolescent.

In instrumental sight-reading examples will be set in keys suitable to needs of various instruments and will be more difficult than those set for sight-singing. Candidates will be required to specify instruments at the time of entry.

(*b*) (i) Ability to write down the rhythm as a monotone of a melody of not more than four bars in 2/4, 3/4, 4/4, or 6/8 time. Note values as for (*a*).

and (ii) Ability to write down a simple phrase of not more than six notes in major keys of C, G, or F on Treble or Bass Clef, time-signature and key-note to be given by the examiner.

In (*b*) (i) and (ii) three tests will be given, the first simple and two progressively difficult. Note values as for (*a*). Each test will be played four times.

(*c*) Ability to perform as a soloist, an accompanist or as a member of an ensemble. Performances may be vocal or on any instrument, but all those taking part in an ensemble must be pupils who normally work together. The examiner will take into consideration both the suitability of the work attempted and the standard of performance achieved. Accompanists will be allowed.

(*d*) *Either* (i) Discussion of a previously submitted project file designed to reveal the enthusiasm and depth of a candidate's knowledge and research into a freely chosen subject, e.g. a local instrument maker, 'My part in Local Group Music-Making'; 'Festivals or Concerts I have heard or taken part in'; a period of music linked with its historical and perhaps geographical setting; the history and development of Jazz, etc.

or (ii) Discussion on previously submitted specimens of candidates' original compositions, e.g. a number of melodies (vocal or instrumental), more extended compositions and/or arrangements which might be in two or three parts for vocal, recorder or string group, guitar or piano, etc. The candidate may arrange for a performance of any compositions submitted.

or (iii) The making and playing of a simple instrument, e.g. xylophone, bamboo pipe, etc.

As an addition to parts (i), (ii), or (iii) candidates must produce for the examiner in note form an outline of their musical activities (parts played in school music, concerts, etc.) over a period of not less than two years, which they must be prepared to discuss with the examiner. Teachers will be asked to add comments on the part played by the candidate in these activities.

Section 2

A. Candidates will listen to recordings of standard repertory music—possibly with excerpts in full score. Music may be played several times.

Questions will be asked to reveal knowledge of the following:

1. Instrumentation—solo (in ensemble and in orchestral settings).
2. Groups—instrumental and vocal, i.e. brass band, military band, symphony orchestra, string orchestra, choir, string and vocal quartets.
3. The four main types of voice.
4. Style of composition as viewed historically in following periods, i.e. Baroque, Classical, Romantic, Modern.
5. The most clearly defined types and forms of composition,
   (*a*) Dance Rhythms; i.e. Waltz, Gavotte, Minuet, Polka, Tango, Rhumba.
   (*b*) Forms; i.e. Concerto, Fugue, Variations, Minuet and Trio, Recitative and Aria, Rondo.
6. The recognition of whether the extract is in major or minor key.

B. At candidates' choice:

Either A short piano item will be played in any major key. Candidates will be expected to recognise Perfect, Imperfect, Interrupted and Plagal Cadences. Answers may be given either using names or by some other recognised means, e.g. 'Perfect', or 'Dominant to Tonic' or 'V—I'. These will be played four times.

Or An 8-bar tune will be played or sung, accompanied by a guitar, one chord to each bar (the penultimate bar may have two chords) and the candidate asked to write a symbol for the chord played—'Tonic, Dominant', etc., or I, IV, V, VI, or guitar chord symbols. Key-note will be given.

Section 3

A. A general knowledge paper of 20 minutes' duration, consisting of 50 short answer questions, the candidates to be asked to answer as many questions as possible in the time and not to linger over any question they cannot answer. The section will start with easy questions and lead gradually to more difficult ones.

B. Five questions to be selected from a wide choice. Sixty minutes will be allowed for this section, plus ten minutes beforehand to read questions.

All questions in Section 3 will aim at revealing a knowledge of types of composition; living artists and places where music is made; the simple science of instruments; the study of a major work in some detail to be selected by candidates from a list of items of interest to those with a vocal, instrumental or visual approach to music, e.g. oratorio or cantata, symphony or concerto, opera or ballet. Candidates will be required to have some knowledge of the background, period and other works of the same composer.

In Section B one question must be selected from questions on the set work; four general questions to be answered from a number of questions which will include some composition (completing a melody, writing an original melody, setting music to given words, and simple chordal work).

There will be sufficient questions in this section so that candidate needs not answer the question on composition.

Set Works for 1965 will be:

The Planets—Holst.

The Messiah, Part I—Handel.

The Magic Flute—Mozart.

SYLLABUS B

The syllabus is framed on the assumption that school music lessons are devoted to corporate music making and listening to music, such rudimentary and background facts as are necessary being learned through musical experience and never divorced from music making.

In order to give the examiner information about the candidate's musical background, to provide a talking point on which to introduce the oral examination and a suitable starting point for the sight reading test, an entry form will be required, giving the following details of each candidate's musical experience:

(i) Approximate time per week for the last two years spent in class work.

(ii) Instrument(s) played.

(iii) Instrument or voice offered for examination.

(iv) Nature of individual interest work to be submitted.

(v) Participation in any school musical activity.

(vi) Participation in any other musical activity.

(vii) Other remarks.

The examination will consist of two parts:

I. Practical tests, and the presentation of individual interest work.

II. Written answers on musicianship.

Part I

(*a*) Performance.

Candidates will be required to perform a piece either vocally or on any chosen instrument. Whereas a solo would be preferable, an ensemble might be offered, provided that it consist entirely of examination candidates, one to a part, each player being individually assessed.

Technical ability should be adequate for the piece chosen, but musicianship will be regarded as of greater importance. The examiner may choose to hear the whole or part of the piece.

Any necessary accompaniment should be provided by the candidate's school.

(*b*) Sight Reading.

Candidates will be required to read at sight simple tests, for the voice or the instrument offered for performance.
((*a*) and (*b*) 40%).

(*c*) Individual Interest (10%).

Each candidate will be required to present some work of particular interest to him. The examiner may ask questions or require a demonstration according to the work submitted. There is no limit to the choice, but typical examples are: the making of a musical instrument; an original composition or an arrangement; a musical diary; reports on concerts attended; evidence of major participation in some musical production, with comments; a study of local musical activities, etc.

Part II

There will be one paper of $1\frac{1}{2}$ hours, consisting of two parts, (*a*) 1 hour (35%), and (*b*) $\frac{1}{2}$ hour (15%).

(*a*) Candidates will be required to show how much detail they can assimilate from listening to three extracts or short movements of music of varied types: e.g. vocal, instrumental or orchestral.

This music will be recorded on a disc, and each piece will be repeated several times, according to its length.

Questions may be asked on time, bar lines, note values, mood, style, phrase lengths, repetition, contrast, dynamics, simple Italian terms, tonality, voice, instrumentation, recognition of period, etc., including some requiring reference to musical passages quoted on the paper.

Included on the disc will be the dictation of (i) a rhythm, and (ii) a melody each of about four bars in a major key, to be written in staff notation. Compound time and notes of less than quaver value will not be used. The key will be named, the tonic chord and key note played, and the pulse given. Each test will be heard five times.

(*b*) A large variety of questions requiring short answers will be set. This will offer a choice according to the candidate's knowledge and musical experience, such as: composers and their music; how instruments work; twentieth century music; folk music; music of the theatre; film music; opera; etc.

II. NEEDLEWORK

SYLLABUS A. DRESS

The candidate will be expected to have a knowledge of the use, care and maintenance of tools and sewing equipment; an elementary knowledge of fabrics and of natural and man-made fibres, their properties, suitability for style and purpose, handling in construction, colour and design; decorative stitchery as applied to clothing; planning and budgeting; care and maintenance of clothes; personal grooming; choice and use of commercial patterns including taking measurements; simple adjustments; pressing and fitting; simple processes used in the construction of garments including:

1. Seams and seam finishes—plain, French, doublestitched and overlaid.
2. Disposal of fullness—darts, gathers, tucks, pleats and smocking.
3. Openings—continuous strip, faced opening and zip.
4. Facings and bindings—preparation of crossway strips and their use for binding, facing and decorative purposes.
5. Fastenings—included worked and bound buttonholes.
6. Setting-in and neatening of sleeves—attaching of cuffs.
7. Pockets, e.g. patch pockets and those set into a seam.
8. Neck finishes—including attaching of simple collars.
9. Hems.
10. Waistbands and belts.

The examination will consist of three sections:

A. Written Paper (1½ hours) (Dress I), carrying 30 marks.

B. Practical Test (3 hours) (Dress II), carrying 40 marks.

C. Prepared work, carrying 30 marks.

Written Paper (Dress I)

There will be one compulsory section with questions requiring short answers and another section in which candidates must attempt two out of five questions.

Practical Test (Dress II)

Commercial patterns will be included with the question papers. Material will be *provided by the school authorities* and Heads will be informed in advance of the quantity and type of fabric required for the practical test. Alternative tests (A or B) will be allocated to schools offering candidates for the examination. The use of instruction sheets from commercial patterns will be allowed during the practical test.

Not more than TWO candidates are to be allocated to ONE sewing machine Adequate pressing facilities must be provided.

The test pieces will be taken away by the examiner at the end of the examination. If the test is completed a finished garment will have been made and, if a teacher so wishes, she may arrange with the examiner for the test pieces to be returned to the school, after the session of examinations is over.

Prepared Work

This will take the form of:

(*a*) a finished garment, as specified each year; for 1965 this will be a dress or a housecoat, or a blouse and skirt, the dress, housecoat and blouse to have set-in (not Raglan) sleeves and to be made to fit the candidate herself,

(*b*) an individual study chosen from the following, or some other similar topic of special interest to the candidate. Studies should be illustrated with sketches, diagrams, samples and trade and fashion leaflets.

(i) Planning a Personal Wardrobe—costing and budgeting—outfits for different occasions—sizing and labelling—assessment of quality of fabrics, good grooming, etc.

(ii) Study of Colour Schemes and Interior Decoration as applied to either the family sitting-room or a teenager's bedroom.

(iii) Children's and Babies' Clothes—planning a layette or an outfit for a small child—styles for outdoor and indoor, play and party clothes. Use of non-flam materials, etc.

(iv) Local Crafts and Industries relating to dress, e.g. lace-making, millinery, hosiery, etc.

(v) Hand or Machine Embroidery—one particular aspect from traditional or contemporary embroideries.

(vi) Costume—historical, national or theatrical.

Individual studies will be assessed by the examiner and prepared work inspected. After the practical examination is over the candidates should be prepared to try on the garments they have made for the attention of the examiner.

SYLLABUS B

Although it is intended that each pupil shall be free to develop her own special interests in the wide field of needlework, it is considered that garment production is an essential part of a girl's needlework experience. Therefore Section A is compulsory but schools are free to select from Section B.

Section A

The intelligent use of trade patterns in the making-up of garments for various purposes—minor alterations to patterns—correct and economical lay-outs—cutting out.

Processes and stitches used in the construction of garments by hand and/or machine—including interfacings and linings.

Decoration of garments—lace and other trimmings; hand and machine embroidery; alteration of design of fabrics by means of embroidery stitches, pleats, tucks, etc.

Choice, use and care of tools for the crafts—including the various types of threads, needles, scissors, pressing equipment and sewing machines.

Use of various fabrics—suitability of style and purpose; handling in construction, hygienic value; safety; modern finishes; reaction to heat and cleaning; comparative costs; assessment of quality.

Maintenance of clothes in wear, laundering and cleaning; modern methods of repair. Personal hygiene and good grooming.

Planning a personal wardrobe; planning outfits for different occasions; costing and budgeting a dress allowance.

Wise shopping; sizing and labelling; assessment of quality of fabrics and workmanship.

Section B

Children's and Babies' clothing.

Planning a layette or an outfit for a small child, costs, styles.

Outdoor and indoor clothes; play clothes; party clothes.

Safety, protection, hygiene.

Maintenance and laundering.

Embroidery and design.

Background of historical development.

An ability to recognise the more important types of embroidery and a knowledge of their techniques.

Adaptation of traditional designs and methods for modern use both in fashion and interior decoration.

Machine embroidery.

Methods of transferring designs on to the material.

Suitable and interesting construction of embroidered articles.

Candidates must be able to offer original designs and work them in basic stitches.

Fashion through the ages and costumes for play production.

Greek, Roman, Celtic, Anglo-Saxon, Mediaeval, Tudor, Stuart, Regency, Empire, Victorian, Edwardian.

Their effect on present-day fashions.

World national costumes.

Simple adaptation for quick construction for play production, to include use of materials and lighting to gain the required effect.

Household Furnishings.

Interior decorations, colour schemes as applied to particular dwellings and rooms, e.g. modern house, 'old-world' village cottage, nursery, bed-sitting room for teenager.

Types of windows and curtains—proportion of curtains and pelmets.

Decoration, e.g. embroidery, braids, fringes, etc., and their suitability.

Making of curtains, cushions, bedcovers, divan covers, table linen.

Soft toy making.

Toys requiring gusset shaping and wiring.

Jointed toys.

Making dolls and their clothes.

Embroidered toys.

Suitability of toy for age of child.

Special study.

The emphasis in this section is on background study, but the pupil is free to introduce as much practical work as she thinks fit, and to select any topic she chooses. The following list offers suggestions only:

History of buttons.

Development of gloves.

Interfacings.

Accessories.

Present-day fashion designers.

The examinaion will comprise course work and a written test.

COURSE WORK

Section A.

A pupil will be required to make, preferably for herself, one outfit, or two garments showing as many processes as possible, such as a dress and jacket, dress and appropriate lingerie, nightwear and housecoat, sports outfit.

Section B.

A selection of work based on at least one of the groups in this section of the syllabus.

Section C.

During the Spring term each candidate will select one piece of work from a given list, issued in December, which will cover several sections of the syllabus. No time limit will be set on doing this task, but it will be unaided work done under supervision. The pupil may refer to books, etc., which she is accustomed to using. Although the teacher may not direct a pupil to this information, she should intervene at any stage in the matters of choice, design or gross errors, if she feels this necessary. Such constructive intervention must be noted at the time. The piece of work will be of worthwhile character and will be returned to the pupil at the end of the examination.

The use of notebooks and sketchbooks in all sections should be encouraged throughout the course. Little credit will be given to written work that has been copied.

All the work from the three sections of the course work, together with notebooks, etc., will be taken into account in the final assessment.

WRITTEN TEST—1½ hours.

All the questions will be based on Section A of the syllabus. The paper will be divided into two parts:

Section I, consisting of 10 short compulsory questions to be answered in sentences; and

Section II, consisting of five questions of which two are to be selected. More detailed answers will be required here.

12. RELIGIOUS KNOWLEDGE

SYLLABUS A

The Syllabus is intended to foster an understanding of the spirit of Christian living, but no attempt will be made to test convictions.

The examination will consist of:

(*a*) A written paper to carry 70% of the total marks.

(*b*) Course Work to carry 30% of the total marks.

The written paper will offer a choice of three sections, A, B and C. The paper is designed to take two hours but an additional half-hour will be allowed if required. Candidates will be expected to answer six questions from one section. A choice of questions will be given. Questions will be taken from the Revised Standard Version of the Bible (with references) and candidates will be allowed to refer to the Bible during the examination. It is recommended that a copy of the Revised Standard Version should be supplied to each candidate but any version with Old and New Testaments and cross references may be used.

Course work, comprising individual and project work carried out by the candidate under the guidance of the teacher, must be submitted by the 1st March in the examination year.

The Written Paper

Section A. The Life and Teaching of Jesus

The gospel according to St. Mark (excluding Chapter 13) with the addition of St. Matthew, chapters 2, 4 and 5–7; St. Luke, chapters 1–3, 9, v. 51–18 and 24; Acts, chapters 1–2, v. 11.

Candidates will be expected to show some appreciation of the religious significance of the events of Jesus' life and of His teaching, and to understand such terms as Messiah, Kingdom, Son of Man, The Law. Questions may require knowledge of Old Testament passages where they clarify the meaning of the New Testament text.

Section B. Worship.

The purpose of this section is to build up in the minds of the candidates a picture of man's link with God through worship. It can show how, while the form and manner of worship vary with changing circumstances, the basic need of man to be in living touch with God is always recognisable. A link should be made with our present situation.

The following passages should be studied in their context. For examination purposes they need not be confined to the headings under which they are placed.

The Place of Worship.

Priorities: Jn. 4 vv. 1-26.

Early Church: Acts 2 v. 46.

History of Jewish Worship:

Country Shrines, Gen. 12 vv. 6-9, 13 vv. 1-4, v. 18.

The Tabernacle (Tent of Meeting), Exodus 33 vv. 7-23.

The Ark, Deut. 10 vv. 1-5.

The Temple at Shiloh, 1 Sam. 3.

The Ark brought to the Capital, II Sam. 6.

New Temple at Jerusalem, I Kings 6 vv. 1-13, 8.

(*N.B.* The realisation that God is greater than the Temple (vv. 27-30) and the description of how the Temple should be used (vv. 31-53). Compare Is. 66 vv. 1-2).

Holiness of Temple, Isaiah 6 vv. 1-8. I Cor. 6 v. 19.

The End of Solomon's Temple:

Wrong use of Temple, II Kings 21 vv. 1-9.

Warning, Is. 1 vv. 10-17, Jer. 7 vv. 1-15.

Temple Destroyed, II Kings 25 vv. 8-21.

Compare Psalm 42 and 43.

The Second Temple: Rebuilt, Ezra 3, 5 vv. 1-5 and 6 vv. 1-15.
Rededicated, Ezra 6 vv. 16-18.

N.B. As the Jews were now so scattered and had learnt to worship God without sacrifice, local synagogues began to be established. There are no specific references to synagogue worship in the Old Testament but by the time the New Testament opens they are well established.

Jesus and Worship: Lk. 2 vv. 41-51, Mk. 11 vv. 15-19, Jn. 7 v. 14, Mk. 1 v. 21, Mk. 3 v. 1, Mt. 18 v. 20, Mk. 4 vv. 16-20.

The New Temple: Jn. 2 vv. 18-22, Eph. 2 vv. 19-22.

Prayer

Jesus at Prayer: Mk. 1 v. 35, Lk. 6 vv. 12-13, 9 v. 18, 9 vv. 28-36, 10 v. 21, 11 vv. 1-4, 22 vv. 31-34, 22 vv. 39-46, 23 vv. 34-46.

Jesus' teaching about prayer: Lk. 18 vv. 9-14, Mk. 11 vv. 20-24, Mt. 6 vv. 5-13, Mt. 5 vv. 43-48.

Prayers of Early Christians: Acts 9 vv. 1-18, 10, 12 vv. 1-16, 20 v. 36, 23 v. 11, 27 v. 35.

Prayers for use in the Temple: The Shemah, Deut. 6 v. 4.

Some Great Christian Prayers: Eph. 3 vv. 14-21, Phil. 1 vv. 9-11, Heb. 13 vv. 20-21.

Hymns and Singing in Worship

Last Supper: Mk. 14 v. 26.

Early Church: Col. 3 vv. 16-17.

Psalms of:

Joy and Praise, 24, 150.

Thanksgiving, 100, 103.

Penitence, 51, 130.

Trust, 23, 62.

Songs of Pilgrims going to Temple Festivals, Psalms 121, 122.

New Testament Songs: Lk. 1 vv. 46-55, 1 vv. 67-79, 2 vv. 29-32.

Sacrifice and Giving

Jesus' teaching:

Lk. 21 vv. 1-4, Widow's Mite.

Lk. 18 vv. 18-27, Rich young ruler.

Mk. 8 vv. 31-36, Self denial.

Old Testament Sacrifice:

Readiness to offer best, Gen. 22 vv. 1-19, Exodus 12 v. 5.

Burnt Offering, Lev. 1 vv. 3-9 (all burnt as a Special Offering).

Peace Offering, Lev. 3 vv. 1-5 (part burnt and part eaten by the worshippers as a communion meal).

A New Kind of Sacrifice: Hosea 6 v. 6, Mt. 12 vv. 6-8, Micah 6 vv. 6-8.

Tithes: Lev. 27 vv. 30-33, Neh. 12 v. 44, Heb. 7 vv. 5-8.

Gifts to the Temple: Ezra 7 vv. 17-20, 8 vv. 31-36.

Giving in the Early Church: Acts 2 vv. 44-47, 2 Cor. 9 vv. 5-8.

Ritual in Worship

Jesus in the synagogue: Lk. 4 vv. 16-30.

Festivals:

Passover (Spring), Lk. 2 vv. 41-51, Mk. 14 v. 1, vv. 12-16, Lev. 23 vv. 4-8.

The New Passover, I Cor. 5 vv. 6-8.

Pentecost (Summer), Acts 2 vv. 1-4, 20 v. 16, Lev. 23 vv. 15-21.

Tabernacles (Autumn), Jn. 7 v. 2, Lev. vv. 33-34 (this was the final Harvest Home, the greatest in the Year).

Festivals revived, Ezra 6 vv. 19-22.

Sacraments

Baptism: Mt. 3, Acts 2 vv. 14-17, 37-43, 8 vv. 5-12, 26-39, 10 vv. 44-48, 16 vv. 15-33, 18 v. 8; I Cor. 1 vv. 13-17; Gal. 3 vv. 26-28.

Holy Communion: Mt. 26 vv. 17-30, Mk. 14 vv. 12-26; Lk. 22 vv. 7-23, Acts 2 vv. 42-47, 20 v. 7 (The Last Supper), I Cor. 10 vv. 14-17, I Cor. 11 vv. 17-34.

Section C. Christian Living

The purpose of this section is to encourage pupils to apply the teaching of the Bible, especially of the New Testament, to situations encountered in daily life. The section gives an opportunity to teachers who find it useful to start lessons by discussing an up-to-date situation.

The following passages should be studied in their context. The sub-sections are given as an indication to teachers of the types of situation to be studied. Clearly questions need not be confined to any one sub-section.

Family

Lk. 2 v. 19, Mother's care; Eph. 6 vv. 1-4, Obey parents; Lk. 2 vv. 41-51, Jesus age 12; Ex. 20 v. 12, Honour parents; Jn. 19 vv. 26-27, Care for Mother; Mk. 7 vv. 9-13, Corban; Mk. 10 vv. 13-16, Blessing children; Lk. 15 vv. 3-32, Prodigal; Lk. 11 vv. 1-13, Our Father; Gen. 2 vv. 18-24, Institution of Marriage; Mk. 10 vv. 2-12, Divorce.

Friendship

I Sam. 18 vv. 1-4, 20, David and Jonathan; Jer. 38 vv. 6-13, Ebedmelech helps Jeremiah; Mt. 5 vv. 23-26, First be reconciled; Mt. 5 vv. 43-46, Love even enemies; Philemon, Paul appeals to a friend; Mt. 18 vv. 21-35, Forgiveness; Jn. 15 vv. 12-15, Lay down life for friends.

Loyalty

I Chron. 11 vv. 15-19, To leader; Ruth 1 vv. 16-18, Loyalty in adversity; Acts 2 vv. 44-45, To group; Acts 15 vv. 37-40, Barnabas to Mark; II Timothy 4 v. 11, Reconciliation to Paul; Acts 4 v. 19, To God; Dan. 6, To God; Lk. 9 vv. 57-62, Conflicting; Mk. 14 vv. 35-36, Thy Will.

Authority

I Pet. 2 vv. 13-25, Submission; Mk. 10 vv. 35-45, True greatness; Mk. 12 vv. 13-17, Render to Caesar.

Prejudice

Mk. 6 v. 3, Mt. 13 v. 55, Lk. 4 v. 22, Carpenter; Jn. 1 v. 46, Nazareth; Jas. 2 vv. 1-5, Rich and poor in worship; Mk. 2 vv. 14-17, Tax collectors; Lk. 18 vv. 9-14, Pharisee and tax collector; Lk. 9 vv. 51-56, Samaritan village; Lk. 10 vv. 25-37, Good Samaritan; Jn. 9 vv. 1-34, Man born blind; Acts 10, Gentiles.

Work and Leisure

Mt. 25 vv. 14-27, Talents; I Cor. 12 vv. 12-30, Members; Mk. 6 vv. 7-13, Equipped for task; II Thel. 3 vv. 6-13, Not a burden; Prov. 26 vv. 13-16, Excuses, conceit; Eph. 6 vv. 5-9, Workers and Management; Mt. 23 vv. 11-12, Serve others.

Mk. 1 v. 38, Mk. 10 vv. 32-34, Mk. 14 vv. 32-36, Jn. 19 v. 30, Example of Jesus; Gen. 1 vv. 27-28, Partners with God; Mk. 6 vv. 30-32, Rest; Ex. 20 vv. 8-11, Mk. 1 vv. 21-31, Mk. 2 vv. 23-28, Mk. 3 vv. 1-5, Ps. 100, Use of Sunday.

Money

Lk. 12 vv. 13-21, Rich fool; Mt. 6 vv. 19-21, vv. 24-33, God and mammon. Lilies; Mk. 10 vv. 17-24, Sell what you have; Lk. 15 vv. 11-24, Prodigal; Mk. 12 vv. 41-44, Widow's mite; Acts 4 vv. 32-37, In common; Romans 12 v. 13, Hospitality needs; Lk. 10 vv. 30-37, Samaritan; Lk. 3 vv. 10-14, Baptist; II Cor. 9 vv. 6-8, Cheerful giver; Mt. 6 vv. 2-4, Ostentation; I Tim. 6 vv. 9-10, Love of money; Mt. 4 v. 4, Not bread alone.

Honesty and Justice

Mt. 5 vv. 33-37, Yes and No sufficient; Mk. 14 v. 53, 15 v. 15, Trial of Jesus and Peter's denial; I Kings 21 vv. 1-16, Ahab's greed; II Kings 22 v. 7, Honest dealing; Amos 5 vv. 8-24, Social justice; Amos 8 vv. 4-7, Social justice; Mt. 20 vv. 1-16, Love more than justice.

Christian Responsibility

Rom. 12, Proving the Will of God; Jer. 1 vv. 4-10, Too young; Amos 7 vv. 14-15, A herdsman; Mt. 28 vv. 16-20, Go therefore; Rom. 10 vv. 14-17, Preach gospel; Lk. 10 vv. 1-7, Instruction to 70; Mk. 8 vv. 34-35, Take up cross; Mt. 5 vv. 3-10, Persecuted for righteousness.

Prayer

Mk. 1 vv. 35-39, Guidance; Mt. 6 vv. 5-13, Lord's prayer, etc.; Mt. 7 vv. 7-11, Ask; Lk. 18 vv. 9-14, Pharisee and tax collector; Mk. 14 v. 36, Abba.

Course Work

The purpose of this section is to provide the candidate with the opportunity of submitting evidence of his interest in some aspect of Christian activity. The presentation of the work will be at the discretion of the teacher, who will supervise the planning and research.

The candidate may choose *one* of the following subjects. Any other subject chosen must be submitted to the Secretary of the Board for approval by 30th September in the year preceding the examination.

(*a*) Development of Christianity in an area at home or overseas.

(*b*) History of the Book of Common Prayer.

(*c*) Pioneers and champions of Christianity: the story of the work of one person or group.

(*d*) Christian Unity.

(*e*) Examples of Christianity at work in the Community today.

(*f*) A study of the influence of Christianity on the Arts, e.g. a study of Hymns and Hymn writers, or a Study of Church Music, or Architecture, or Painting.

(*g*) How the Bible came to be written, e.g. Early documents, Modern translations.

(*h*) Archaeology and the Bible.

(*i*) The Early Church.

SYLLABUS B

The syllabus comprises three sections:

Section 1. The main study which may be the subject of *either* a topic approach *or* a chronological approach.

Section 2. The application of Christian principles to modern living.

Section 3. The application of some aspect of Christianity to the life of the community as shown in course work.

There will be one written examination of two hours' duration. The paper will be in two parts, Part 1 based on the topic approach and Part 2 on the chronological approach. Twelve questions will be set in each part and candidates will be required to answer six, all from the same part. Each question will be in two parts, the first part requiring a brief answer of not more than one sentence, and the second part demanding a more detailed response, i.e. a paragraph. The question will be based on Section 1 of the Syllabus, the main study, but, where relevant, the examiners may refer to Section 2. All candidates will be required to submit course work as in Section 3 of the Syllabus and this will be subject to an oral examination.

Section 1. *The Main Study*

Two syllabuses are offered and candidates are required to study one of them. The basic theme of both syllabuses is God's revelation of Himself to His

people, culminating in the life and teaching of Jesus, and the application of this continuing revelation in His Church. The purpose of the main study should be partly to recapitulate much that has been learned already, and partly to introduce more definitely the fundamental truths about God as revealed continuously throughout the Old and New Testaments. After careful study of the Agreed Syllabuses in use in the region it has been assumed that during the first three years of secondary education The Story of the Chosen People, The Life of Jesus, and some introduction to the Early Church will have been covered to some extent already. The two-year course submitted for C.S.E. purposes might be regarded reasonably as a widening and a deepening of work already undertaken. By the time a child reaches the end of his school life he should have some idea of the gradual revelation of God to Man, and have had presented to him the challenge of Christianity with its moral and spiritual demands on his life.

No particular version of the Bible is recommended; teachers should be free to use any version which assists their work in making clear to children the meaning of the text.

It is not the intention of the examiners that candidates should be occupied primarily with textual study. Religion is concerned with a way of living and is therefore concerned with practical issues and is not merely an academic subject. Nevertheless where passages or verses appeal to candidates during their normal course of study we feel they should continue to be encouraged to learn by heart. However, candidates will not be penalised where memory work is not evident.

The examiners will be concerned with discovering the extent of a candidate's knowledge and, provided the relevant facts are displayed, due credit will be given. Whilst appreciating that the essay-type answer is the established method, it is hoped that teachers will experiment in the use of diagrams, notes, illustrations, etc.

Either *A. Topic approach—The Character and Purpose of God.*

1. The Character of God (Father, Son and Holy Spirit). We cannot hope fully to understand His nature and ways. Psalm 40 v. 5, Isaiah 40 v. 28.

(*a*) God our Loving Heavenly Father

An idea rarely used in the Old Testament and always with limited application; but a fundamental idea in the teaching of Jesus. Isaiah 63 v. 16, Hosea 11 vv. 1-4, 14 vv. 1-4, Jeremiah 31 v. 9, John 3 v. 16, Malachi 2 v. 10, Luke 6 vv. 31-35, Luke 12 vv. 22-34.

(i) God our Creator, and in this sense the father of all men. Genesis 1 vv. 26, 27; Ephesians 4 v. 6.

(ii) God our Heavenly King. Isaiah 40 vv. 12-31, Matthew 20 vv. 1-16,

(iii) God our eternal Judge. Matthew 25, Amos 5 vv. 21-24, 7 vv. 7-9.

(iv) God's providence and care. Matthew 5, 6. 7 (relevant passages). Matthew 10 vv. 29-31.

(v) God is forgiving. Luke 15, 18 vv. 9-14.

(vi) God is holy. God's holiness is a unique feature of the teaching of the Old Testament, especially in the prophets. Isaiah 6 vv. 1-4, Leviticus 19 vv. 1, 2.

(*b*) Jesus Christ, divine Son of God.

With the coming of Jesus Christ is reached the climax of God's disclosure of Himself to man. Isaiah 9 vv. 2, 6, 7; Matthew 16 v. 16, John 6 v. 69, I Corinthians 8 v. 6.

(i) Jesus Christ as true man (Incarnation).

N.B. The humanity of Jesus—truly man and yet truly God. The example of perfect human life.

(ii) Jesus Christ as Saviour (Crucifixion).

(iii) Jesus Christ as Risen Lord (Resurrection and Ascension).

(*c*) God's abiding Presence. The Holy Spirit. Matthew 28 v. 20, John 16 v. 23.

The Holy Spirit is God in action in His creation. He took part in creation (Genesis 1 v. 2); in the Incarnation (Matthew 1 v. 20); and in the Resurrection (Romans 8 v. 11).

The power of the Holy Spirit and the difference it makes.

St. Paul
John Wesley
Gladys Aylward
} *One only* to be studied, but none of these may be offered for course work.

N.B. In this section, three names will be offered each year, one of which will be a Biblical name. Candidates are required to study only one of the three.

2. God's Purpose for Man. Man was created by God to love, worship, serve and obey Him, and to have fellowship with Him. Micah 6 v. 8.

Man's duty to God. Exodus 20 vv. 2-11.

(*a*) Believe on Him and trust Him. Power of faith. Mark 11 vv. 22-24.

N.B. Faith is shown by works, because faith implies the readiness and will to act on belief. Hebrews 11, 12 vv. 1-2; James 2 vv. 14-17.

Jesus is able to help men because of their faith:

(i) The centurion's servant. Matthew 8 vv. 5-13.

(ii) The ten lepers. Luke 17 vv. 12-19.

(iii) The woman with an issue of blood. Matthews 9 vv. 20-22.

(*b*) Love Him.

(i) The woman who was a sinner. Luke 7 vv. 36-50.

(ii) Christ's commandment. John 15 vv. 9-10.

(iii) Christ's summary of the Law. Mark 12 vv. 28-31.

This summary is the epitome of Christ's 'fulfillment' of the Jewish Law, including the Ten Commandments.

(*c*) Serve Him and thank Him.

(i) The tribute money. Matthew 22 vv. 15-22.

(ii) The talents. Matthew 25 vv. 14-30.

(iii) Service. Luke 9 vv. 1-6.

(iv) The last supper. Mark 14 vv. 22-25, John 13 vv. 1-15.

(v) Thanksgiving. Psalm 103.

(*d*) Worship Him.

Christian worship is the Church's continual offering of reverence and love to the Father. It is offered through Jesus Christ by the help of the Holy Spirit. John 4 vv. 23-24.

(i) Prayer. Matthew 6 vv. 5-15, 7 vv. 7-11, John 14 vv. 13-14, 16 vv. 23-24, Luke 11 vv. 5-11, 18 vv. 1-14.

(ii) The Church is founded on:
A command. Matthew 28 vv. 19, 20; Mark 16 v. 15, John 20 vv. 21-33.
A promise. John 14 vv. 16, 26; Acts 1 vv. 6-8.
A belief about Jesus and the Resurrection. Luke 24, Acts 2 vv. 14-16.

N.B. One Holy, Catholic, and Apostolic Church.

One: 'One Lord, one faith, one baptism. Ephesians 4 vv. 1-16, John 17 vv. 20-23.

Holy: Consecrated by the indwelling of the Holy Spirit, belongs to God. Romans 1 vv. 1-7, I Corinthians 1 vv. 1-3, I Corinthians 12 v. 13.

Catholic: Universal, the Holy Church throughout the world, visible and invisible. Revelation 7 vv. 9-10.

Apostolic: 'Built upon the foundation of apostles and prophets, Jesus Himself being the chief cornerstone.' Ephesians 2 vv. 19-22, Acts 2 v. 42.

It is appreciated that teaching must be undenominational, but if questions about the faith of different denominations arise, teachers should endeavour to discuss them objectively and make their contribution to Christian unity by emphasising those fundamental beliefs held by the majority of Christians. (World Council of Churches and steps taken towards Christian Unity.)

Man's Duty to Mankind.
Jesus' teaching about our fellow-men is based upon His teaching about God and His universal Fatherhood. We are bidden to love God first and to behave towards men, even our enemies as God does. All men are God's children, therefore all men are brothers. Exodus 20 vv. 12-17, cf. Mark 12 vv. 28-31.

(*a*) Duty to self.

(i) Sincerity. Wolves in sheeps' clothing. Matthew 7 vv. 15-23.
True foundation. Matthew 7 vv. 24-27.

(ii) Moral courage. Christ before Pilate. John 18 vv. 33-37. The Christian's Courage. Matthew 16 vv. 21-26.

(iii) Honest toil. 2 Thess. 3 vv. 7-10.

(*b*) Duty to parents.

(i) Christ's example. Luke 2 vv. 51-52.

(ii) Rebuke of the Jews. Mark 7 vv. 9-13.

(iii) Christ's love for His mother. John 19 vv. 26-27, Matthew 10 v. 37.

(*c*) Duty to our neighbours, i.e. the wide world.

(i) Christ's teaching the better way. Matthew 5 vv. 43-48.

(ii) The good Samaritan. Luke 10 vv. 25-37.

(iii) Zacchaeus. Luke 19 vv. 1-10.

(iv) In national and international affairs. Matthew 22 vv. 15-22.

(v) Public stewardship. Luke 3 vv. 10-14.

or *B. Chronological approach—God is King: the unfolding of His Purpose and Character.*

1. God's Intention for Mankind. The Kingdom of God.
The aim is to show God as the origin of all that exists and the purpose of God to rule as King in the hearts and lives of men—the Garden of Eden. Religion and science do not conflict—the scientist discovers what God has created. The place of man in creation—'to have dominion over all creation; to subdue it and to replenish it'—man's moral responsibilities to the world of nature. Disobedience to God's will brings separation from Him (self-exclusion). The purpose of God is hindered (but not defeated) by man's disobedience. Genesis 1, 2 vv. 15-17, 3.

2. God's Plan for the Establishment of His Kingdom.

(*a*) The birth of the chosen nation.
Although man is separated from God, He takes the initiative to atone (at-one) and redeem.

The call of Abraham and God's promises to him. Genesis 12 vv. 1-3, Hebrews 11 vv. 8-10.

(*b*) God's covenant with the nation.
Using His servant Moses, God makes His covenant with Israel. Exodus 3 vv. 1-15, 20 vv. 1-17, 24 vv. 3-8, Deuteronomy 6 vv. 1-13.

3. The Failure of the Nation.

(*a*) Disobedience in the wilderness. Exodus 32 vv. 1-8.

(*b*) Entry into Canaan and the failure of the nation. Joshua 1 vv. 1-9, Judges 2 vv. 11-13.

(*c*) Through a faithful minority God shows His Character and purpose. A reminder—God is King! The story of Gideon. Judges 6, 7, 8 vv. 22-23.

(*d*) God is a moral being and expects His people to be like him. The story of Nathan and David. 2 Samuel 11 vv. 1-4, 14-17; 12 vv. 1-13. David's repentance. Psalm 51 vv. 1-17.

4. David the Earthly King.

(*a*) David chosen by God. His anointing. 1 Samuel 16 vv. 1-13.

(*b*) Psalms representing different periods of David's life:

(i) Psalm 23. Probably written by the Shepherd Boy.

(ii) Psalm 24. The earthly king acknowledges God as King of Glory.

(iii) Psalm 139 vv. 1-18. David looking back over a lifetime of adventure in the service of His God and King.

(*c*) God's covenant with David. 2 Samuel 7 vv. 12-16.

5. God's Character and Purpose revealed through His Servants the Prophets.

(*a*) Another reminder—God is Lord. 'The Lord He is God.' Elijah on Mount Carmel. 1 Kings 16 vv. 29-33, 17 vv. 1-3, 18 vv. 17-39, 19 vv. 1-14.

(*b*) God is just. Social injustice condemned by Amos. Amos 1 v. 1, 2 vv. 6-8, 3 vv. 1-4, and 9-15, 4 v. 1; 5, 6 vv. 3-6, Amos 8 vv. 4-7.

(*c*) God is the forgiving King of Love. Hosea learns of the forgiving love of God through his own experience. Hosea 2 vv. 14-23; 3 vv 1-3, 6 vv. 1-4, 6, 11 vv. 1-9, Hosea 13 vv. 9-11, 14 vv. 1-9.

(*d*) The concept of the ideal King. Isaiah 9 vv. 2, 6-7; 11 vv. 1-10, Micah 4 vv. 1-4, 6-8.

(*e*) The new covenant.

(i) The personal and inward nature of the Kingdom of God. Jeremiah 31 vv. 31-34.

(ii) Ezekiel's understanding of God. Ezekiel 36 vv. 25-28, 37 vv. 1-11.

(*f*) God as supreme King.

In Babylon, Isaiah had to meet the intellectual arguments of the age in which he lived. In answer to idolatry he shows the impotence of idols in contrast with God as the Supreme Being: One of infinite power, responsible as Planner, Creator, Motivator, Sustainer, yet One who is interested in every individual member of His Kingdom: One who gives power to the faint and renews their strength. Isaiah 40 vv. 12-31.

(*g*) The King Who reigns. The Suffering Servant.

'He shall be exalted',—the picture of Christ the King who said, 'If I be lifted up I will draw all men unto me '. Isaiah 52 vv. 13-15; 53.

6. The King Comes.

Seeing Jesus as King in whom God has fulfilled His purpose and Whose life and teaching perfectly reveal the character of God.

(*a*) Preparation for the Ministry of Christ.

(i) The Forerunner—John the Baptist and his teaching. Luke 3 vv. 1-17.

(ii) Baptism and Temptation. Matthew 3 vv. 13-17; 4 vv. 1-11.

(iii) The Call of the Disciples and the beginning of opposition. Luke 5 vv. 1-11 and 27-39, 6 vv. 10-16.

(*b*) The Kingdom proclaimed in Galilee. Luke 4 vv. 16-22.

(i) Teaching and healing, forgiveness of sins, the breaking of the Sabbath laws and the growth of opposition. Mark 1 vv. 21-45, 2 vv. 1-12 and 23-28, 3 vv. 1-6.

(ii) The Sermon on the Level Place. Luke 6 vv. 20-49.

(iii) Mighty works in Capernaum and Nain. Luke 7 vv. 1-16.

(iv) The woman who was a sinner and the parable of the two debtors. Luke 7 vv. 36-50.

(*c*) Events leading to Peter's Realisation (Confession) and the Transfiguration.

(i) The sending forth and the return of the Twelve. Luke 9 vv. 1-12.

(ii) The parable of the sower. Mark 4 vv. 1-20.

(iii) The feeding of the five thousand: Peter's realisation and conditions of discipleship. Luke 9 vv. 11-25.

(iv) The Transfiguration, the healing of the epileptic boy, and a lesson in humility. Luke 9 vv. 28-50.

(v) Setting out for Jerusalem. Luke 9 vv. 51-56.

(*d*) The Teaching of Jesus.

(i) Parables of the Kingdom: The Wheat and the Tares, the Mustard Seed, the Hidden Treasure, The Pearl of Great Price. Matthew 13 vv. 24-30, 31-32, 44-48.

(ii) The Parable of the Good Samaritan. Luke 10 vv. 25-37.

(iii) Parables on Prayer: Jesus prays and the Friend at Midnight, the Pharisee and the Publican. Luke 11 vv. 1-13, 18 vv. 9-14.

(iv) The Parable of the Rich Fool. Teaching against covetousness, and anxiety. Luke 12 vv. 11-34.

(v) Parables of the Lost Sheep, the Lost Coin and the Lost Son. Luke 15.

(vi) The Parable of the Sheep and the Goats. Matthew 24 vv. 31-46.

(vii) The Good Shepherd. John 10 vv. 7-18 and 27-30.

(viii) The Rich Young Ruler. Luke 18 vv. 18-27.

(*e*) The King enters Jerusalem.

(i) 'Behold we go up to Jerusalem.' Luke 18 vv. 31-34.

(ii) A blind man recognises the King. Luke 18 vv. 35-43.

(iii) The conversion of Zacchaeus and the parable of the pounds. Luke 19 vv. 1-26.

(iv) The entry into Jerusalem. Luke 19 vv. 29-48.

(v) The challenge to the authority of Jesus and the parable of the wicked husbandmen. Luke 20 vv. 1-20.

(vi) Jesus' attitude towards the civil authority. Luke 20 vv. 21-26.

(vii) The Widow's Mite. Luke 21 vv. 1-4.

(viii) The Last Supper, betrayal and arrest. Luke 21 vv. 37-38, Luke 22 vv. 1-65.

(ix) The trials before the Jewish Court, Pilate and Herod. Luke 22 vv. 66-71, 23 vv. 1-25.

(x) Crucifixion and Resurrection. Luke 23 vv. 26-56; 24.

7. The Kingdom established through the Holy Spirit.
Acts 1 vv. 6-14; 2 vv. 1-18, 22-24, 36-47.

Section 2. *The Application of Christian Principles to Modern Living.*

Problems of Personal Relationships

1. Authority—parents—family and school life.
2. Friendship—loyalty.
3. Sex—marriage.

Problems of Personal Responsibility

1. Money.
2. Work—vocation—ambition—aim in life.
3. Leisure.
4. Prayer.
5. Personal conduct—honesty—choice—responsibility.

Problems of Meaning

1. Suffering.
2. Death—judgment—hell.
3. Learning.

Problems of Society

1. The colour bar—racial prejudice—snobbery—class distinction.
2. Pacifism.
3. Going to Church.

It is recognised that much that is most valuable in fourth and fifth year work is virtually indefinable; it is not material which can be taught in the sense that it can be imposed on a group at a particular time. It is hoped that pupils will continue to discuss the problems outlined in Section 2, as and when they arise during study of the main course. The examiners will expect to find evidence of such discussion in candidates' answers, where this is appropriate to the question.

Section 3. *Course Work showing the application of some aspect of Christianity to the life of the community.* (Compulsory.)

This section is an integral part of the whole examination, and all work submitted is subject to an oral examination.

By course work is meant a special study undertaken by a candidate or a group of candidates largely in their own time. The method of presentation, i.e. proportion of narrative content, illustrative material (e.g. models) is the choice of the candidate or group concerned, and should be a reflection of the candidate's particular interests and abilities. It follows therefore that almost any method of presentation is acceptable. The candidate must be able fully to discuss his study and convince the examiner that:

(i) The material submitted is his own work.

(ii) He understands fully the nature and meaning of the task undertaken.

(iii) That the material submitted (e.g. models) is relevant and makes a real contribution to the candidate's knowledge of the Christian Faith.

Where a group project is presented the examiner will be concerned with evaluating the contribution to the project made by different members of the group and with the degree of understanding by each member of the meaning of the project as a whole.

It is suggested that the amount of time spent on course work should be related to the proportion of marks allocated to this section, i.e. 20% of the total for the whole examination.

All course work must be ready for presentation to the examiners by 1 March of the final (i.e. fifth) year. This arrangement will facilitate the organisation of the oral examination.

The following examples of fields of operation are submitted *for guidance* only, and teachers are reminded that in all course work the relevance of Christian teaching must be evident. It is hoped that teachers will find other suitable examples from the syllabus and from other sources.

(i) An account or diary of some Christian social service activity. This may be individual or group work undertaken by the school.

(ii) Great Christian Characters—the study of one, e.g. Schweitzer, Grenfell.

(iii) Christian Movements, e.g. Salvation Army, Dr. Barnardo's Homes.

(iv) Medical Missions—Hospitals and Healing—at home or abroad.

(v) Missionary work.

(vi) The development of Sunday Schools.

(vii) A local Church study.

(viii) The survey of a book from the Bible, e.g. made up in the form of a folder, dealing with its authorship, background, contents and teaching (from The Institute of Christian Education pamphlet 'Religious Knowledge as an examination subject for the Certificate of Secondary Education').

(ix) Social and Moral Problems of To-day.

(*a*) Hunger.

(*b*) Racial Problems—the Colour Bar.

(*c*) Disarmament—Pacificism—the 'H' bomb.

(*d*) Family relationships.

(*e*) Use of leisure.

(*f*) Sunday observance.

(*g*) Honesty.

N.B. Teachers using Alternative A (Topic Approach) are reminded that none of the three names given under heading 1c, 'God's Abiding Presence', may be used for Course Work.

13. RURAL STUDIES

SYLLABUS A

The examination will be divided into the following parts:

Part I. Basic Principles Paper of 45 minutes, carrying 20% of total marks. Questions will be of the short answer type including those with one or several blanks to be filled, single word answers and diagrams requiring labels.

Part II. Topic Section of two hours carrying 30% of total marks. Candidates will be required to take three topics which may be selected according to the following alternatives:

Either (i) three topics to be chosen from Sections I and II of which at least one topic must be taken from each of these Sections.

Or (ii) if no topic is chosen from Section II, then, in order to include some study of animal life, either Topics IIIA or IIIB must be chosen.

Part III. Practical and Oral Tests carrying 50% of total marks. These will be based on Basic Principles and on records of practical work carried out during studies of topics for Part II.

Basic Principles.

A. Soil

Formation; weathering agents; top soil and subsoil. Composition by mechanical analysis; mineral particles, sand and clay; soil types and their recognition, loams. Soil porosity, soil water, water table, availability. Mineral salts; acidity: simple measurement of pH values, importance of lime. Humus; importance and formation. Soil colour and aspect in relation to heating. Soil life; earthworms, bacteria and other soil organisms. Soil—air and temperature—basic comparison. Cultivations and their effects.

B. Physical and Chemical Properties of the Atmosphere.

C. Plant and Animal Biology.

Characteristics and major divisions of living organisms; comparison of plant and animal.

Nutrition.

Plants: water uptake; stem and root structure; transpiration; leaf structure; photosynthesis.

Animals: digestive systems; carbohydrates, proteins, fats, minerals and vitamins. Milk as a food source.

Simple treatment of saprophytism, parasitism and symbiosis in both plant and animal kingdoms.

Interdependence of plants and animals; carbon cycle.

Respiration: the source of energy.

Plants: respiratory process; comparison with photo-synthesis.

Animals: breathing organs and mechanism; composition of inhaled and exhaled air; blood circulation; energy production.

Growth

Plant: germination of seeds, conditions necessary; simple study of tropisms; the function of hormones.

Animal: simple study of hormone effect upon growth.

Reproduction.

Plant: flower structure, pollination, fertilisation, fruit formation, seed dispersal. Natural vegetative reproduction.

Animal: mammal reproduction—organs, fertilisation, development of embryo; bird reproduction—organs, structure of egg, development of embryo, hatching.

D. Weather

The weather station; measurement of temperature, humidity, rainfall and wind.

The water cycle; evaporation, cloud formation, condensation, rain, frost, dew.

Effects of air pressure; high and low systems.

How weather changes; weather maps; forecasting.

Topics

Section I. Plant Husbandry

General

Tools used in the garden: hand tools, mechanical and power-driven tools, their correct use and general care.

Methods of Cultivation: digging, double digging, ridging, forking, raking and hoeing; the reasons for these operations and their effects upon the soil and crops.

Manures and Fertilisers: organic and inorganic, supplying N.P.K. and other essential plant elements; methods of preparation, storage and application, compost; use of lime; effects of manure and lime upon soils; John Innes composts.

Pests and Diseases: recognition of damage, life history, prevention and control of the following: (*a*) a leaf-eating insect, (*b*) a sap-sucking insect, (*c*) a fungus, (*d*) insects as virus vectors.

Weeds: recognition of commonly occurring weeds and their control.

Glass: greenhouses, garden frames and cloches; their use in producing: (i) a more intensive use of cropping area, (ii) an extension of the growing season, (iii) creating artificial climates for plants of different climes. Some problems associated with glass: temperature variation, ventilation, watering.

Topic I (*a*). Vegetable Growing

Planning of vegetable garden: ordering of seeds, the choice of varieties for succession, locality and quality; vegetable crop rotations.

Cultivation of vegetable crops: soil preparation and seed bed; sowing and planting; depth of sowing and/or planting; distances between plants and rows: thinning; transplanting; staking; earthing up; harvesting; storing; seed saving; all in respect of commonly grown vegetable crops and herbs.

(Also—those items listed in the General Section above as applied to vegetables.)

Topic I (*b*). The Fruit Garden

Soft Fruits: the propagation and management of black currants, red currants, gooseberries, raspberries, loganberries or cultivated blackberries and strawberries; varieties in general use.

Top Fruits: the propagation and management of apples, pears and plums or cherries, including fruit stocks; their selection, propagation and use; budding and grafting; early stages of pruning of maiden apple to form a cordon or bush; principles of pruning mature trees; selection of varieties as pollinators; pollination; examples of common culinary and dessert varieties.

(Also—those items in the General Section above as applied to fruit.)

Topic I (*c*). Ornamental Gardening

Ornamental plants: the recognition, propagation and cultivation of the more common garden plants as follows:

(*a*) annuals, hardy and half hardy,

(*b*) biennials and herbaceous perennials,

(*c*) ornamental trees and shrubs.

Ornamental features: the design and maintenance of the ornamental garden with special emphasis on one feature such as: lawn, formal or informal bedding, rock garden or garden pool.

(Also—those items listed in the General Section above with particular reference to ornamental work.)

Topic I (*d*). Gardening under Glass

Types of frame and greenhouse. Commonly used glass substitutes.

Greenhouse equipment, benches, propagating case, mist propagation units.

Heating systems and their management, including thermostatic controls.

Composts and their preparation; J.I., U. of C. 'no soil', etc.

Ventilation and shading; methods and materials.

General greenhouse management, watering, feeding, keeping temperature records.

The propagation of some of the commoner greenhouse and house plants.

Recognition of commonly grown greenhouse plants.

The management of garden frames (*a*) in conjunction with a greenhouse and (*b*) for the production of early vegetable and flower crops.

Types of cloche and their uses.

Setting out and cropping a cloche plot for the production of early vegetables and flowers.

General management of crops under cloches.

(Also—Those items listed in the General Section above as applied to gardening under glass.)

Section II. Animal Husbandry

General

It is assumed that topics chosen from this section will be based on livestock kept on the school premises so that the pupils will have practical experience under the teacher's control.

Structure and function of main organs including digestive system, circulation of blood, excretion, sensory organs, reproductive system, respiratory system, Nutrition: proteins, carboyhdrates, fats, minerals and vitamins; main sources of animal feeding stuffs. Water.

Hygiene: principles of good housing and disease control; types of disease, notifiable diseases, vaccination where applicable; parasites.

Breeding and inheritance, inbreeding, crossbreeding (simple treatment).

Topic II (*a*). Poultry Keeping

Breeds and types: breed origins; light and heavy breeds, commercial crosses; hybrids; sex linked crosses.

Breeding and rearing: selection of breeding stock; selection of eggs; natural incubation and rearing compared with artificial methods; brooding systems.

Egg production: selection of birds for the laying flock; comparative merits of various systems of housing and feeding; egg records; seasonal trends and reasons for these.

Table Poultry: mention of commercial methods (broilers, etc.): rearing table cockerels; chemical caponisation; fattening and weight records; killing; plucking; singeing; trussing and preparation for table.

(Also—those items listed in the General Section above as applied to poultry.)

Topic II (*b*). Rabbit Keeping

Breeds: breed origins; fancy, fur and table breeds and crosses; selection of breeding stock.

Breeding and rearing: mating; gestation and preparation for birth; care of does with newly-born litters; culling; fostering; weaning; recording of pedigrees and breeding records.

Housing: wooden hutch making; ideal designs for stock and breeding hutches; morant runs for use on grass; modern metal cages with removable droppings trays and hopper feeding.

Feeding: concentrated foods including modern balanced pellets; collection and identification of wild plants suitable for feeding and recognition of harmful ones.

Table rabbits: recording of weights during fattening; killing; skinning and preparing for table. Modern methods of marketing.

Fur production: the moult; correct time for pelting; commercial processing of skins compared with a simple method of home curing suitable for glove making, etc.

(Also—those items listed in the General Section above as applied to rabbits.)

Topic II (*c*). Pig Keeping

Breeds: origins; bacon and pork breeds and commercial crosses.

Breeding and rearing: selection of breeding stock; service and gestation; artificial insemination mentioned; care of in-pig gilts and sows; farrowing; feeding and care of sows and litters; ear marking and birth notification; castration; weaning; weighing and recording.

Housing: types of housing and materials used in construction; drainage; heat insulation and ventilation.

Feeding: food conversion; feeding costs; concentrates, compounds and bulk foods; methods of feeding.

Marketing: markets; buying and selling stock of various ages; market price fluctuations; price guarantees; dressing percentages; useful products from pigs.

(Also—those items in the General Section above as applied to pigs.)

Topic II (*d*). Bee Keeping

Recognition and metamorphosis of the three castes of the bee colony.

Varieties of the honey bee.

Anatomy of the worker bee including mouthparts, sting, antennae and legs.

Hives used in beekeeping; straw skep (historical): single and double walled hives.

Main sources of (*a*) nectar and (*b*) pollen; collection and use of these foods; the production of wax; comb building.

Pollination: value of bees; manner of pollination; crops involved.

Communication among bees; the bee colony.

Seasonal manipulations; wintering, spring cleaning, swarm control, summer care.

Honey production: beeswax and its uses.

A brief mention of (*a*) the bumble bee colony and (*b*) the wasp colony; feeding habits of the wasp.

(Also—those items listed in the General Section as applied to bees.)

Section III. Environmental Studies

This section should be particularly useful to those schools having limited facilities for practical gardening and livestock keeping.

Topic III (*a*). Ecological Studies

Classification in greater detail than under Basic Principles; main phyla and classes of plants and animals and their division into natural orders, families genera and species, with special emphasis on means of recognition of those commonly found in the area under study.

Communities. The study of three of the following communities: (*a*) field, heath, common or wasteland, (*b*) hedgerow, (*c*) wood, (*d*) pond or stream, (*e*) seashore. The interdependence of the animal and plant populations and the effects on them of soil, water and climate. Adaptation to the environment. Man's place in nature and the conservation of natural resources.

Methods of Study. General and specific in the field. Field techniques, collecting methods, bird watching, small mammal survey. Identification of specimens of plants and animals using books and keys: the microscope. Methods of growing plants and keeping animals in school (greenhouse and garden, vivaria, aquaria, etc.) as facilities allow. Naturalist societies.

Topic III (*b*). Livestock Farming

The study to be based on visits.

Organisation of the farm; the influence of soil, climate, markets and other local conditions on the choice of livestock enterprises and feeding crops grown.

Breeds. Recognition of leading breeds of cattle, sheep, pigs and poultry. Purpose of breeds: beef or dairy, wool or mutton, pork or bacon, egg production or table. Points of a good animal.

Breeding and Rearing. Selection of parent stock, mating and artificial insemination, oestrum and gestation periods, birth, care of young, weaning. Incubation and brooding of chicks.

Housing:

cattle—buildings for rearing, fattening and dairying.

pigs—houses for breeding, rearing and fattening.

poultry—houses and appliances for rearing, egg production and table birds.

Nutrition. Maintenance and production rations, conversion ratio, concentrates, bulk foods and roughage, water and mineral content, food mixing. Hay and silage making. Methods of grazing and foldings. Electric fencing. Nutritional value of milk.

Routine Operations

cattle—marking, de-horning, castration, tuberculin testing, inoculations, dressing, milking.

sheep—flushing and tupping, castration and tailing, dipping and shearing, drenching, marking, foot care.
pigs—marking, castration, weighing, injections.
poultry—marking, culling, caponising, de-beaking and vaccination.

Animal health. Symptoms and control of:
tuberculosis, mastitis, scours, warble fly;
foot and mouth, foot rot, sheep scab, liver fluke;
erysipelas, swine fever, pig louse, worms, anaemia;
coccidiosis, fowl pest, bacillary white diarrhoea, poultry mites.

Marketing. Live animals and their products:
Meat.
Milk, cream, butter, cheese.
Wool: structure, grading, processing.
Skins and hides.
Eggs.

Topic III (*c*). Arable Farming

The study to be based on visits.

The organisation and economics of a farm in the candidate's locality. The influence of soil, climate, markets, traditions and other local conditions on the types of crops grown and livestock kept.

Cash crops: the cultivation, harvesting and knowledge of common varieties of cash crops including, where possible, wheat, barley, potatoes and sugar beet. Storage and marketing. Utilisation of these crops.

Forage crops: the cultivation and utilisation of forage crops including oats, beans, kale, leys and permanent grass. The characteristics of Italian and perennial ryegrass, cocksfoot, timothy, meadow fescue, white clover, red clover and lucerne.

The conservation of grass: haymaking, silage making and a knowledge of grass drying.

The maintenance of soil fertility: by using farmyard manure, green manuring, artificial fertilisers, lime, fallowing, crop rotations, land drainage and irrigation.

Weeds: the recognition of common weeds and their control by cultivation and chemicals.

Hedges: stone walls.

Farm machinery and implements: elementary knowledge of the use of. Safety precautions.

Topic III (*d*). Market Gardening

The influence of soil, climate, markets, traditions and other local conditions on the choice of site and crops grown.

Problems associated with intensive cultivation.

The commercial glasshouse industry; commercial nursery work.

Mechanisation of market gardens.

Markets and marketing, including pre-packing, quick freezing, etc.

N.B.—Candidates taking this topic will be required to undertake a detailed study of a local market garden, orchard, commercial glasshouse or nursery and it is assumed that the outline syllabus above will be expanded to meet particular needs.

Topic III (*e*). **Forestry**

Study to be based on a selected area of forest land, giving facilities for practical work.

The influence of soil, climate, markets and other local conditions on the choice of tree planted.

Brief history of forestry in Britain.

Life history of a tree.

Nursery work: selection of suitable site, seed collection and storage, seed bed preparation, methods of sowing tree seeds.

Transplanting: preparation of the land; symbiotic associations. Planting methods; tools used.

Routine work on plantations: weeding, brashing, crop thinning: methods used to protect trees against harmful insects and other animals and against fungi and fires. Measurement of standing trees by use of quarter girth tapes, hoppus tables, hypsometer, ocular measurement of height, lumberman's method of measuring height.

Natural history of the forest.

Animal life in the forest: homes, habits, food, tracks, etc. Methods of control.

Plant life of the forest: flowering and non-flowering; methods of control. Grid and quadrat surveys. Identification of forest trees at all seasons by shape, twigs, buds, leaves, fruit and bark.

Uses of forest timber: methods of felling; methods of preserving and seasoning timber; general uses of hardwoods and softwoods.

Topic III (*f*). Rural Survey

Maps to show geographical position of the village studies, geological divisions, main physical features, farms and land utilisation.

The position of the village in relation to physical, human and economic factors; the development of the village, its buildings and places of historical or public interest.

Survey of a local farm based on periodical visits to one or two selected farms in order to find details of the economics of the farm; its part in the life of the local community and its contribution to the nation; main activities of the farm; plans of the farm buildings, fields and other important features; history attached to the farm and field names; soil types and crop rotation; observe some of the important seasonal activities of the farm, e.g. ploughing, drilling, harvesting, milking, rick-building, hedging; learn to recognise the common plants and animals, both farm and wild, with some study of the different biological zones, e.g. aquatic life, marsh life, meadow life, wood life and hedgerow life.

Local activities: local industries; local government and meetings; public services; social activities such as clubs and societies, recreational facilities, etc.

SYLLABUS B

The syllabus has been prepared in order to cater both for schools which have limited facilities for the subject and for schools with more extensive and varied provision within the school site. It is arranged in four main sections.

Questions on Sections I and II are compulsory, whilst certain options may be made as between Sections III and IV.

The examination will be devised to test the candidates' capabilities in both theoretical and practical work and will be divided into two main parts carrying a maximum percentage of marks as follows:

Part I. A written examination—maximum 50% of marks.

Part II. Oral, practical and topic work—maximum 50% of marks.

Part I. *The Written Examination*

The total time allowed for this part will be 2½ hours. There will be a wide choice of questions covering all sections of the syllabus, and this part of the examination will be in two sub-divisions:

1. consisting of 28 short questions, of which not more than 20 should be answered. It is advised that not more than 40 minutes should be spent on this section. Maximum marks, 20%.

2. consisting of questions requiring longer answers. Four questions are to be answered as follows: one question from Section I, one question from Section II, one question from *either* Section III *or* IV and one additional question chosen from any section. Maximum marks, 30%.

Part II.

(*a*) *Practical examination.* Maximum marks, 30%.

(*b*) *Oral and Topic examination.* Maximum marks, 20%.

The nature of the tests will depend upon the facilities and scope of the work carried out in the school. The examiner will ask for such information prior to his visit to the school.

(*a*) Practical Tests will consist of common tasks carried out on the garden or the farm: e.g. seed sowing, pricking or planting out, digging, pruning, use of tools, machinery and management of such livestock as may be kept at the school.

(*b*) Oral and Topic Work. Oral questions may be on such subjects as identification of seeds, weeds, plants, fertilisers, and pests and diseases common to the school garden or farm. In addition, questions may be asked on Crop Husbandry, Animal Husbandry, Machinery or on any other aspect of the syllabus.

Topic Work should consist of an individual study folder or book to show evidence of the careful study over a period of not less than one whole term of a particular aspect of Rural Studies, upon which questions may also be asked at the time of the oral examination.

N.B.—Candidates will be expected to reach a satisfactory standard in both Part I and Part II of the examination.

Section I. Basic Principles

Soil. Formation and composition—moisture—air—humus—soil life—weathering agents—soil erosion—topsoil and subsoil. Simple soil experiments—soil analysis—soil types and their recognition. Soil improvement.

Weather and climate. The seasons and climate—weather records and measurement—the water cycle—rain, frost, dew.

Plant and Animal Biology. Characteristics of living organisms—plants and animals. Elementary principles of Breeding and Inheritance.

(*a*) Plant Biology. Simple external and internal structure of a typical flowering plant—roots—stem—leaves—flower and fruit. Functions of plants. Germination and growth—respiration, transpiration, photosynthesis, absorption, response to stimuli. Interdependence of plant and animal life—the carbon and nitrogen cycles. Propagation of plants by seed and vegetative methods—annuals, biennials and perennials. Recognition of common plants, trees and shrubs.

(*b*) Animal Biology. To be related to the garden and farm and to include examples from small livestock, poultry, bees, farm animals, etc. Simple forms of animal life—the earthworm—insects—birds—mammals. Simple external and internal features, digestion, respiration, circulation. Reproduction in animals.

Section II. Plant Husbandry

General. Methods of cultivation—reasons and effects upon soil and crops. Tools used in the garden and farm and their correct use and maintenance. Manures and fertilisers—N.P.K. and lime—their effects on soils and plants. Composts. Common pests and diseases—recognition—prevention and control. Weeds and control.

Vegetable and crop growing. Planning the garden, seeds, varieties of plants—roots. Brassicas, legumes. Rotation of crops—successional crops, intercropping. Preparation of soil—sowing and planting, thinning, transplanting, harvesting and storing of various vegetable crops. Common pests and diseases of vegetable crops.

Fruit growing

(*a*) Soft fruits—the propagation and management of the common soft fruits.

(*b*) Top fruits—the propagation and management of apples, pears, plums, and cherries. Stocks, budding and grafting, pruning, varieties of fruit. Common pests and diseases of fruit.

Ornamental Gardening. Ornamental plants, trees and shrubs—the recognition, propagation and cultivation of more common types. Features of the ornamental garden—lawns, trees, shrubs, bedding plants, herbaceous and annual borders, rock gardens, pools. Garden construction.

Cultivation under glass. The greenhouse, cold frames and cloche management.

Section III. Animal Husbandry

It is assumed that topics covered in this section will be based on livestock kept in the school so that candidates will have practical experience.

Animals as producers of food—poultry, rabbits, pigs, cows, bees.

Poultry Keeping. Breeds and types—crosses—breeding and rearing, natural incubation compared with artificial methods. Development of embryo and hatching. Egg production, good laying stock, systems of housing and feeding. Notifiable and other diseases. Table poultry—commercial methods, broilers, feeding, records, etc.

Rabbit keeping—breeds and types—breeding and rearing—housing—hutches and runs—modern balanced foods—good and harmful plant foods. Common diseases.

Table rabbits—fur production, moulting, pelting, preparation of skins.

Pig keeping—breeds, origins, bacon and pork breeds, commercial crosses. Breeding and rearing—selection of breeding stock, service and artificial insemination, care of breeding gilts and sows, farrowing, feeding of sows and litters, weaning, marking, recording. Housing, feeding, marketing, pig products. Notifiable and common diseases.

Cattle

(*a*) Dairy cattle. Breeds and their economic importance—yields, milk quality. Distribution of breeds. Breeding—herd improvement. A.I., milk records, management of cows for milk production. Principles and practice of clean milk production. Hand and machine milking routine.

Feeding. Feeding standards, protein and starch equivalent, bulk. Balancing rations. Maintenance of production.

Rearing. Preparation for calving, calving, systems of calf rearing and weaning. Calf ailments and their prevention.

(*b*) Beef cattle. Breeds and their crosses, economic importance, feeding for beef. Traditional and modern systems. Baby beef. Conversion ratios. Notifiable and common diseases in cattle. Mastitis. Contagious abortion. Milk fever.

Bee-keeping. Recognition and metamorphosis of the three castes of the bee colony. Anatomy of the worker bee. Hives used in bee-keeping, single and double walled hives, skep.

Main sources of nectar and pollen collection and use of these foods.

Bees and pollination. Communication among bees—the colony.

Operations—wintering, spring cleaning, swarming, summer care.

Honey production, beeswax. Notifiable and common diseases.

Section IV. Environmental Studies

This section may be useful to schools having limited facilities for practical gardening or livestock keeping.

Farm Studies

(*a*) Arable farming. The organisation of a typical farm in the locality. The influence of soil, climate, physical features, local aspects, etc., on the farming. Cash crops—wheat, barley, potatoes, sugar beet. Forage crops—oats, beans, kale, leys, permanent grass.

Characteristics of various grasses and mixtures.

Haymaking, silage, grass drying. Harvesting and storage.

Weed control on the farm—diseases and control.

Use of manures and fertilisers on the farm.

Farm machinery—tractors—implements.

(*b*) Livestock farming. The organisation of a typical farm in the district. Mixed farming—influence of soil, aspect, markets on type of farming and of livestock.

Breeds of farm livestock—recognition of main breeds of cattle, sheep, pigs and poultry. The purpose of certain breeds, beef or dairy, dual purpose breeds, wool or mutton, pork of bacon, eggs or table birds. Points of good livestock. Breeding and rearing.

Housing cattle, pigs, poultry. Feeding and care of animals on the farm, rations, concentrates, succulents, roughage. Grazing and folding. Short and long term leys.

Special purpose forage crops.

Routine work with cattle, pigs, sheep and poultry.

Animal health—control of common diseases.

(*c*) Market gardening. The influence of soil, climate and markets on choice of site and crops grown. Methods of intensive market gardening—nursery gardening. Commercial glasshouse production—markets—modern marketing methods.

(*d*) Forestry. Studies to be based on a given area of forest land which provides facilities for practical work and observation. The influence of soil, climate and aspect on the type of trees planted.

The importance of forestry in national economy.

Study of trees—life cycle—nursery work in forestry—seeds—transplanting.

Routine operations in forestry—weeding, thinning, protection of young trees, insects, fungi, disease, fire danger. Measurement and selection of mature trees.

The animal life of the forest—plants of forest land.

Identification of forest trees at all seasons. Timber—its uses—felling—seasoning—hardwoods and softwoods.

14. SCIENCE

SYLLABUS A

A guiding principle in drawing up the following syllabus has been that, whatever specialisation takes place, a broad foundation of basic science should be taught, to give an appreciation of the fundamental principles and phenomena of all branches of science. This will be tested in Part I of the examination.

To cater for different forms of specialisation six separate syllabuses, in General Science, Physics, Chemistry, Chemistry with Physics, Biology, and Human Biology and Hygiene, are provided. Part II of the examination will be based on this specialised section together with the relevant parts of the basic syllabus. A candidate may take more than one science subject in Part II of the examination except that:

(1) no other subject may be taken with General Science,

(2) neither Chemistry nor Physics may be taken at the same time as Chemistry with Physics,

(3) Biology and Human Biology and Hygiene may not be taken together.

The subject will be recorded on any certificate awarded as Science followed by the name of the specialised section in brackets, e.g. Science (Physics).

Part III of the examination will consist of a series of small practical tests carried out in the laboratory, together with a problem to be worked out on paper, based on any section of the Part II syllabus. It is hoped that it may eventually be possible for such problems to be worked out in the laboratory.

The full examination will therefore comprise three parts:

Part I, a paper of $1\frac{1}{2}$ hours, covering the basic science syllabus. This paper will be taken by all candidates. (35 marks.)

Part II, a paper of $2\frac{1}{4}$ hours, covering a more detailed or specialised study chosen from the following: General Science, Physics, Chemistry, Chemistry with Physics, Biology, Human Biology and Hygiene. (45 marks.)

Part III, 2 hours, comprising

(*a*) a set of simple practical tests (10 marks).

(*b*) a practical problem, based on the syllabus chosen for Part II, requiring a written answer only (10 marks).

Part I. Basic Science

The paper in this part will be taken by all candidates. It will consist of questions requiring short written answers, diagrams and simple calculations. The examination will be based on the syllabus which follows, and the intention is that the preparation for this part of the work should be a broadly based study from which the more intensive work of Part II can develop.

In the treatment of this syllabus it will be expected that through practical work in the field and in the laboratory candidates will have learned to make accurate observations, will appreciate the need for controlled experiments and will have had some experience of observing living things under natural conditions.

It is expected that reference to molecules, atoms and electrons will be made. The questions will be set in such a way as to ensure that, in the treatment of the subject matter, the greatest freedom of approach may be enjoyed.

A simple study of the general features, and life histories where relevant, of common plants and animals. These studies will be presumed to have included reference to representatives of the grasses and the non-flowering plants, and in the animal kingdom to representatives of the insects, fish, amphibians and birds.

A very simple appreciation of the anatomy and physiology of a mammal, including respiration, circulation of the blood, nutrition, excretion, reproduction, the nervous system and the role of skeleton and muscles.

The simple study of a typical flowering plant, to include treatment of root, stem, leaf and flower, pollination, formation of seeds, seed dispe-sal, germination. Preliminary ideas of photosynthesis.

Bacteria, fungi and protozoa in relation to man.

The interdependence of plants, animals and man, food chains, the carbon and nitrogen cycles.

The cell as the unit of life.

The composition of air: properties and uses of oxygen, combustion and respiration, oxidation. The burning of carbonaceous substances (foods and fuels) with the production of carbon dioxide and water and the release of energy. Properties and uses of carbon dioxide.

Water; analysis by electrolysis; synthesis by burning hydrogen; properties and uses of hydrogen.

Formation and main constituents of soils; air, water, mineral salts and humus. The water cycle.

In their treatment of this work candidates will be expected to have gained (*a*) some knowledge of solution, evaporation and condensation, and the techniques of filtration, distillation and crystallisation, (*b*) a simple appreciation of the solid, liquid and gaseous states, elements, compounds and mixtures, chemical and physical changes.

Physical properties of solids, liquids and gases, to include a simple appreciation of density, diffusion, compressibility and surface tension.

Force treated as a push or pull. Examples of forces; gravitational, magnetic, electrostatic and molecular.

Pressure as force per unit area; atmospheric pressure and water pressure treated generally.

Simple machines as devices for applying forces more effectively; the lever and inclined plane.

Forms of energy and their inter-changeability.

Sources of heat. Effects of heat: (*a*) chemical; (*b*) change of size, expansion and contraction; (*c*) change of temperature, simple thermometer; (*d*) change of state, idea of latent heat.

Difference between heat and temperature. Units of heat energy; calorie, kilo-calorie, British Thermal Unit and Therm.

Transference of heat; conduction, convection and radiation.

Sources of light. Propagation in straight lines, shadows and pin-hole camera. Reflection at plane surfaces, matt and polished. Simple treatment of refraction. Effect of lenses, converging and diverging rays. Application in eye and camera. The visible spectrum, colour explained by selective absorption.

Sound produced by vibrations and propagated by matter. Velocity of sound.

Electricity: The electric current as a flow of electrons. Conductors and insulators. Simple circuit with cell, lamp and switch. Simple cell as illustrating energy change—chemical to electrical. Effects of an electric current: heating, magnetic and chemical as exemplified by the electric fire and lamp, simple electro-magnet and electrolysis of water. Electrical terms—volt, ampere and watt (no formal definition).

Simple properties of a magnet. Simple production of an alternating current by coil and magnet.

Static electricity to illustrate negative and positive charges and the forces between charged bodies.

The sun as a star. The solar planetary system. Natural and artificial satellites. General idea of the distances involved; the 'light year'.

Part II. General Science

(The Part II examination will be based on the following syllabus, together with the whole of the Part I syllabus.)

Direct measurement of volume and mass: Units. Measurement of density and relative density.

Archimedes Principle; displacement.

Flotation. Use of hydrometer.

Pressure in fluids. Pressure transmitted; pressure and thrust; simple hydraulic machinery. Relations between pressure and depth and density.

Atmospheric pressure: measurement and application. Mercury and aneroid barometer.

Weight, force, work, power (f.p.s. units only).

Velocity ratio, mechanical advantage, efficiency. Simple machines as illustrated by levers, wheel and axle, inclined plane, screw, pulleys. Gears (bicycle and simple household appliances). Moments. Centre of Gravity and stability (qualitatively).

Basic ideas of friction in machines and elsewhere.

Conservation of Energy. Different forms of energy and their transformation.

Simple physics of space travel.

Everyday applications of expansion and contraction of solids, liquids and gases.

Calibration and limitations of liquid-in-glass thermometers. Maximum and minimum thermometers. Use of thermocouple. The absolute scale.

Heat measurements. Thermal capacity.

Change of state. Cooling curve. Melting point of a pure substance.

Latent heats of fusion and vaporisation (not measurement).

Special properties of water in respect of capacity for heat, latent heats, changes of volume with temperature and with change of state. Effect of pressure on change of state.

Water in the atmosphere. Wet and dry bulb hygrometer.

Evaporation and cooling. Control of body temperature. The refrigerator principle.

Common examples of conduction, convection, radiation. Radiation of heat as part of total spectrum.

Simple principles of heat engines, turbines and the internal combustion engine.

Laws of reflection of light. Position and nature of image in plane mirror.

Simple periscope. Curved mirrors and their uses.

Refraction. Track of ray through rectangular block and triangular prism. Real and apparent depth.

Formation of image by convex lens treated graphically.

Magnifying glass, projector.

Colour. Dispersion. Production of a spectrum. Colour by reflection and transmission.

Superficial notion of spectrum analysis (extensions of the visible spectrum). Pitch and intensity of sounds. Frequency. Velocity of the sound wave. Reflection and echoes. Echo sounding. Musical instruments. Control of pitch. Resonance.

Simple principles of recording and reproducing sound.

Current, e.m.f., resistance. Ohm's Law.

Series and parallel connections in simple circuits.

Making an e.m.f.—Volta's cell: Leclanché's wet and dry cell. The lead-acid cell.

The generator—simple permanent magnet type. Alternating current. Slip rings and commutator. Differences between A.C. and D.C.

The motor principle—moving coil meters. Motor (simple p.m. type) loud-speaker.

Moving iron meter.

E.M. Induction. Transformer. The grid system.

Power and the cost of electrical energy. House wiring. Fuses. The earth connection.

Magnets: Simple properties. Induction and magnetic fields.

Properties of the following gases: hydrogen, oxygen, carbon dioxide, acetylene, ammonia. Industrial processes for the manufacture of these gases and their uses.

Sources, production and significant chemical properties of iron, aluminium, chlorine, sulphur, carbon.

Alloys and their uses; brass, bronze, solder.

Contrast between metals and non-metals.

Acids, bases, salts.

Properties and uses of the three mineral acids.

Some knowledge of the following salts: ammonium sulphate, sodium chloride, potassium nitrate, calcium carbonate and sodium bicarbonate.

Some detail of processes in the following industries: steel, coal gas, petroleum, soap, copper plating and refining, anodising, electrolysis of brine.

Formal equations for chemical reactions will not be required.

A simple study of amoeba, hydra, earthworm, mollusc, insect, fish, frog, snake, bird, mammal, simple alga and fungus, a moss, a fern, a flowering plant.

Ecological groups in a named habitat, e.g. pond, hedge, wood.

Types of animal and plant showing food chains and pyramid of numbers.

(As a result of this study, pupils should be able to recognise some typical plants and animals.)

The mammal. General structure, cell as a unit, movement. Ingestion, digestion. Excretion. Food values. Blood and its circulation. Reproduction.

Nervous system and sense organs.

The flowering plant: general structure; function of root, stem, leaf, flower, fruit, seed; movement of liquids; transpiration, respiration, photosynthesis; reproduction, germination and growth; vegetative reproduction; food storage; response to light, water, gravity.

Relationships between animals, plants and minerals. Feeding. Respiration and photosynthesis.

The simple concept of evolution.

Bacteria and disease.

Insects in relation to man.

Biological control of pests.

Part II. Chemistry

(The Part II examination will be based on the following syllabus together with the Chemistry section of the Part I syllabus.)

A. Basic Section

Atomic Structure.

Idea of elements and compounds. Introduction of symbols. Formulae. Bohr's concept of the atom, Atomic Number (Number of Protons), Mass Number. Weight of nucleus. Isotopes. Atomic Weight, Molecular weight.

Periodic classification to demonstrate simple chemical families.
Valency as linking power, electro-valency and co-valency.
Study of metals and non-metals in general terms.

Electrolytes and non-electrolytes.
(all work in this section by ionic equations.)

Simple Ionic Theory.

Electrolysis of dilute sulphuric acid, sodium chloride solution, copper sulphate solution.

Acids.

Common acids, including hydrochloric, sulphuric, nitric, acetic and citric acids (no preparations required, industrial or laboratory). Simple properties of these acids.

Bases.

The common alkalis, including potassium, sodium, calcium and ammonium hydroxides.

Simple properties of these bases.

Acids and Bases.

Indicators and pH values.

Formation of a salt, to include:

(1) preparation of ferrous sulphate from iron and sulphuric acid,

(2) preparation of copper sulphate from copper oxide and sulphuric acid,

(3) preparation of sodium chloride by titration.

B. Investigating Section

Metals and non-metals—more detailed study to include the important properties and uses, both of the element and the compounds.

Metals.

Sodium—Particularly the production of the hydroxide and the carbonate. Soaps and other detergents.

Calcium—Uses of compounds in agriculture, glass, plaster, water softening.

Aluminium—With particular reference to its production. Uses. (No compounds.)

Iron—Including the blast furnace and steel production.
Lead—With particular reference to its oxides and carbonate.
Copper—With particular reference to the process of purification.

Non-Metals.

Nitrogen—The importance of the fixation of nitrogen. Ammonia—outline of manufacture by the Haber-Bosch process. Uses of ammonia.

Sulphur—With particular reference to contact process for sulphuric acid.

Chlorine—To include details of its preparation and uses; the halogens as an example of a periodic family.

Carbon—Its allotropic forms and its uses. Carbon monoxide as formed by incomplete combustion.

Fuels: coal and coke; petroleum; sources, fractional distillation, motor fuel; natural gas, coal gas, producer gas, water gas.

Some idea of the raw materials important in production of plastics, polyester, synthetic rubber, synthetic petrol, artificial fibres. Details of processes are not wanted.

Foods: carbohydrates, fats, proteins. Fermentation.

Introduction to simple qualitative analysis.

The following tests on metals: precipitation of sulphides and hydroxides; reduction of oxides on charcoal block; flame tests.

The identification of chlorides, sulphates, carbonates.

C. Nuclear Reactions.

Atomic disintegration; ideas of radio-activity; nuclear fission; ideas of chain reaction; control of atomic energy.

Part II. Physics

The Part II examination will be based on the following syllabus together with the Physics section of the Part I syllabus.

Questions involving calculations or graphical answers may be set on those parts of the syllabus which are underlined.

Mechanics and Properties of Matter.

Physical nature of material substances. Behaviour of solids, liquids and gases with ideas of density, relative density, hardness, elasticity, viscosity, diffusion, compressibility, surface tension.

Forces and their effect on matter. Gravity, weight and movement.

Balance and centre of gravity. Comparing forces, scales, spring balance. Hooke's Law, equilibrium, moments.

Forces at work. Simple machines, the lever, inclined plane, pulley and their applications.

Simple study of engines as transformers of energy referring to turbines, steam and IC engines, electric motor, rocket.
Transmission of mechanical power.

Other forces, magnetic, electrostatic, molecular, frictional, can be treated from the point of view of movement and equilibrium, and throughout, the treatment should be such as to bring out the basic concepts of work, energy, power and efficiency.

Movement in air and space, flight and orbiting. Pressure in air and water. Flotation.

Forms and transport of energy.

Idea of energy transformation in respect of mechanical (KE and PE), chemical, heat, light, sound, electrical and nuclear.

Heat.

Expansion of gases, liquids and solids. Measurement of temperature including thermocouple. Conversion of scales, the Absolute Scale.

Change of state related to energy, temperature and pressure, freezing and boiling points, evaporation, humidity, change of volume. Anomalous behaviour of water. (Study of refrigeration, bursting pipes, pressure cooker, regulation of body temperature.)

Heat transference, good and bad conductors, thermal insulators and their uses, domestic heating, absorption and radiation by different surfaces, vacuum flask, ventilation. Convection and radiation as affecting climatic conditions.

Measurement of heat, calorie, B.Th.U. and therm. Thermal capacity.

Light.

Propagation, shadows and eclipses. Graphical treatment of reflection from plane and curved mirrors. Uses of mirrors such as periscope, shaving mirror, driving mirror.

Refraction and total internal reflection.

How a lens forms an image, graphical construction. Camera, projector, magnifying glass. Function of lenses and mirrors in telescopes and microscopes. The eye, long and short sight and correction.

Nature of colour, colour by reflection and transmission. Mixing of coloured lights and pigments. The electromagnetic spectrum.

Electricity and magnetism.

Nature of electricity, circuits, conductors and insulators, switches.

Cells and batteries as sources of current, methods of connection.

Chemical effect, accumulator charging, anodising, plating.

Resistance and the heating effect of a current. Use in appliances, series and parallel connections.

Electricity in the house, fuses, earthing and electric shocks.

Ohm's Law, wattage, costing of electrical energy.

Electromagnets, current detectors, MC and MI, motor and telephone.

Generation of electricity, dynamo, AC, DC, rectification, transformers and distribution.

Simple idea of thermionic valve as rectifier and amplifier. CRT.

Sound.

Production, transmission and detection. Speed, reflection, echoes, frequency and wavelength.

Principles of simple musical instruments. Music and noise, resonance.

Part II. Chemistry-with-Physics

(The Part II examination will be based on the following syllabus together with the Physics and Chemistry sections of the Part I syllabus.)

Chemistry.

The following laws: Conservation of Mass, Definite Proportions, Multiple Proportions, Gay Lussac's Law, Boyle's Law, Charles' Law.

The Equivalent Weight of an element: Atomic Weight. Molecular Weight. Valency. Relationships between Atomic Weight, Equivalent Weight and Valency.

Chemical symbols, formulae and equations.

Use of chemical equations for simple calculations on weight relationships and volume ratios.

Ionic Theory to explain ionization of acids, alkalis and salts and simple facts of electrolysis.

Important chemical and physical differences between metals and non-metals.

The Electro-Chemical Series as a means of classifying the elements.

Acids, bases and salts.

Methods of preparing salts by (i) saturation of an acid with a metal or base or carbonate, (ii) double decomposition.

Oxides: Basic, Acidic and Neutral oxides. General methods of preparation.

Oxidation and Reduction in terms of addition or removal of hydrogen and oxygen.

Examples of important oxidizing and reducing agents.

Rusting of iron.

Carbon: Diamonds and Graphite as allotropes.

Carbonic acid, carbonates, bicarbonates.

Coal and its origin.

Production of coal gas: by-products.

Petroleum: its origin and refining; by-products. Other carbonaceous fuels. Carbon as the essential element in living matter.

Nitrogen: Fixation of atmospheric nitrogen to form ammonia; importance of nitrogen in some fertilisers.

Laboratory preparation and properties of ammonia.

Preparation of ammonium salts.

Sulphur: Occurrence; extraction by Frash Process; allotropic forms.

Laboratory preparation and properties of sulphur dioxide.

Importance of sulphuric acid; its manufacture by contact process.

Chlorine and hydrochloric acid: laboratory preparation, properties and uses.

Hardness of water and its removal.

Sources, production, properties and uses of iron, steel, copper.

Properties and uses of aluminium, lead, zinc, tin.

Some idea of the raw materials important in production of plastics, polyesters, synthetic rubber, synthetic petrol, synthetic fibres.

Details of processes are not wanted.

Physics.

Kinetic picture of solids, liquids and gases.

Weight. Spring balance. Density and relative density.

The lever. Moments, beam balance. Centre of gravity, stability.

Air Pressure. Mercury and aneroid barometers. Simple pumps.

Liquid pressure. Dependence on depth and density. Transmission.

Simple hydraulic machines.

Loss of weight in displacement. Flotation. Hydrometer.

Force: affects the motion of a body. Work, power. Gravitational units.

Energy: its various forms. Idea of conservation.

Machines: Mechanical Advantage, Velocity Ratio and Efficiency defined.

Inclined plane, screw jack, pulleys.

Friction: basic ideas in machines and elsewhere.

Simple ideas of space travel, and weightlessness.

Sources of heat energy: combustion, friction, electric currents, nuclear reaction.

The expansion of solids, liquids and gases. Simple applications.

Anomalous behaviour of water.

Temperature as level of heat. Liquid in glass thermometers. Fixed points.

Scales. Conversion of F and C scales. Clinical Thermometer.

Idea of absolute zero and scale.

Heat energy: Units. Thermal Capacity. Simple calculations.

Change of State: M.P. of a pure substance. Cooling curve. Latent heat of fusion and evaporation, demonstrated simply and defined. Volume changes.

Effect of pressure on M.P. and B.P. Pressure cooker principle. Evaporation and cooling. Body temperature control and refrigerator principle.

Water in the atmosphere. Humidity. Wet and dry bulb hygrometer.

Heat transfer: Conduction. Uses of good and bad conductors.

Convection. Application to domestic heating and ventilating.

Radiation as part of the E.M. spectrum. Effect of surface. Vacuum flask.

Heat Engines. Simple study of steam turbine and I.C. engine.

Rectilinear propagation of light: shadows and eclipses. Velocity of light.

Graphical treatment of reflection from plane and concave surfaces. Periscope.

Refraction through rectangular glass block. Apparent depth.

Graphical treatment of convex lenses. Magnifying glass, projector.

Long and short sight and their correction.

Refraction through triangular prism. Spectrum.

Production, transmission and detection of sounds. Velocity. Reflection, echoes.

Principles of musical instruments. Resonance.

Properties of magnets including induction, and fields. The earth's magnetism.

Simple electric cell. Leclanché, wet and dry.

Nature of electric current, conductors, insulators, circuits, switches.

Idea of resistance. Heating effect. Lamps, fires. Series and parallel connections.

Domestic supply system, fuses, insulation, earthing.

Ohm's Law, Wattage. Kilowatt-hour. Cost of electrical energy.

Chemical effect: Copper plating. Accumulator.

Electromagnets, bell, motor, telephone. Moving coil and moving iron meters.

E.M. Induction: Simple A.C. generator, dynamo. Transformer, grid system.

Part II. Biology

(The Part II examination will be based on the following syllabus together with the Biology Section of the Part I syllabus.)

A general study of plants and animals in habitats such as a pond, hedgerow, bank or waste ground leading to a simple understanding of:

(*a*) the characteristics of living things.

(*b*) the variety and main groups of plants and animals; special adaptations to mode of life,

(*c*) the interdependence of living things,

(*d*) the ways in which soil, air, water, temperature and light affect the living community.

A general study of:

(*a*) a unicellular plant and animal to illustrate cell structure and function; plant and animal differences,

(*b*) an alga, a fungus, a moss, a fern, a flowering plant,

(*c*) hydra, the earthworm, an insect, a garden snail, a fish, an amphibian, a reptile, a bird, a mammal.

A more detailed study of the following:

Plants: Structure and life history of a flowering plant including a simple knowledge of the seed, germination, structure and function of root, stem and leaf. Transportation, photosynthesis, transpiration. Respiration. Food storage, vegetative reproduction, reaction to water, light and gravity. Structure and function of parts of a simple flower, pollination, fertilisation, formation and dispersal of fruits and seeds. The soil and its importance to plant growth. Bacteria and fungi as decaying agents. Fermentation.

Animals: The mammal with special reference to Man. Digestion and absorption of food, teeth, action of enzymes with reference to ptyalin and pepsin. The use of bile in fat digestion. The liver as a storage organ. Defaecation. Structure and functions of blood, circulation. Respiration including the release of energy from food. Excretion by kidneys and skin. Temperature control by the skin. Parts of the skeleton and their functions. Types of joint. Muscles. The central nervous system in outline. Hormones. Structure and function of eye and ear. Causes and correction of long and short sight. Reproduction, reproductive organs, fertilisation, development of embryo.

A general knowledge of the following aspects of biology:

(*a*) bacteria, viruses and insects in relation to Man; a simple treatment of parasitism,

(*b*) heredity, variation and evolution in plant and animal life.

Part II. Human Biology and Hygiene

(The Part II examination will be based on the following syllabus together with the Biology section of the Part I syllabus.)

A. The Human Body.

Man as an example of a mammal exhibiting the characteristics of a living thing.

Cells, tissues and organs. The general plan of the body. Parts of the skeleton and their functions. Types of joint. Muscles. Good posture. Exercise and fatigue.

Food and its uses. Milk. The importance of a balanced and appropriate diet.

The alimentary canal and teeth. Digestion, action of enzymes by simple experiment. Absorption of food. Functions of the liver. Defaecation.

Respiratory organs. Respiration including the release of energy from food, breathing and pulse rate. The structure and function of blood. Blood groups.

The regulation of body temperature. The heart and blood circulation.

Functions of lymph.

A simple study of the structure and functions of the kidneys and bladder.

A simple study of co-ordination by means of a nervous system and hormones.

Reflex action. Structure and function of eye and ear. Causes and correction of long and short sight. A study of the reproductive systems including menstruation, fertilisation, development of the embryo, parturition and lactation. Simple genetics. Personal hygiene including care of skin, hair, eyes and teeth.

Choice and care of clothing. Habits affecting health, including the consumption of alcohol and tobacco smoking.

B. The Body Affected by its Surroundings.

(*a*) Diseases, causes and prevention including a historical study of the development of vaccination, immunisation and antiseptics; modern methods of prevention and treatment using x-ray, antibiotics and anaesthetics. Parasites. Life history and control of the house fly and one other named disease producing insect.

(*b*) Housing in relation to health:

Water supply. Sanitation. Ventilation. Heating. Lighting.

Safety in the home. Slums and Town Planning. Clean air.

C. Health and Society

An outline of the Social Services and their importance to the health of the community.

SYLLABUS B

It is hoped that the syllabus will be used in such a way as to give pupils an understanding of the world in which they live, to teach them to observe and think critically and to make them aware of the methods of scientific thought and development. A glance at the syllabus might suggest a factual approach to teaching and that the syllabus appears full in its content. It is suggested, however, that a true appraisal of it can only be made if the type of question to be set is known. To this end, specimen question papers will be published.

Some distinguishing features of the new examination are:

(1) the introduction of a compulsory elementary paper covering all branches of science; if justification is needed for the inclusion of such a paper, then it must lie in the need for each pupil to have the knowledge and experience to fit him for an environment which is becoming more scientific, in the widest interpretation of the term, as time goes by,

(2) the greater emphasis on practical work,

(3) the freedom given to schools for the submission of course work in lieu of a practical examination,

(4) the length of each examination paper, adjusted so that a candidate with an average speed of working will have ample time in which to complete the paper.

All candidates must satisfy the Board in an elementary paper covering all branches of science. In addition to the elementary science paper, a candidate will take one or more special science subjects chosen from the following:

General Science, Biology, Human Biology, Chemistry, Physics.

There is no restriction on the number or combination of special subjects offered. Consideration is to be given, when time permits, to the extension of this list. The mark of the elementary science paper will not be aggregated with the special subject paper and success will be recorded on the Certificate in the following manner:

e.g. Elementary Science with Physics (Grade 3),

or Elementary Science with Biology (Grade 2).

Course work, in lieu of practical work, must be nominated at least a year before the examination. This is to safeguard candidates against their submitting unsuitable projects. The nomination of course work will not preclude a candidate from withdrawing the nomination at a later stage and being entered, at the normal time, for the practical examination.

Elementary Science

A paper of one hour will be set, with no choice of questions. Approximately 40 responses will be required, in the form of single words, phrases, sentences or diagrams on a printed question sheet. The content of the following syllabus merely indicates the range of material on which examination questions may be asked and in no way is to be considered as a directive or guide to either the order or method of teaching the subject. The approach to the work throughout is expected to be qualitative and not quantitative.

The Sun as an example of a star. The earth's position in the Solar System. Day and night. The inclination of the earth's axis and the seasons.

Sources of heat energy; the sun, common solid, liquid and gaseous fuels and nuclear power.

Summary of the form of the Science examinations

Subject	Written							Practical or Course Work			
		Short Answer Questions			Long Answer Questions			Number of Questions	Time	Mark	Course Work
	Total time for Exam.	No. of questions	Time	% marks	No. of questions	Time	% marks				
General Science	2 hrs.	A number of short questions	Approx. 40 mins.	20%	3 out of 6	80 mins. approx.	30%	6 compulsory questions	2 hrs.	50%	(1) As alternative to practical. (2) With oral exam.
Biology	2 hrs.	—	—	—	5 out of 12	2 hrs.	50%	Pt. 1: 2 compulsory questions Pt. 2: Approx. 12 short written questions	1 hr. 1 hr.	25% 25%	(1) As an alternative to Part 1. (2) With oral exam.
Human Biology	2 hrs.	12 approx.	½ hr. approx.	15%	4 out of 8	1½ hrs. approx.	50%	An oral examination on topics listed in syllabus, or previously nominated by the candidate and approved by the Panel	—	35%	—
Chemistry	2 hrs.	A number of short questions	¾ hr. approx.	30%	4 out of 8	1¼ hrs.	40%	1 compulsory question	1 hr.	30%	(1) As alternative to practical. (2) With oral exam.
Physics	2 hrs.	12 approx.	¾ hr. approx.	20%	4 out of 10	1½ hrs. approx.	40%	4, 5 or 6 compulsory questions	2 hrs.	40%	(1) As alternative to practical. (2) With oral exam. (3) With production of practical notebooks.
Elementary Science	1 hr.	A paper of short questions requiring approximately 40 responses in the form of single words, phrases, sentences or diagrams on a printed sheet. There will be no choice of questions.									

Thermal expansion of solids, liquids and gases.

Advantages and disadvantages of expansion and contraction in everyday life.

Liquid-in-glass thermometers. The Centigrade and Fahrenheit scales and their use. (Conversion not required.)

Clinical thermometer.

Heat transference. Conduction, convection and radiation. Examples in everyday life.

Conversion of heat energy to mechanical energy with simple examples.

Atomic and molecular structure as these concepts assist formation of ideas in other topics, e.g. evaporation.

Evaporation.

Changes of state.

Light as a form of energy.

Reflection. Reflection at a plane surface. Images.

Refraction of light at a plane surface.

Image formation by convex lenses; e.g camera, human eye, magnifying glass. (Accurate geometrical construction not required.)

Colour. The nature of white light—the spectrum.

Production of sound—by vibrations.

Transmission of sound. Medium essential—reflection. Echoes.

Simple ideas of frequency and pitch.

A simple electrical circuit. Need for:

(*a*) Sources—e.g. dry cell, accumulator, dynamo and domestic supply.

(*b*) Conductors and insulators.

(*c*) Fuses.

(*d*) Switch, including main switch.

(*e*) Appliances—e.g. lamp, heater and motor.

(*f*) Connections with earth circuits.

Detailed construction and theory of action of sources and appliances are not required. This section should be treated in such a way that the safety factor in the correct use of electric power should be stressed.

Magnets and magnetic materials. The compass. Magnetic North.

Simple ideas of density. Buoyancy and flotation.

Simple treatment of gravity as a universal force. Idea of force and work.

The force of friction. (Not coeff. of friction.)

Everyday examples of leverage.

The atmosphere. Atmospheric pressure. Everyday examples and applications of atmospheric pressure.

Surface tension and capillary action.

Air, combustion and breathing. The composition of air.

Oxygen—its properties.

Water—solutions. Solvents other than water. Filtration, evaporation and distillation. The water cycle in nature. The public water supply. Simple

treatment of hardness of water, and the reversal of hardness by heat, soap and soda. Use of synthetic detergents.

Carbon dioxide. Preparation by combustion of carbon compounds. Properties and uses of carbon dioxide (dry ice, fire extinguishers). Heating carbonates, raising agents. Solubility of carbon dioxide in water.

Coal. Destructive distillation. Coal gas (hydrogen as main constituent).

Carbon monoxide as a poison. Safe use of gas appliances.

Carbon as an element of plant and animal life. Coal, coke and oil.

Properties of iron. The rusting of iron and its prevention.

The cell as a unit of living matter. Essential activities of feeding, breathing and excreting—e.g Am eba and Spirogrya.

Growth by simple division of cells. The basic nature of sexual reproduction.

The chief difference between animals and plants, c.f. Amoeba and Spirogyra.

The plant—chief parts and functions of roots, stem, leaves, flowers and fruit. Dependence of animals on palnts.

Animals—the main distinguishing features of an insect, fish, amphibian, reptile, bird and mammal.

The human body. The lungs, the blood and the circulatory system.

Classification of foods and the importance of a balanced diet.

Digestion and the digestive system. The teeth and their care.

Excretion and elimination. Control of the body—the brain, the spinal cord and the nervous system.

Muscles and the skeleton.

Reproduction.

The great importance of personal cleanliness and of the greatest possible care in food handling and preparation.

The life cycle and habits of the housefly, butterfly and hive bee.

General Science

The General Science examination will consist of:

(1) A written paper which will be compulsory and will consist of

(*a*) short answer questions and

(*b*) longer answer type questions.

(2) *Either* a practical paper in which the examiners will look for evidence that the candidate has the ability to use simple scientific apparatus, the ability to observe and record accurately and the ability to draw valid conclusions from practical observations.

Or an assessment of course work. A piece of course work offered as an alternative to the practical examination should be on a subject nominated one year in advance. It should not be limited to one of the sciences forming General Science, but must cover the whole subject. Examiners will wish to examine candidates' notebooks and, when doing so, will seek evidence that the candidate has followed a systematic course of study. Candidates will be given an oral examination.

The marks in the General Science examination will be allocated as follows:

1. Written Paper—Short answer questions	20%
Long answer questions	30%
2. Practical Paper or 3. Course Work Assessment	50%
	100%

The Sun as an example of a star. The Earth's position in the Solar System. Day and night. The inclination of the Earth's axis and the seasons. Phases of the moon and the tides.

Sources of heat energy; the sun, common solid, liquid and gaseous fuels and nuclear power.

The gas flame.

Thermal expansion of solids, liquids and gases. Advantages and disadvantages of expansion and contraction in everyday life. Bimetal expansion—practical contemporary applications.

Liquid-in-glass thermometers. The Centigrade and Fahrenheit scales and their use. Clinical and maximum and minimum thermometers.

Expansion anomalies—the bursting of water pipes, icebergs, cast iron, type metal alloy.

Heat transference. Conduction, convection and radiation. Examples in everyday life.

Quantity measurement of heat. Calories, British thermal units, therms. The calorific values of common fuels and simple calculations, e.g. calculations on gas bills.

Conversion of heat energy to mechanical energy: simple treatment of the four-stroke internal combustion engine.

Atomic and molecular structure as these concepts assist formation of ideas on other topics, e.g. evaporation.

Evaporation and refrigeration. (Compressor type refrigerator only.)

Changes of state. Latent heat treated in a purely qualitative manner. Effects of impurities and pressure on the boiling point and freezing points of liquids. Sources of light energy—stars, chemical and electrical sources.

Shadows and eclipses.

Reflection. Reflection at plane surfaces. The periscope. Images.

Refraction of light. Total internal reflection and critical angle. Examples of refraction.

Image formation by convex and concave lenses. (Accurate geometrical constructions not required.) The camera. The magnifying glass.

The human eye. Long and short sight and their correction. Sight in the animal kingdom.

Colour—the nature of white light. The colour of opaque and transparent surfaces. (Detailed analysis not required.)

Other forms of electromagnetic radiation.

Vibration as the basic cause of sound. Frequency, pitch and the limits of audibility. The velocity of sound in air. Echo formation. The necessity of a medium for the transmission of sound.

The human ear. Hearing in the animal kingdom.

The sources of electrical energy. The dry cell and the lead-acid accumulator. (No chemical theory.) The simple generator.

Simple circuit work. Insulators and conductors. Series and parallel circuits. The concepts of voltage, current and resistance. Simple treatment of Ohm's Law.

Power, the watt, kilowatt-hour, B. of T. unit. Electricity bills.

Effects of an electric current. Practical applications of the heating effect. Short circuits and fuses. Simple treatment of the domestic wiring circuit including the ring main circuit. Electroplating (no chemical theory). Purification of copper by electrolysis. The magnetic effect of an electric current. The electromagnet and the electric bell. The M/C loudspeaker. A simple treatment of the D.C. electric motor.

Magnets and magnetic materials. Magnetic poles and forces. Terrestrial magnetism and the compass.

Electromagnetic induction. Simple treatment of the generation of electric power. The transformer. A.C. and D.C. The grid system.

Simple ideas of density. Buoyancy and flotation.

The force of gravity. Weight and mass. Force and work. The force of friction (not coeff., of friction). Space satellites. Stability and centre of gravity.

Examples of simple machines with no calculations. Everyday examples of leverage. Block and tackle. The inclined plane and screw thread.

The atmosphere. Atmospheric pressure. Everyday examples and applications of atmospheric pressure. Simple treatment of flight.

Pumps—the cycle pump, rotary pumps. Mercury and aneroid barometers. Weather and air pressure as applied to the understanding of weather forecasts.

Pressure in liquids. Transmission of pressure. Hydraulic systems. Proportionality between depth and pressure.

Surface tension and capillary action.

Air, combustion and breathing. The composition of air. Oxygen, its properties and uses.

Elements, compounds and mixtures. Word equations.

Water: solutions, suspensions and emulsions. Solvents other than water. Filtration, evaporation and distillation. The water cycle in nature. The public water supply. The volume composition of water.

Hydrogen—its properties and uses.

The general properties of the common acids and alkalis. Simple first aid in the home in the event of acid/alkali burns.

Crystals.

Calcium carbonate in nature. Quicklime, slaked lime, mortar, cement, concrete.

Carbon dioxide—preparation by combustion of carbon compounds. Properties and uses of carbon dioxide (dry ice, fire extinguishers). Heating of carbonates, raising agents. Solubility of carbon dioxide in water.

Hard and soft water. Methods of water softening: excess soap, boiling, washing soda, common types of water softener. Advantages and disadvantages of hard and soft water.

Coal gas production and its major by-products.

Carbon as an element of plant and animal life, coal, coke and oil.

Sulphur—its occurrence and uses. Sulphuric acid—its production by the contact process. Catalysis. Sulphuric acid as a drying and dehydrating agent. Importance of sulphuric acid in industry.

The extraction of iron from its ores. Properties of iron and steel. The rusting of iron and its prevention. Laboratory extraction of lead from its oxide.

Characteristics of living things. Differences between animals and plants (amoeba and spirogyra). Animals subdivided into vertebrates and invertebrates. Life histories of some representative invertebrates, e.g. amoeba, hydra or sea anemone, earthworm, snail, hive-bee, butterfly, housefly.

Micro-organisms as friends and foes of man. The great importance of personal cleanliness and of the greatest possible care in the handling of food and its preparation.

More specific classification of vertebrates giving the characteristics of each group in terms of a simple life history of a representative member of each group, e.g. a herring, a frog, a grass snake, a house-sparrow and a rabbit.

Adaptations to differing environments as exhibited in the beaks and feet of birds. Animal camouflage.

Soil analysis—nature and size of particles, air spaces in soil, moisture and humus content. Soil temperature. Effects of drainage and lime on soil.

Elementary classification of plants—flowering and non-flowering. The parts of a plant and their functions. The root. Types of root, root hairs, osmosis. The importance of water to plant life. The plant's need of mineral salts. The nitrogen cycle. The stem. The leaves. Transpiration and photosynthesis. Food storage in plants. Flowers—structure. Pollination. Seeds and seed dispersal. Germination of seeds. Conditions for seed germination.

Deciduous and coniferous trees. Trees in winter—winter buds and leaf scars. Fungi, moulds and seaweeds.

Human anatomy and physiology. The lungs, the blood and the circulatory system. Classification of foods and the importance of a balanced diet.

Digestion and the digestive system. The teeth and their care. Excretion and elimination. Control of the body—the brain, the spinal cord and the nervous system. Muscles and the skeleton. Reproduction. A simple treatment of inherited characteristics.

The detailed study of an area to underline the interdependence of the various forms of life and the influence of that life on the environment, e.g. a pond, a hedgerow, a wood or a bombed site.

Biology

There will be practical and written examinations.

The practical examination, of two hours' duration, will consist of two parts.

Part 1, which should be completed in one hour, and will carry 25% of the total marks, will involve the examination of a plant specimen and an animal specimen, which will be provided. Candidates will be required to make

drawings to test their ability and to show their powers of observation; they will also be asked to answer simple questions on the specimens provided.

Part 2 of the practical examination, which will also carry 25% of the total marks, will consist of a variety of questions, ten or twelve in number, to test the all-round knowledge of the candidate; these will require brief but clear answers.

The written paper, of two hours' duration, and carrying 50% of the total marks, will require five questions, out of about twelve, to be answered more fully.

Course work may be submitted in place of Part 1 of the practical examination, and the candidate will then take only Part 2 of the practical examination lasting one hour. Notification that a candidate wishes to submit course work must be given a year in advance. The notebook containing the work must be brought to the examination and the candidate will be expected to answer questions on the contents orally.

A wide selection of plants and animals should be studied closely, both externally and internally where necessary, and sufficiently to ensure a proper understanding of the following biological topics, which form the main purpose of the syllabus. The examples enumerated are suggestions only regarding organisms to be studied, it being left to the teacher to use these or others as they desire. It is intended that the examination questions will be framed in such a way that candidates should be able to answer them whatever examples are used.

The Cell. The unit of living matter. Essential activities of feeling, breathing and excreting, etc., e.g. amoeba, spirogyra. Growth Simple division of cells. Difference between animals and plants, cf. amoeba and spirogyra.

Diversity of plant life.

Non-flowering plants—Protococcus, spirogyra, fungi, lichens, liverwort, moss, fern, pine.

Flowering plants—Buttercup, primrose, wallflower, daisy, sweet pea, dead nettle, snapdragon, lime, iris, maize, grass. Chief parts of the flowering plant and their functions. Root, stem, leaves, flowers and fruit.

Diversity of animal life.

Invertebrate animals. Amoeba, paramecium, hydra, planarian, liver fluke tapeworm, roundworm, earthworm, snail, sea urchin, spider, prawn, centipede, beetle, mosquito, wasp, ant.

Vertebrate animals. Herring, stickleback, frog, newt, lizard, tortoise, bird, rat, man. The main distinguishing features of an insect, fish, amphibian, bird and mammal. The life cycle and habits of the housefly, butterfly and hive bee.

Movement.

Activity of chloroplasts in the leaf of Canadian pondweed. Means of locomotion in animals—amoeboid, cilia, flagella, peristalsis. Special adaptations —exoskeleton and endoskeleton, muscles, fins, feathers, limbs, etc.

Skeleton and muscles in man. Action of walking, running, leaping, swimming, etc.

Respiration.

Respiration in plants—uses of food by plants. Respiration in animals. Action of gills and lungs.

Breathing by man. External and internal respiration.

Uses of food by animals.

Digestion.

How plants feed. Essential requirements, water, mineral salts, carbon dioxide light, chlorophyll.

The processes of osmosis, transpiration and photosynthesis.

Food groups and tests. Food storage in plants.

How animals feed. Essential requirements. Classification of foods and the importance of a balanced diet.

Work and care of the teeth.

The processes of digestion by the action of enzymes and absorption.

The digestive tract—oesophagus, stomach, intestines.

Excretion.

The waste products of living processes and the way in which they are eliminated.

The action of contractile vacuoles, nephridia, kidneys, lungs and skin.

Transportation in plants and animals. The blood and the circulatory system in man.

Response to Stimuli.

Plant responses: noli-me-tangere: tropisms in plants. Climbing plants.

Animal responses—positive and negative phototaxis. Nerve cells and nervous impulses. Central nervous system controlling the body. Brain. Spinal cord.

Reflex actions. Five senses. Planned responses. Structure and functions of the eye and the ear.

Reproduction.

Simple division. Basic nature of sexual reproduction.

In Plants. Asexual—by simple division, by spores, vegetative.

Sexual—by conjugation; by production of gametes; by flowers, pollination and fertilisation. Development of seeds. Seed and fruit dispersal.

Germination.

Alteration of generation as in moss and fern.

In Animals. Asexual—by simple division, parthogenesis, budding.

Sexual—by production of gametes, fertilisation and development of embryo.

Parental care.

Simple Heredity. Mitosis and meiosis—chromosomes and genes. Mendel's experiments. Dominant and recessive characters. Mutation and variability.

Protection.

In Plants. Thorns and prickles. Stings and poisons.

In Animals. Exoskeleton. Camouflage and mimicry. Poisonous bites and stings.

Effects of Environment.

In Plants. Soil structure and content. Action of bacteria in the humus and the soil. Soil tests. Special adaptations for the conservation of moisture—dwarfing and rosette growth. Dormancy. Deciduous and evergreen trees. Forcing.

In Animals. Constant and variable temperature of animals. Temperature control. Hibernation and migration.

Dependance of Animals on Plants and Living Together.

Carbon and nitrogen cycles.

Symbiosis—lichens, hydra viridis, whelk and sea anemone.

Parasitism—external parasites, fleas, lice.
internal parasites—liver fluke, tapeworm, roundworm.
pathogens.

Great importance of personal cleanliness and of the greatest possible care in the handling and preparation of food as a means of preventing the spread of diseases.

Sociability—ants, bees, wasps. The herding instinct.

The study of a community to show the interdependence of plants and animals.

Human Biology

The examination will consist of an oral test, which will be of a practical nature, and a written paper.

In the oral test, which will carry 35% of the total marks, candidates may be asked questions on such topics as first aid, reading temperatures, taking the pulse, artificial respiration, food tests or the examination of slides of pathogenic insects and other organisms, e.g. mosquito, flea, tapeworm. Alternatively the oral test may be on some particular topic or project work carried out by the candidate, provided that this work has been nominated one year in advance; in this case notebooks should be taken to the examination.

The written paper, of two hours' duration, will consist of two parts. Part 1, carrying 15% of the total marks, will contain ten to twelve questions requiring simple answers; candidates will be required to answer *all* the questions. Part 2, carrying 50% of the total marks, will contain longer questions requiring more consideration. In this case there will be a choice, e.g. four questions from a possible eight.

A general consideration of the physiological processes in man coupled with a knowledge of anatomy as far as it enables these processes to be understood. An elementary knowledge of first aid should be included where applicable.

Cells and Tissues. Types of cell. Differentiation and specialisation. Types of tissue—epithelial, connective, bone, cartilage, adipose, muscle, nervous and blood, showing how each is specially adapted for the work it has to do. The general structure of the body—organs and systems.

The Skeleton. Main functions—support, protection and movement. The names, shapes and functions of the bones. Kinds of joints and their structure—capsular ligaments, synovial membrane. Fractures and dislocations.

The Muscles. The chief skeletal muscles of the leg or arm and their actions. Muscular contraction and relaxation. Fatigue, strain and cramp. Involuntary muscles.

Circulation. The structure and action of the heart and blood vessels—arteries, capillaries and veins. The composition and functions of blood. Haemorrhage and clotting of blood. Thrombosis. Blood transfusion. Importance of A, B, AB and O blood groups. The simple treatment of the lymphatic system.

Respiration. The structure of the lungs in the chest cavity. The nasal passages, action of ciliated membrane and mucous membrane. Gaseous exchanges in external respiration. Artificial respiration.

Digestion. Food groups and food tests. Balanced diet and vitamins. The structure and functions of the alimentary canal. Mastication and structure of teeth. Care of the teeth. The actions of enzymes in the process of digestion. Absorption. Uses of food absorbed. Internal respiration. Indigestion, constipation and diarrhoea.

Metabolism. The structure and functions of the liver. Heat gain and heat loss. The maintenance of body temperature. The structure of skin and its functions. Use of the clinical thermometer.

Excretion. The structure and function of the kidneys and simple composition of urine. Elimination of waste by kidneys, lungs, skin and colon. The maintenance of body fluid.

The Nervous System. Types of neurone—sensory, motor and connector. The structure of the brain and spinal cord. The spinal reflex arc. The areas of the brain. The five senses. The structure and function of parts of the eye. Accommodation. Causes of defective sight and their correction. The structure and functions of parts of the ear. Causes of defective hearing. Hearing aids. Anaesthetics.

The Endocrine System. The ductless glands, their position in the body and the chief effects of the hormones which they secrete.

Reproduction. The structure and functions of the male and female reproductory organs—production of sperms and ova. Fertilisation, conception and simple development of the foetus. Parental care. The menstrual cycle. Simple heredity. Mendel's Laws of Inheritance—dominant and recessive characters. Sex-linked characters, e.g. red-green colour blindness and haemophilia. Importance of Rh factor.

Disease. Organic and infectious diseases. Pathogenic organisms—bacteria, protozoa, viruses, fungi and parasites. Methods by which disease is spread—by air, water, food, vermin and insects. Methods of control. Immunity, natural and artificial—active and passive. Uses of antibiotics, antiseptics, sulphonamides.

Personal Hygiene. Care of skin, hair, feet, etc. Personal cleanliness. Living conditions in the home—need for light and air, relaxation and comfort.

Public Health. Water supply. Sewage disposal. Town planning. The production, preservation and handling of food. Public Health Inspectors. The Medical Officer of Health. The National Health Service.

Chemistry

There will be written and practical examinations.

The written examination will consist of one paper of two hours' duration, which will be in two parts. Part A, carrying 30% of the total marks, will include a number of short answer questions, no choice being given. Part B, carrying 40% of the total marks, will contain eight questions, four of which must be answered. While the majority of questions will be in sections, at

least one essay-type question may be included. The candidates will be expected to show they have performed practical experiments illustrating the subject matter of the course. One section of each question may involve answers which require a knowledge of scientific method and procedure, rather than memorised fact.

The practical examination, of one hour's duration, carrying 30% of the total marks, will consist of one practical question which will test the candidates' ability to handle apparatus and carry out a simple experiment, to record the results obtained and to draw relevant conclusions from these results.

As an alternative to the practical examination schools will be able to nominate a piece of work a year before the examination. If this is accepted by the Chief Examiner, the candidate will submit a record of the work. Some suitable subjects might be work done on parts of chemistry not included in the main syllabus (organic chemistry or volumetric analysis), reports on works visits (some practical work having been repeated in the school laboratory) or work on paint surfaces or gas analysis undertaken in conjunction with other departments of the school. In all cases some practical work must be undertaken by the candidate. The examiners will give the candidate an oral examination on the recorded work.

Concepts of atoms (as protons and neutrons surrounded by electrons) leading to the idea of molecules and ions, elements, compounds and mixtures. The use of formulae and equations using given atomic weights: laws of conservation of mass and constant composition (but not their experimental verification). The solid, liquid and gaseous states: evaporation: solution: solubility (solvents other than water): distillation: practical determination of solubility: qualitative study of electrolysis: oxidation and reduction confined to the addition and subtraction of oxygen and hydrogen: general properties of metals and non-metals: common properties of acids, bases and alkalis. Normal and acidic salts and their formation by the action of acids on metals, oxides, hydroxides, carbonates and double decomposition. Crystallisation and filtration: efflorescent and deliquescent salts: lab. production of soap.

The following metals will be studied:

Potassium, Sodium, Calcium—Action on water. Burning of calcium in oxygen.

Magnesium—Action on air, steam and dilute sulphuric and hydrochloric acids. Common alloys.

Aluminium—Sources of aluminium. Resistance to corrosion. Uses.

Zinc—Use in galvanising. Alloys. Action on dilute sulphuric and hydrochloric acids.

Iron—Extraction. Action on steam and dilute sulphuric and hydrochloric acids. Combustion in oxygen. Prevention of rusting (galvanising, plating, greasing). Differences between iron and steel.

Lead—Sources. Properties related to its uses.

Copper—Purification by electrolysis. Uses related to its properties.

The following non-metals and their compounds will be studied:

Hydrogen—Preparation in the laboratory. Its use as a reducing agent. Properties and uses of hydrogen.

Oxygen—Laboratory preparation and properties of oxygen. Preparation of oxides of commoner metals. Action of heat on mercuric oxide.

Air—Composition. Role in burning, breathing, rusting. Uses of inert gases.

Carbon—Allotropy: an element of plant and animal life.

Coal—Its destructive distillation. Coal gas (hydrogen as main component).

Coke: producer and water gas: carbon monoxide (made by reacting carbon dioxide and carbon). Its danger as a poison.

Other Fuels—e.g. oil. Combustion of carbon in various fuels.

Carbon dioxide—Its properties and uses (dry ice: fire extinguishers). Solubility in water.

The carbonates and/or bicarbonates of sodium, calcium, magnesium and copper—action of heat on these: their reaction with dilute mineral acids. The hardness of water and the reversal of hardness by heat, soap and soda. Use of synthetic detergents.

Nitrogen—Importance in nature. Soil fertilisers as a source of nitrogen.

Ammonia—Its synthesis from hydrogen and nitrogen. Its laboratory preparation and properties, including its combustion and solubility. Action of heat on ammonium chloride as an example of sublimation.

Nitric acid—Its laboratory preparation and its uses. The solubility of the nitrates. Action of heat on potassium and sodium nitrates.

Sulphur—Extraction by the Frasch Process. Preparation of Allotropes. Direct combination of sulphur with zinc or iron.

Sulphur dioxide—Its preparation by combustion of sulphur and by the action of dilute acids on sulphites.

Sulphuric acid—Preparation by contact process only (an example of catalysis). Large-scale uses.

The sulphates as typified by copper sulphate and the large-scale use of this compound and its use as a test for water.

Chlorine—Laboratory preparation. Its properties and uses. Commercial electrolysis of brine. Formation and properties of sodium hypochlorite.

Hydrogen chloride—Manufacture by burning chlorine in hydrogen. Laboratory preparation, its properties and uses.

Sodium chloride—Natural occurrence as rock salt and in sea water.

Simple tests for the presence of these ions in their compounds: Potassium, sodium, calcium, copper, ferrous and ferric iron, zinc, lead, ammonium, chloride, nitrate, sulphate, carbonate. This will involve flame tests (for the first four ions). Use of charcoal block: sodium hydroxide, etc.

Physics

There will be written and practical examinations.

The written examination will consist of one paper of two hours' duration which will be in two sections. Section A, carrying 20% of the total marks, will contain approximatley twelve questions (no choice) of the short answer type. Section B, carrying 40% of the total marks, will contain ten questions of the longer type, out of which the candidate will be required to attempt four.

The practical examination will consist of one paper of two hours' duration, carrying 40% of the total marks. There will be four to six questions, with no choice, designed to test experimental technique, powers of observation, ability to make correct deductions and ability to apply principles. Assembly and preparation by the candidate will be kept to a minimum when this is in no way testing ability or technique.

As an alternative to the practical examination candidates may submit a nominated and approved project in Physics. Such a project must give concrete evidence of practical work undertaken by the candidate and show evidence of a systematic study over a period of not less than twelve months. The candidate's practical notebook will be required by the examiner and the candidate will be subjected to an oral examination.

(Relevant sections of the syllabus to be explained simply in terms of the kinetic theory.)

Mechanics and Hydrostatics

Effects of inertia and of mechanical force; gravity and the proper use of the terms, mass and weight; spring balance; Hooke's law.

Qualitative treatment of friction, surface tension and capillarity.

Transmission of movement by single cord pulleys and by gears. Parallel forces; the parallelogram of forces. Levers; the moment of a force; balanced forces. Centre of gravity; stability of a body at rest.

The definition of work. The use of simple machines in the movement of loads; mechanical advantage and velocity ratio; efficiency; horse power.

Qualitative treatment of action and reaction; rockets.

Density of solids and liquids by direct measurement; Specific Gravity. The Principle of Archimedes; the Law of Flotation, and their general application.

Atmospheric pressure; simple study of barometers and pumps. Variation of pressure with depth in water. Transmission of pressure in liquids (Hydraulic Principle).

Heat engines. The Otto cycle, the diesel engine, the gas turbine, the steam turbine.
Conservation of Energy.

Heat

Thermometers and Scales of Temperature (C. and F.). Fixed points. A clear understanding of the meaning of temperature; c.f. measurement of heat. Construction, action, use and limitations of both the liquid in glass and bimetallic strip. The clinical thermometer. Six's combined maximum and minimum thermometer.

Comparison of alcohol and mercury as thermometric liquids.

Effect of pressure changes upon the B.P. of a liquid.

Changes in B.P. and F.P. of a liquid due to chemical impurities.

Expansion—

Solids: Demonstration to show they expand at different rates and the great force involved. Examples of practical application such as the thermostat in its variety of designs.

Liquids and Gases: Idea of cubical expansion. Demonstration to show their rate of expansion is greater than that of solids.

Change of density of a substance with change of temperature. Anomalous expansion of water.

Quantity of heat: calorie, B.Th.U. Therm.

Sp. Ht. of common metals. Calorific values of food and fuel.

Change of State of Matter. Cooling curve of naphthalene (introducing idea of 'energy levels' of molecules and the meaning of Latent Heat).

Experiments to find latent heat of vaporisation of water and latent heat of fusion of ice.

The refrigerator (compressor type). Changes in volume and density during changes of state. The molecular theory of evaporation—applications with regard to drying of wet objects.

Variation of humidity in the atmosphere with changes of temperature.

Formation of dew, fog, frost, mist, rain and snow.

Transference of heat.

Conduction: Experiments to show various rates in solids. Practical applications of good conductors and insulators.

Convection: Experiments and demonstrations of convection in liquids, leading to domestic hot-water system. Convection in gases, house heating, ventilation and natural convection—land and sea breezes.

Radiation: Passage of radiant heat in vacuum, rectilinear propagation, velocity, reflection and refraction—burning glass—diathermacy—the greenhouse effect; emission and absorption from various surfaces.

Transference of heat as summarised in the vacuum flask.

Light

Natural and artificial sources. Propagation: velocity, rectilinear, shadows and eclipses. Pinhole camera. Reflection: diffuse and specular. Plane mirrors. Concave mirrors—graphical solutions. Uses of plane, concave and convex mirrors.

Refraction: Air and water. Air and glass. Water and air. Glass and air. Real and apparent depth. Applications of refraction and total internal reflection. Right-angled prisms: periscopes. Three ways of using these prisms. 60 degree prisms—deviation. Ray paths in lenses.

Lenses: Convex lenses, graphical solution. Concave lenses.

Applications:

Camera. Projector. Magnifying glass.

Eye: Structure of the eye. Defects—long and short sight—causes and correction by spectacles.

Colour: Electromagnetic spectrum and dispersion, analysis of white light and reconstitution. Monochromatic light passing through a prism.

Reflection and absorption by pigments—Appearance when illuminated with different colours of light.

Transmission through filters—Primary, Secondary and Complementary colours.

Sound

Production of sound. By vibrations of stretched strings; of tuning forks; of air. Influence of sounding boards.

The ear (no details of the inner ear).

Transmission of sound. Medium essential—Reflection and absorption—Echoes.

Speed of sound. Shot (clapper boards) and observer. Echoes (no experimental determination by resonance).

Wave motion. General idea of waves both longitudinal and transverse.

Relationship of speed—frequency—wavelength. Meaning of amplitude and frequency and amplitude of sound. Frequency and pitch. Idea of limits of audibility. Amplitude and volume of sound.

Natural frequency: Resonances.

Frequency relationships of octaves. Musical instruments.

Magnetism and Electricity

Characteristic properties of magnets. Induction. Molecular theory, magnetic fields. The earth's magnetic field; Declination and dip.

Electrostatics. Charges. Atomic structure, simple study of the electron.

The electroscope. Electrolysis of solutions, e.g. nickel chloride solution, electro-plating. Ionisation. Cells, the simple and dry cell—depolarization.

The accumulator (charging and discharging of lead plates).

The simple electric circuit. Conductors and insulators. Series and parallel arrangements of cells, effects of resistances on current. Ohm's Law. Factors on which resistance depends (nature, dimensions, temperature) (qualitative treatment only).

Heating effect of current, fires, fuses, heaters. Hot wire ammeter.

Power, energy and cost. Housewiring circuits. Electro-magnetism.

The motor effect of electric current, the moving-coil instrument with conversion to ammeter and voltmeter (qualitative treatment only).

The simple (single loop) electric motor. Electro-magnetic induction.

The induction coil and its application to motor ignition systems.
Generation of alternating current (single loop and slip rings).

Simple transformers.

The direct current generator (single loop and commutator). Turbo—Alternator sets, the National Grid. The simple telephone circuit.

Moving-coil loudspeaker.

15. TECHNICAL DRAWING

SYLLABUS A

The examination will consist of two papers, each of equal value, and candidates must satisfy the examiner in both papers. All candidates must take Paper 1 and either Paper 2A or Paper 2 B. Paper 2A will require a knowledge of B.S.S. 308, Engineering, and Paper 2B will require knowledge of B.S.S.1192, Building.

In some instances, pre-moulded solids may be presented as illustrating the printed question. Normal drawing instruments are to be used.

Paper 1—*Geometry.*

Paper 1 will be in two sections, Section A containing questions based on Plane Geometry, and Section B on Solid Geometry. In some cases solutions

will have to show evidence of constructive thinking and application. Attention should be given to thoughtful effort, accuracy and quality of draughtsmanship. All construction lines must be shown.

The time allowed for Paper 1 will be 1½ hours. Candidates will be required to attempt five questions only, of which not more than three may be taken from either section. All questions carry equal value.

Section A—Plane Geometry.

Plain scales.
Angles in multiple of 15 degrees.
Triangles including application of Pythagoras.
Regular polygons.
Quadrilaterals.
Ellipse.
Loci—mainly link mechanisms.
Areas of plane figures.
Parabola in a rectangle.
Circles touching lines, other circles and points.

Section B—Solid Geometry.

Right prisms.
Right square pyramid and cone, inclined to one plane only.
Development of the above solids with practical applications.
True lengths and true shapes of sections of the above solids.
Isometric Projection—isometric scale not required.

Papers 2A and 2B—Technical Drawing.

The time allowed will be 2½ hours, of which 20 minutes must be devoted to question 1, the freehand or guided pictorial sketching question. Question 2 will comprise a drawing, together with possible subsidiary drawings related to the main component or assembly. Solutions can be submitted in either first or third angle projection. From 1967 questions will be set and answers required in third angle projection. Some knowledge of conventional fastenings will be assumed. Importance will be attached to drawing layout, clear dimensioning and neat lettering. Construction and projection lines are not to be considered absolutely necessary.

SYLLABUS B

The examination will consist of three papers:

Part I —2 hours—Plane Geometry (25 marks).
Solid Geometry (25 marks).

Part II—2 hours—Technical Drawing (40 marks).

Part III—½ hour—General Paper (10 marks).

In drawing up the syllabus the educational value of items has been given precedence over vocational aspects and the syllabus in Geometry has been made as wide in scope as practicable. Because Technical Drawing is thought to have educational value in its own right and to be applicable to all subjects having a practical bias, and because ability to draw and, perhaps even more important for the majority of candidates, ability to read a drawing should be applicable to any material, no division of the syllabus into Woodworking Drawing and Engineering Drawing has been made. Some candidates may

not have access to either wood or metal workshops but this should not preclude their success in the drawing examination. Candidates should be familiar with the standards laid down in the first 51 pages of B.S. 308 (omit tolerances), and may use any drawing aid with which they consider themselves competent. The half-hour General Paper will include a number of questions on general knowledge within the syllabus of drawing technique and geometric principles, each capable of being answered in two minutes or less, the answers to be in written or sketch form or a combination of both.

Part I—Geometrical Drawing

(*a*) Plane Geometry.

Construction of angles (30, 45, 60, 90 degrees).

Bisection of angles; copying of angles.

Division of lines into a number of equal parts.

Division of lines into proportionate parts.

Construction of plain scales.

Construction of perpendiculars within the line, and outside the line.

Construction of parallels, both with compass and setsquare.

Construction of triangles from given data.

Construction of regular and irregular quadrilaterals.

Construction of regular and irregular polygons, using geometrical methods, and including special case methods as for the hexagon and octagon.

Construction of triangles of equal area.

Similar figures.

Linear enlargement and reduction.

Circles and their properties.

Circles drawn through three points.

Angles in the semi-circle and angles in the same segment.

Inscribed, circumscribed and escribed circles.

Cyclic quadrilaterals.

Tangency from a point outside the circle; common exterior and interior tangents to circles of equal and unequal radii.

Circles within converging straight lines.

Tangential curves.

Construction of the ellipse from major and minor axes, using concentric circles, rectangle, intersecting arcs and trammel methods.

Foci of and tangents to the ellipse.

Simple loci and application to simple mechanisms.

(*b*) Solid Geometry.

The projection of the cube, right prism, triangular prism, cylinder, right cone with axis parallel to one of the principal planes.

Sectional views.

Auxiliary views at setsquare angles.

True shape of sections.

Simple development of the above shapes.

Isometric Drawing, including simple curves, without the use of Isometric Scales, the angle of inclination being at 30 degrees.

Part II—Technical Drawing

Orthographic Projection in First and/or Third Angle Projection, but combination of the two not to be allowed.

(Questions will be set in such a manner that no handicap is imposed by the use of any particular method of projection.)

Sectional views restricted to a single plane.

The production of working, assembly and/or detail drawings from an isometric sketch or a set of simple drawings of an uncomplicated object.

Drawing to scale of 2/1, 1/1, 1/2, 1/4.

The conventional representation of fastenings.

Freehand sketching as a means of interpreting an orthographic drawing.

Appendix 1

SOUTHERN REGIONAL EXAMINATIONS BOARD CONSTITUTION

Regional Examinations Board

1. (1) For the exercise of the functions hereinafter referred to there shall be established a Regional Examinations Board to be known as the Southern Regional Examinations Board (hereinafter called 'the Board').

(2) The region of the Board (hereinafter called 'the region') shall initially comprise the administrative counties of Berkshire, Buckinghamshire, Dorset, Hampshire, the Isle of Wight, Oxfordshire and West Sussex, and the County Boroughs of Bournemouth, Oxford, Portsmouth, Reading and Southampton, the States of Guernsey and Jersey and the Committee on the Education of Service Children Overseas (to rank as a Local Education Authority). Provided that if any alteration of the area of the Board shall at any time be accepted by the Board, the word 'region' shall be construed accordingly.

Functions of the Board

2. (1) The functions of the Board shall be:

(*a*) to offer external examinations on syllabuses and examination papers prepared by the Board;

(*b*) to publish such syllabuses and examination papers;

(*c*) to offer external examinations on syllabuses and examination papers proposed by individual schools or groups of schools and approved by the Board;

(*d*) to offer external assessment and validation of examinations conducted internally by individual schools or groups of schools;

(*e*) to issue Certificates of Secondary Education to candidates judged successful in the examinations;

(*f*) to determine the arrangements necessary for the proper conduct of the examinations for which they are responsible;

(*g*) to raise funds by examination fees and such other means as they shall from time to time determine; and

(*h*) to make such arrangements as they shall think necessary for the proper administration of their financial business.

(2) In carrying out their duties the Board shall:

(*a*) ensure that the examinations for which they are responsible are suitable for the candidates who present themselves for such examinations;

(*b*) ensure that the standards of such examinations are reasonably comparable with those of the examinations conducted by other Regional Examining Boards;

(*c*) ensure that effective arrangements exist for the full consideration of all representations received from schools, other educational establishments, candidates, local education authorities and other persons or bodies affected by or concerned with such examinations;

(*d*) provide such information on all matters connected with the examinations as the Minister of Education or the Secondary School Examinations Council may request;

(*e*) ensure that effective arrangements exist for the conduct of research and development.

The Council
Membership

3. The Board shall be governed by a Council which shall consist of the following members—

(*a*) Thirty teachers serving in schools or colleges concerned with the examinations in the region nominated by the Teachers' Associations as follows:

National Union of Teachers—17
Association of Teachers in Technical Institutions—4
Incorporated Association of Assistant Masters in Secondary Schools—2
Association of Assistant Mistresses in Secondary Schools—2
Association of Head Mistresses—1
Association of Head Masters—1
National Association of Schoolmasters—2
National Association of Head Teachers—1

(*b*) One teacher serving in schools concerned with the examinations in the region nominated by each Local Education Authority in the region in consultation with its teaching staff;

(*c*) The Chief Education Officer of each Local Education Authority in the region;

(*d*) One representative of each of the Institutes of Education in the region;

(*e*) Co-opted members comprising—

(i) two teacher representatives of institutions for Further Education in the region;

(ii) two representatives of industry and commerce in the region;

(*f*) Not more than six other co-opted members;

Provided always that the majority of the members of the Council shall at all times consist of teachers serving in the schools within the region which are concerned with examinations leading to the Certificate issued by the Board.

4. The Council shall elect a Chairman, Vice-Chairman, Honorary Treasurer and Honorary Auditor annually; either the Chairman or the Vice-Chairman shall be a serving teacher. **Officers of the Council**

5. The following assessors shall be entitled to attend meetings of the Council but not to vote— **Assessors**

(*a*) One representative to be appointed by the Council of another Regional Examinations Board at the request of this Council;

(*b*) One of H.M. Inspectors of Schools to be nominated by the Minister of Education;

(*c*) A representative of the Youth Employment Service to be nominated by the Council;

(*d*) Such representation of the Minister of Education or the Secondary School Examinations Council as the Minister or the Secondary School Examinations Council may from time to time appoint.

6. The term of office of honorary officers (other than the Chairman and Vice-Chairman of the Council, the Honorary Treasurer and the Honorary Auditor) and members of the Council and of its Committees and Panels shall be three years, and one-third (or as near as may be) of the members shall retire on the thirty-first day of August in every year: Provided that the first honorary officers (including the Chairman and Vice-Chairman of the Council, the Honorary Treasurer and the Honorary Auditor) and members of the Council and its Committees and Panels shall remain in office until the thirty-first day of August 1966. A retiring honorary officer or member of the Council or of its Committees or Panels may be re-appointed for a further period either as a representative member or as a co-opted member. **Tenure of Office**

7. (1) The Council shall appoint a Secretary, and the Finance and General Purposes Committee, hereinafter referred to, shall appoint such other administrative officers and servants as the Council shall think requisite. **Appointment and remuneration of officers and servants**

(2) The Council shall decide the remuneration of the Secretary, and the Finance and General Purposes Committee hereinafter referred to shall decide the remuneration of all other officers and servants.

(3) Except with the approval of the Secondary School Examinations Council, no person, other than a teacher, who is employed by a Local Education Authority within the region shall be employed by the Board on duties concerned with the administration of school examinations in the area of the Authority by whom he is employed.

Committees and Panels

8. (1) The Council shall establish an Examinations Committee, a Finance and General Purposes Committee and the Subject Panels hereinafter referred to, and shall delegate to those Committees and Panels the functions hereinafter set out.

(2) The Council may establish and appoint such other committees and panels as they may consider desirable, and may delegate to any such committee or panel such powers as they may think fit.

Meetings of Council Committees and Panels

9. (1) The Council shall meet at least once in each year.

(2) Committees and Panels appointed by the Council shall, subject to any directions of the Council, meet at such times as they may think fit.

Membership of Examinations Committee

10. (1) The Council shall appoint serving teachers as Chairman and Vice-Chairman of the Examinations Committee; where the Chairman is from the North, then the Vice-Chairman shall be from the South, or vice versa.

(2) In addition to the Chairman and Vice-Chairman the Examinations Committee shall consist of—

(*a*) The following members appointed by the Council:

(i) fifteen serving teachers, one from the area of each Local Authority, and of whom at least ten shall be members of the Subject Panels hereinafter referred to;

(ii) three Chief Education Officers;

(iii) two representatives of industry and commerce;

(iv) two representatives of further education;

(v) one representative from the Institutes of Education in the region.

(*b*) Not more than six members co-opted by the Committee.

(*c*) The Chairman, Vice-Chairman and the Honorary Treasurer of the Council and the Chairman and Vice-Chairman of the Finance and General Purposes Committee hereinafter referred to *ex officio*;

Provided that the Committee shall always have a majority of teachers serving in the schools within the region which are concerned with examinations leading to the Certificate issued by the Board;

(3) The following non-voting assessors shall be entitled to attend meetings of the Examinations Committee:

(i) one representative of another Regional Examining Board at the request of the Council;

(ii) one of H.M. Inspectors of Schools to be nominated by the Ministry of Education.

11. The functions of the Examinations Committee shall be: **Functions of Examinations Committee**

(*a*) To make arrangements for the conduct of the examinations provided by the Board;

(*b*) To appoint moderators, chief examiners, and examiners after considering the advice of the Subject Panels hereinafter referred to;

(*c*) To approve arrangements for the adoption of syllabuses submitted by the Subject Panels or otherwise;

(*d*) To ensure the maintenance of standards appropriate to the subjects taken and to the candidates participating in the examinations.

12. (1) The Chairman and Vice-Chairman of the Finance and General Purposes Committee, one of whom shall be a serving teacher, shall be appointed by the Council; **Finance and General Purposes Committee**

(2) In addition to the Chairman and Vice-Chairman the Finance and General Purposes Committee shall consist of:

(*a*) The following members appointed by and from the Council;

(i) The Chief Education Officer of each Local Education Authority;

(ii) Six other members, all of whom shall be serving teachers;

(*b*) The Chairman, Vice-Chairman and Honorary Treasurer of the Council and Chairman and Vice-Chairman of Examinations Committee *ex officio*;

(3) A non-voting assessor appointed by the Minister of Education shall be entitled to attend meetings of the Finance and General Purposes Committee.

(4) The functions of the Committee shall be:

(*a*) To determine the remuneration and conditions of service of the officers and servants of the Board, including moderators, chief examiners, and examiners, but excluding the secretary, whose remuneration and conditions of service shall be determined by the Council;

(*b*) To determine the fees to be charged to candidates, schools and groups of schools taking or participating in the examinations of the Board; and

(*c*) To advise the Council on all other matters involving the income or expenditure of the Board.

13. (1) The Examinations Committee shall appoint Subject Panels, one to cover the north and another to cover the south of the region for each subject for which examinations are established: Provided that the Committee may, if they think fit, create panels to cover any combination of subjects. **Subject Panels**

(2) A Subject Panel shall consist of—
(*a*) A Chairman, to be appointed by the Examinations Committee, who shall not be the chief subject examiner, or a moderator;
(*b*) Not more than eighteen serving teachers of the subject in the schools participating in the examination nominated by the Examinations Committee; Provided that each Local Education Authority affected by the examination is represented;
(*c*) Such non-voting members as may be co-opted by the panel in order to provide expert knowledge or experience in the subject or in examination matters.

(3) The functions of a Subject Panel in relation to the subject with which it is concerned shall be as follows:
(*a*) To advise the Examinations Committee on all matters affecting the administration of the examinations;
(*b*) To prepare, scrutinise or approve, as appropriate, examination syllabuses, examination papers, marking schemes and mark lists of candidates;
(*c*) To advise the Examinations Committee on the appointment of moderators, chief examiners, and examiners;
(*d*) To supervise the work of the moderators, chief examiners, and examiners; and
(*e*) To encourage and, if they think fit, to arrange conferences with teachers of the subjects from the schools participating in the examinations.

Examinations of the Board

14. The following provisions shall apply to the examinations conducted by the Board:

(1) Every external examination shall be based upon a syllabus approved by the appropriate Subject Panel, which shall take into account the views of the schools participating in the examination;

(2) At the request of an individual school or a group of schools acting in concert, the Board shall arrange for the submission, and, if approved, the operation of schemes under which examination syllabuses, examination papers, marking schemes, course work assessment and mark lists are prepared and the examination conducted within the school or schools, subject to approval, moderation, and inspection by the Board. In the event of a dispute with the Board, a school or a group of schools shall have the right of appeal to the Secondary School Examinations Council.

(3) The Board shall ensure that the standards of examinations organised locally in pursuance of the preceding sub-clause are reasonably comparable with the other examinations for which they are responsible; provided that this duty shall not be deemed to require uniformity of content or method of examining as between syllabuses and papers prepared by the Board and those prepared by schools or groups of schools.

(4) The Board shall make adequate arrangements to consider all appeals and representations that may be made concerning the examination.

Issue of Examination Certificates

15. (1) The Board shall issue to successful candidates certificates in such form as the Secondary School Examinations Council may approve.

(2) Each such certificate shall be known as the ' Certificate of Secondary Education' and shall be signed by the Chairman and Secretary of the Council of the Board and by an officer of the Ministry of Education.

(3) Except with the approval of the Secondary School Examinations Council the Board shall not introduce grades of marks for successful or unsuccessful candidates.

Review by Secondary School Examinations Council and Minister of Education

16. (1) The Board shall give access to all papers and accounts and shall permit attendance at all meetings of the Council, Examinations Committee, Finance and General Purposes Committee, and Subject Panels to officers of the Ministry of Education, H.M. Inspectors and representatives of the Secondary School Examinations Council authorised for that purpose.

(2) On consideration of an appeal from a school, group of schools, candidates or other body or person concerned, the papers and activities of the Council may be investigated by the Ministry of Education or the Secondary School Examinations Council.

Amendment of Constitution

17. The constitution of the Board may be amended, subject to approval by the Secondary School Examinations Council, at any time by a resolution passed at a meeting of the Council at which not less than two months' notice in writing shall have been given to each member of the Council.

Recognition by the Minister of Education

18. The Board shall not offer any examinations unless recognised by the Minister of Education, who may attach to such recognition conditions relating only to the following matters: the definition of the scope of the C.S.E. system: the definition of the standards of the examinations, and their maintenance on a basis of reasonable comparability: the presentation of results: general rules for the admission of candidates: constitutional arrangements (including the areas to be covered by the boards): national statistics and information.
Provided that the Minister shall act under this clause on the advice of the Secondary School Examinations Council.
Provided also that the Secondary School Examinations Council shall consult the board before advising the Minister to grant, withold or withdraw recognition, and shall in particular afford the board an opportunity of commenting, before they are made binding, on any conditions which it is proposed to attach to such recognition.

Appendix 2

SOUTHERN REGIONAL EXAMINATIONS BOARD

CHAIRMEN OF COUNCIL, COMMITTEES AND SUBJECT PANELS

COUNCIL

Chairman: Dr. J. J. B. Dempster, O.B.E., M.A., Chief Education Officer, Civic Centre, Southampton.

Vice-Chairman: Mr. W. A. Baker, J.P., Hilsea Modern School for Boys, Doyle Avenue, Hilsea, Portsmouth.

FINANCE AND GENERAL PURPOSES COMMITTEE

Chairman: Dr. J. J. B. Dempster, O.B.E., M.A.

Vice-Chairman: Mr. W. A. Baker, J.P.

EXAMINATIONS COMMITTEE

Chairman: Mr. H. Hollas, M.A., Headmaster, Boundstone County Secondary School, Boundstone Lane, Lancing, Sussex.

Vice-Chairman: Mr. E. B. Dorrance, B.Sc., Headmaster, Grange County Secondary School, Aylesbury, Bucks.

SUBJECT PANELS

Chairmen:

	Northern sub-region	*Southern sub-region*
Art and associated crafts	Mr. F. Taylor, Headmaster, The Blessed Edmund Campion School, Iffley Turn, Oxford.	Mr. C. O. Wise, Headmaster, Beaufort School, Beaufort Road, Southbourne, Bournemouth.
Commercial Subjects	Mr. H. Green, B.A., Headmaster, Mill End Secondary School for Boys, High Wycombe, Bucks.	Mr. E. W. Eeles, Brune Park County High School, Gosport, Hants.
Domestic Science	Miss D. B. Clarke, B.A., Headmistress, Mill End Secondary School for Girls, High Wycombe, Bucks.	Miss R. Carpenter, Christchurch Grammar School, Park Side, Highcliffe, Christchurch, Hants.
English	Mr. P. A. Bowden, Headmaster, The Downs School, Compton, Newbury, Berks.	Mr. J. Webster, M.C., M.A., Headmaster, Gillingham School, Gillingham, Dorset.
Geography	Mr. R. W. Brooker, M.A., Headmaster, The Grove School, Surley Row, Emmer Green, Reading.	Mr. J. A. V. Downend, B.A., Headmaster, Moorhill Secondary School, Minstead Avenue, Harefield, Southampton.
Handicrafts	Mr. M. A. V. Hunt, Headmaster, The Marlborough Secondary School, Woodstock, Oxon.	Mr. T. C. McNeill, B.Sc., Headmaster, Portsmouth Technical High School, London Road, Hilsea, Portsmouth.

History

Mr. N. C. Jackson, B.A., Headmaster, Willink Secondary School, Burghfield Common, nr. Reading.

Mr. F. C. Willmott, B.A., M.A.Educ., Headmaster, The Sarah Robinson School, Ifield, Crawley, Sussex.

Mathematics

Mr. L. F. Smith, Headmaster, Holmer Green County Sec. School, Holmer Green, High Wycombe, Bucks.

Mr. H. W. Flux, B.A., Headmaster, Priory Secondary Boys' School, Carisbrooke Park Site, Newport, Isle of Wight.

Modern Languages

Mr. A. J. V. Page, B.A., Headmaster, Easington Modern School, Banbury, Oxon.

Mr. R. H. M. Markarian, M.A., The Thomas Bennett School, Crawley, Sussex.

Music

Mr. H. S. Toovey, Wellesbourne County Sec. School, Terriers, High Wycombe, Bucks.

Miss G. F. Ashurst, A.R.C.M., Headmistress, Ashley Cross Sec. Girls' School, Commercial Road, Parkstone, Poole, Dorset.

Needlework

Miss G. C. Orchard, Northfield Secondary School, Littlemore, Oxon.

Miss L. E. Bennieston, Headmistress, Westham County Sec. Mod. Girls' School, Weymouth, Dorset.

Religious Knowledge

Mr. P. Rainey, M.A., Headmaster, Fitzharrys School, Abingdon, Berks.

Miss J. V. R. Gregory, J.P., Headmistress, Broom Field County Sec. School, Middle Park Way, Leigh Park, Havant, Hants.

Rural Science

Mr. G. Liddell, Headmaster, Wing County Secondary School, Wing, near Leighton Buzzard, Beds.

Mr. E. C. Young, Headmaster, County Secondary School, Petersfield, Hants.

Science

Mr. E. S. Cornell, M.Sc., Headmaster, Alfred Sutton Sec. Boys' School, Wokingham Road, Reading.

Mr. S. S. Lindley, B.Sc. Headmaster, Kemp-Welch Secondary School for Boys, Herbert Avenue, Parkstone, Poole, Dorset.

Technical Drawing

Mr. G. I. Hughson, Park House County Boys' School, Andover Road, Newbury, Berks.

Mr. L. B. Jowett, Portchester School, Portchester Road, Bournemouth.

Secretary to the Board

Mr. D. C. Spencer, D.F.M., M.A., 3 London Road, Southampton.

Appendix 3

SOUTHERN REGIONAL EXAMINATIONS BOARD

RULES FOR CONDUCT OF THE BOARD'S EXAMINATIONS

Detailed rules for conduct of the Board's examinations will be issued at a later date and will include instructions regarding arrangements for assessment of oral, practical and course work, the general assessment of candidates in each subject before the examinations take place and the importance to be attached to the use of correct English in subjects other than English.

Appendix 4

SOUTHERN REGIONAL EXAMINATIONS BOARD

AWARD OF CERTIFICATES

At the time of publication of these Regulations the conditions for the award of Certificates of Secondary Education, as determined by the Ministry of Education, are that Certificates will be awarded only to those candidates who secure at least one grade in the range 1 to 4, but that when Certificates are awarded they will also record grade 5 performances. Other grade 5 performances, and all ungraded results, will be officially communicated to the candidate and to his school but will not be recorded on Certificates.

SOUTHERN REGIONAL EXAMINATIONS BOARD

REGULATIONS

AND

SYLLABUSES

FOR THE

CERTIFICATE OF SECONDARY EDUCATION EXAMINATIONS

AMENDMENTS AND ADDITIONS 1966

PRICE 6D.

PUBLICATIONS BY THE BOARD

Copies of the Regulations and Syllabuses for all subjects for the 1965 examinations may be obtained from the Secretary to the Board, 3 London Road, Southampton, price 3/6 post free in the United Kingdom, and leaflet copies of the separate subject syllabuses may be obtained at the price of 6d. for each subject, post free. Copies of these addenda and amendments to the Regulations and Syllabuses, as they will apply for the 1966 examinations, may also be obtained, from the Secretary to the Board, price 6d. post free.

Heads of schools and other educational institutions within the region served by the Board may be supplied with free copies of the Regulations and Syllabuses and of the addenda and amendments to them on application to the Secretary.

Copies of question papers for the 1965 examinations may be obtained, after the examinations have taken place, at the price of 6d. post free, for each paper, from Messrs. Warren & Son Ltd, 33 Staple Garden, Winchester, Hants. The reference number of each paper required should be given, as well as the full title.

REGULATIONS

For the 1966 examinations the Regulations will be as printed on pages 3 to 5 of the Regulations and Syllabuses for 1965, subject to the deletion of Regulations 1, 3, 7, 8 and 11 and the substitution of the following:

1. Date of Examinations

In 1966 the written examinations will be held in May; oral and practical tests and assessment of course work, when forming a part of the examinations, will normally take place before the written examinations. Time tables will be issued during the latter part of 1965.

3. Date for Entries

Entries for the 1966 examinations, on the prescribed form, must be received in the Board's offices not later than 31st January, 1966.

7. Examination Fees

Examination fees will be subject to review annually. For the 1966 examinations a fee of 30/– per subject entry will be payable, by whatever mode a candidate is examined. No registration fee will be payable in addition to the subject entry fees.

8. Withdrawals and Refunds

If a candidate withdraws from the whole examinations the fees paid may be refunded, at the discretion of the Secretary, subject to the retention by the Board of the sum of £1. No refund of fees will be made in respect of candidates withdrawing or absent from part of the examinations.

11. Certificates

In accordance with the conditions laid down by the Schools Council for the Curriculum and Examinations, Certificates will be awarded only to those candidates who obtain at least one grade in the range 1 to 4, but when Certificates are awarded they will also record grade 5 performances. Other grade 5 performances and all ungraded results will be communicated to the candidate and to his school but will not be recorded on Certificates.

All Certificates will be sent to the Local Examinations Secretary, who will be responsible for their distribution. Duplicate Certificates will not in any circumstances be issued.

SYLLABUSES

The syllabuses for the 1966 examinations will be as printed on pages 6 to 120 of the Regulations and Syllabuses for 1965, with the following additions and amendments.

PREAMBLE

Page 6.

Delete third paragraph reading "*Specimen question papers in the various subjects in which the Board is offering external examinations will be published by the end of the first school term in* 1964".

Add new paragraph as follows:

"*In general in the Board's examinations in all subjects candidates may be penalised for incorrect use of English.*"

1. ART AND CRAFT

SYLLABUS A

No amendments or additions.

SYLLABUS B

Page 9.

1. Course Work.

Delete first two paragraphs and *substitute*:

"Candidates should offer work from at least two sections of the syllabus. They will be required to prepare at least four examples of work, completed in their fourth and fifth years at school.
In addition, candidates will be required to show evidence of study of some aspect of visual appreciation. This may be compiled by the candidate in any form and on any subject he may think interesting and appropriate and is expected to show evidence of personal research. For guidance a list of suggestions of the kind of study that might be appropriate is given below."

2. BUSINESS STUDIES (COMMERCIAL SUBJECTS)

Page 10.

Delete whole of introductory paragraph.

SYLLABUS A

(b) COMMERCIAL CALCULATIONS

Page 13.

At end of syllabus *add*:

"Note. Commercial Calculations (Syllabus A) and Principles of Accounts (Syllabus B) are to be regarded as alternative syllabuses in the same subject and the same candidate may not be entered for both."

(d) TYPEWRITING

Page 14.

At end of syllabus *add*:

" Time for examination 2½ hours."

(e) SHORTHAND

Page 14.

Paper I.

Fourth and fifth lines.

Delete the sentence: " Each pupil . . . at one speed only ", and *substitute:* " Each candidate must submit transcriptions of both passages at 50 w.p.m. or both at 60 w.p.m."

Page 15.

Paper II.

Second and third lines.

Delete the sentence: " Each pupil . . . at one speed only ", and *substitute*: " Each candidate must submit transcriptions of both passages at 70 w.p.m. or both at 80 w.p.m."

Paper III.

Second and third lines.

Delete the sentence: " Each pupil . . . at one speed only ", and *substitute*: " Each candidate must submit transcriptions of both passages at 90 w.p.m. or both at 100 w.p.m."

SYLLABUS B

(b) SIMPLE ACCOUNTS

Page 16.

Delete the title and substitute: " PRINCIPLES OF ACCOUNTS ".

Page 17.

At end of syllabus *add*:

" Note. Commercial Calculations (Syllabus A) and Principles of Accounts (Syllabus B) are to be regarded as alternative syllabuses in the same subject and the same candidate may not be entered for both."

(d) SHORTHAND

Page 18.

Delete the lines: " For speeds of 50 and 60 w.p.m. the passages will be within the 700 common words. For speeds of 80 and 100 w.p.m. there will be unlimited vocabulary."

(e) TYPEWRITING

Page 18.

Second paragraph, line 1, *delete*: " for which two hours will be allowed." Last paragraph, *amend* to read: " Time for the examinations will be 2½ hours."

3. DOMESTIC SCIENCE

SYLLABUS A

No amendments or additions.

SYLLABUS B

Page 20.

Practical Examination.

Delete first two sentences and substitute:

" The details of the practical test will be given to the candidates not more than one week and not less than three days before the practical examination. The candidate may take up to two hours to plan the test. The day prior to the examination the candidate may take up to one hour for preparation; this time may be used for laundering articles ready for ironing but not for weighing ingredients. Books may be used . . ."

4. ENGLISH

SYLLABUS A

No amendments or additions.

SYLLABUS B

Pages 25 and 26.

Prescribed Book List.

The prescribed book list for 1966 will be the same as for 1965 with the following two additional books from which to choose in Paper II, Section B:

" The Inheritors " by William Golding,	publ. Faber
Vol. Two of Collected Short Stories (Tales) of D. H. Lawrence (including " Odour of Chrysanthemums " etc.)	publ. Heinemann

5. GEOGRAPHY

SYLLABUS A

No amendments or additions.

SYLLABUS B

No amendments or additions.

6. HANDICRAFTS

SYLLABUS A

No amendments or additions.

SYLLABUS B

No amendments or additions.

7. HISTORY

SYLLABUS A

No amendments or additions.

SYLLABUS B

Page 41.

Sixth paragraph, lines 1 to 5:

Delete: " using recommended reference books " in line 3.

Amend lines 1 to 5 to read: " Another alternative accepted in place of one question on Part II of the paper will be a research topic to be completed under supervision in the Library or History Room. A list of suggested books will be sent to schools notifying the Board of their intention of accepting this alternative."

Page 42.

Part II

Written Paper

First paragraph.

After the first sentence *insert* additional sentences:

" Candidates may take both the research paper and an individual assignment. In this case they will answer two questions from any sections."

Sub-heading " Life in Mediaeval Times (1) (8) "

Delete " (8) " and *substitute* " (3) ".

8. MATHEMATICS

SYLLABUS A

Page 48.

Lines 2 and 3.

Delete words in brackets: " (Book of Logarithmic Tables, Castle (part 1, Macmillan))".

Line 13.

After the examples of algebraic relationships *add:*

" including the use of co-ordinates " and *insert* new line:

" Regions defined by inequalities ".

Line 19.

Amend: " Regular plan figures " to read " Regular plane figures ".

Line 42.

Amend: " two sections " to read " two papers ".

Omit: " carrying equal marks ".

Line 43.

Amend: " *Section* 1 " to read " *Paper* 1 ".

Page 49.

Line 1.

Amend: " *Section* 2 " to read " *Paper* 2 ".

SYLLABUS B

Page 53.

PAPER 2(A), SECTION II

Amend Syllabus for topic (b) to read:

" (b) Navigation; symbols and abbreviations used; determination of positions, including a running fix; use of transferred position line; triangle of velocities.

Speed and distance, nautical miles, knots."

9. MODERN LANGUAGES

SYLLABUS A

Page 56.

First sentence.

Delete: " in 1965 ".

Page 57.

Second sentence (lines 2 and 3)

Amend to read: " The letter will be of about 250 words and the candidate will be required to write a reply of about 180 words."

SYLLABUS B

Pages 57 and 58.

First sentence.

Delete: " In 1965 ".

Practical Examination.

(i) *Oral Examination.*

Amend to read as follows:

" The oral examination will consist of three main sections:

(a) The reading of an unseen text, prepared some 3–5 minutes in advance. It will not be used as a basis for comprehension. The text may include any tenses, except in French and German, in which tenses in the subjunctive will not be included. Maximum 10 marks.

(b) Conversation between candidate and interviewer.

Part 1. Five compulsory questions graded in difficulty. Maximum 25 marks.

Part 2. Conversation based on an everyday situation in " dramatic form ". A number of everyday situations (one of which will involve the use of a town plan) will be prescribed. A list of these alternatives will be handed to the candidate so that he may select the topic of his choice. This will place the candidate in an imaginary setting (e.g. in a shop, at the station, in the street, etc.), will suggest the general purpose of the conversation and will indicate the respective roles which the candidate and the interviewer are to assume. Maximum 35 marks.

The following tenses may be used in this section:

Esperanto:	Present, Future, Past
French:	Present, Future, Perfect
German:	Present, Future, Imperfect
Spanish:	Present, Future, Past Historic, Perfect, Present Subjunctive.

(c) Candidates will be required to talk in the language for up to four minutes on a topic of their own choosing, prepared in advance. Brief notes may be used for reference during the test. Questions will be asked on the substance of the talk, with no restriction of tenses. Maximum, 30 marks."

10. MUSIC

SYLLABUS A

Page 61.

Delete last paragraph, beginning: " Set works for 1965 will be: " and *substitute:*

" Set works for 1966 will be:

Messiah, Part I — Handel
The Planets — Holst
The Little Sweep — Britten."

SYLLABUS B

No amendments or additions.

11. NEEDLEWORK

SYLLABUS A. DRESS

Page 64.

Practical Test (Dress II)

Delete third sentence, reading: " Alternative tests (A or B) will be allocated to schools offering candidates for the examination."

Delete the paragraph reading:

" The test piece will be taken away . . . the session of examinations is over "

and *substitute:*

" The test piece will be retained until the final marking and moderation. If the test is completed a garment will have been made and, if a teacher so wishes, incomplete test pieces may be finished at a later date."

Prepared Work

Delete: " (a) a finished garment . . . to fit the candidate herself " and *substitute:* " (a) finished garments, as specified each year; details of the prepared practical work for 1966 will be circularized to schools towards the end of June 1965, but the topics for individual studies for 1966 will be the same as those set for the 1965 examinations."

SYLLABUS B

Page 66.

After the end of the details of the syllabus and examination given *add:* " The examination will consist of the following four parts:

Course Work

Section A	carrying 30 marks
Section B	carrying 20 marks
Section C	carrying 30 marks
Written Test (1½ hours)	carrying 20 marks

In Course Work Section B it should be noted that it is compulsory to submit work chosen from one of the six sections outlined, i.e.:

(a) Children's and Babies' clothing
(b) Embroidery and design
(c) Fashion through the ages and costumes for play production
(d) Household Furnishings
(e) Soft toy making
(f) Special study

Practical work and notebooks must be submitted for whichever selection is chosen. Should a group project be undertaken in any one of the sections, then each individual candidate's contribution must be clearly indicated."

12. RELIGIOUS KNOWLEDGE

SYLLABUS A

Page 67.

Line 6.

Delete " A, B and C " and *substitute* " I, II and III ".

Lines 6, 7 and 8.

Delete the sentence reading: " The paper . . . if required " and *substitute:* " The time allowed for the examination will be 2 hours and 10 minutes; during the first 10 minutes candidates will not be allowed to write but should use the time for reading through the questions."

Lines 11 to 14.

Delete the sentence reading: " It is recommended . . . may be used." and *substitute:* " Only the Revised Standard Version of the Old and New Testaments may be taken into the examination."

The Written Paper.

Delete the heading: " Section A " and *substitute:* " Section I ".

Delete the heading: " Section B " and *substitute:* " Section II ".

Page 69.

Delete the heading: " Section C " and *substitute:* " Section III ".

SYLLABUS B

Page 71.

Following the introductory paragraph describing the three sections, Section 1, Section 2 and Section 3, *delete* next two lines and *substitute:* " There will be one written examination of two hours' duration which will carry 80% of the total marks. Two alternative papers will be set, one paper based on the Topic Approach and the other based on the Chronological Approach. Schools will be required to apply for the Question Paper relating to the approach which they have selected. Twelve questions will be set in each paper, and candidates will be required to answer six. Each question will be in two parts, the first part requiring brief factual answers, and the second part a more detailed response. The questions will be based on Section 1 of the syllabus, the main study, but, where relevant, the examiners may refer to Section 2. All candidates will be required to submit course work as in Section 3 of the syllabus and this will be subject to an oral examination, which will carry 20% of the total marks."

Page 72.

Following the paragraph which reads:

" No particular version of the Bible is recommended; teachers should be free to use any version which assists their work in making clear to children the meaning of the text."

insert:

" It is hoped nevertheless that the traditional and literary value of The Authorised Version will not be overlooked. Quotations used in examination papers will be such as to be easily identifiable whatever version may have been used by the children.

The use of the capital H for all pronouns relating to God and Jesus is to be encouraged.

In the Old Testament sections, the distinction between Isaiah of Jerusalem and Deutero-Isaiah will be simplified to " Isaiah " and " Second Isaiah "."

In the heading " Either A. *Topic Approach—The Character and Purpose of God* " *delete* " A " and *substitute* " The ".

Page 73.

Line 24.

Insert " A " at the beginning of the line: " Man's duty to God," which should appear as a major heading.

Page 74.

Lines 8 and 9.

Delete: " John 20 vv. 21–33 " and *substitute:* " John 20 vv. 21–31 ".

Line 29.

Insert " B " at the beginning of the line: " Man's duty to Mankind " which should then appear as a major heading."

Page 75.

Line 4.

In the heading " *B. Chronological Approach—God is King : the unfolding of His Purpose and Character* ", *delete* " *B* " and *substitute* " *The* ".

Page 76.

Line 2.

Delete " Amos ", so that the last part of the line then reads: " 5, 6 vv. 3–6; 8 vv. 4–7 ".

Line 5.

Delete, line 5 and *substitute:* " 6; 11 vv. 1–9; 13 vv. 9–11; 14 vv. 1–9 ".

Line 42.

Delete: " Luke 9 vv. 11–25 " and *substitute:* " Luke 9 vv. 13–25".

Page 77.

Line 9.

Delete: " Luke 12 vv. 11–34 " and *substitute:* " Luke 12 vv. 13–34 ".

Page 79.

Line 21.

Insert " the " between " using " and " Alternative " and *delete* " A "

13. RURAL STUDIES

SYLLABUS A

Page 79.

In the description of the examination given at the beginning of the syllabus *delete* the alternatives under *Part II* and *substitute:*

" 1. One topic from each Section.

2. Either (i) three topics to be chosen from Sections I and II, of which at least one topic must be taken from each of these Sections,
or (ii) if no topic is chosen from Section II, then, in order to include some study of animal life, either Topic III (a) or Topic III (b) must be chosen."

Page 80.

Basic Principles.

C. Plant and Animal Biology.

Line 10.

After: " carbon cycle " *add:* " nitrogen cycle ".

Page 81.

Topics.

Section I. Plant Husbandry.

General.

Methods of Cultivation.

After: " and crops ", *add* " crop rotations ".

Manures and Fertilisers.

After: " compost " *add:* " green manuring; ".

Topic 1 (c). Ornamental Gardening.

To " (c) ornamental trees and shrubs " *add:* " (including roses) ".

Page 82.

Amend first three lines to read:

" Ornamental features: the design, construction and maintenance of the ornamental garden; lawns, formal and informal bedding, rock garden or garden pool."

Page 83.

Topic II (d). Bee Keeping.

After " Anatomy of the worker bee " *delete* the words:

" including mouthparts, sting, antennae and legs." and *substitute:*

" both external and internal."

Page 84.

Second line beginning, " Seasonal manipulations; " *insert* the words: " re-queening " after the words: " swarm control ".

Fourth line; after the words: " Honey production: " insert the words: " and harvesting."

Page 86.

Topic III (f) Rural Survey

First line.

Amend the word: " studies " to read " studied ".

SYLLABUS B

No amendments or additions.

14. SCIENCE

SYLLABUS A

Page 91.

First sentence.

Delete: " any section of the " and *substitute:* " the appropriate " so that the whole sentence reads: " Part III of the examination will consist of a series of small practical tests carried out in the laboratory, together with a problem to be worked out on paper, based on the appropriate Part II syllabus."

SYLLABUS B

Page 102.

Lines 9, 20, 21, 26, 29, 30 and 36.

Delete: " elementary " and *substitute* " basic."

Line 31.

Delete: ". . . at least a year before the examination " and *substitute:* ". . . at the latest by 31st May of the year preceding the examination."

Page 103.

Last section of summary.

Delete: " Elementary Science " and *substitute*: " Basic Science."

Page 104.

Line 19.

Amend to read: " Production of sound by vibrations ".

Line 20.

Amend to read: " Transmission of sound—medium essential. Reflection of sound—echoes."

Page 105.

Line 1.

Delete the word: " reversal " and *substitute:* " removal ".

Line 11.

Delete: " Am eba " and *substitute:* " Amoeba ".

Page 108.

Last line.

Delete: ". . . which will be provided." and *substitute:* ". . . which the school will provide."

15. TECHNICAL DRAWING

SYLLABUS A

Page 118.

Fourth line:

Amend first sentence to read: " The time allowed for Paper 1 will be 2 hours."

SYLLABUS B

No amendments or additions.

Appendix 2

CHAIRMEN OF COUNCIL, COMMITTEES AND SUBJECT PANELS

SUBJECT PANELS

The Chairmen of the following Subject Panels, as shown in Appendix 2 to the 1965 Regulations, have resigned and have been replaced by the new Chairmen named:

Commercial Subjects—Northern sub-region
Mr. C. MacMahon, St. Joseph's Secondary Modern School, Slough, Bucks.

Handicrafts—Northern sub-region
Mr. B. G. Baughan, Witney County Secondary School, Woodstock Road, Witney, Oxon.

Modern Languages—Southern sub-region
Mr. O. Melton, B.A., The Sarah Robinson School, Ifield, Crawley, Sussex.

Appendix 3

RULES FOR CONDUCT OF THE BOARD'S EXAMINATIONS

Rules for conduct of the Board's examinations have been issued since the 1965 Regulations were published and are stated below.

1. The Local Examination Secretary, who will normally be the Head of the school, will have the following responsibilities in connection with the Board's examinations.

(a) *Examination rooms*

(i) The Local Examination Secretary will ensure that sufficient accommodation is provided and that for written examinations seating is so arranged that each candidate is seated a suitable distance, normally four feet, from any other candidates.

(ii) He will arrange for all necessary facilities for practical, oral and aural examinations to be available in accordance with the requirements notified for the various subjects.

(iii) He will ensure that during examinations a clock can be easily seen by every candidate.

(b) *Question Papers*

(i) When the packets of question papers are received, the Local Examination Secretary will check carefully to verify that there is a packet of papers for each subject to be examined at the centre and that the number of papers marked on each packet is sufficient for the number of candidates taking the paper. He will inform the Secretary to the Board if all the necessary question papers have not been received ten days before the examinations are due to begin and will notify him of any deficiencies.

(ii) He will ensure that the question papers are in safe custody until the time of examination as stated in the time-table.

(iii) He will ensure that the packets of question papers for each subject are opened in the examination room in the presence of the candidates not more than five minutes before the start of the examination.

(iv) He will ensure that all candidates who are entered and present receive the correct question paper.

(v) He will ensure that before each examination candidates are told to read carefully and to comply with the instructions on the question papers and on the answer books.

(c) *Answer books, other examination stationery and requirements*

(i) The Local Examination Secretary will ensure that before each examination each candidate is provided with an adequate supply of answer books and any necessary graph paper, drawing paper or other special stationery required. He will ensure that no papers other than necessary examination stationery is brought into the examination room.

(ii) He will ensure that a supply of ink, blotting paper and thin string is available. Candidates will be responsible for supplying their own pens, pencils, rubbers, drawing instruments and mathematical tables as required.

(iii) He will ensure that each candidate is provided with a card bearing his name and examination number and that this card is displayed on his desk.

(iv) After the series of examinations has finished he will ensure that a list of all stationery supplied by the Board but unused is sent to the Secretary to the Board and that all unused stationery is stored for use at the Board's next examinations.

(d) *Invigilation*

(i) The Local Examination Secretary will ensure that effective arrangements are made for the invigilation of the examinations. There should at all times be at least one invigilator present in each examination room and if there are more than forty candidates there should be an additional invigilator for each additional forty candidates or less. Invigilators are expected to maintain continuous supervision of the candidates throughout the examination and must report any irregularity of any kind to the Secretary to the Board. No candidate should be allowed to enter the examination room later than half an hour after the beginning of an examination and no candidate should be allowed to leave the examination room until half an hour after the examination has begun. No candidate should be allowed to leave the examination room temporarily unless accompanied by an invigilator.

(ii) The Local Examination Secretary will ensure that any absence of any candidate is shown on the mark and attendance sheets.

(e) *Worked examination scripts*

(i) The Local Examination Secretary will ensure that immediately after each examination all the worked scripts are collected, placed in numerical order and checked against the entry form.

(ii) He will then ensure that the worked scripts for each examination are packed in a separate parcel together with the mark and attendance sheets and forwarded without delay to the teacher who is responsible for their initial marking or to the secretary of the local subject consortium, as instructed.

2. The Head of each school entering candidates for the Board's examinations will be required, in accordance with the Board's scheme for initial marking and moderation on a local basis, to ensure:

(a) that, before the examinations take place, all candidates in each subject are entered in the mark sheets in order of merit with an indication of the appropriate C.S.E. grade according to the school's assessment,

(b) that copies of the mark sheet in each subject, completed as in (a) above, are despatched to the Secretary to the Board in accordance with instructions to be issued,

(c) that satisfactory local arrangements are made for the initial marking of written scripts, practical and oral tests and course work,

(d) that satisfactory arrangements are made for the local moderation of the examinations to be carried out,

(e) that, after initial marking has been carried out and moderation by the local subject consortium has been completed, the school's final comments and recommendations regarding order of merit and C.S.E. grade are entered on the mark sheet,

(f) that the marked and moderated scripts together with the completed mark sheets are despatched by Recorded Delivery without delay to the Chief Examiner for the subject, or as otherwise directed by the Board.

3. The Board cannot undertake the payment of any fees to Local Examination Secretaries or to invigilators. The cost of postage must be borne by the examination centre.

4. Instructions regarding the arrangements for the conduct of practical, oral and aural examinations and for the assessment of course work in various subjects will be issued separately.

Appendix. 4

Delete the whole of this Appendix, which is now included as Regulation 11.