

Regulations and
syllabuses for the

cse

examination/1966

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Copies of these Regulations and Syllabuses may be obtained price 3s 0d each, post free, from the Secretary, Associated Lancashire Schools Examining Board, Refuge Assurance Buildings, 77 Whitworth Street, Manchester 1. Copies of individual subject syllabuses may be obtained from the same address, price 1s 6d each, post free.

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Introduction

The C.S.E. examination: historical survey

In July 1958 the Secondary School Examination Council appointed a committee with the following terms of reference:

'To review current arrangements for the examination of secondary school pupils other than by the General Certificate of Education examination, to consider what developments are desirable, and to advise the Council whether, and if so, what, examinations should be encouraged or introduced, and at what ages and levels.'

This committee under the Chairmanship of Mr R. Beloe reported in July 1960 (Secondary School Examinations other than the G.C.E., H.M.S.O., 4s 6d). The Committee recommended among other things:

(a) That a new examination should be established, appropriate for pupils at the end of the fifth year of a secondary course.

(b) That, assuming that up to 20% of the total 16-year-old age group may be expected to attempt the G.C.E. examination at Ordinary level in four or more subjects, the new examination might be taken in four or more subjects by the next 20% below these and should be so designed that a substantial majority of pupils within this group would obtain passes in this range of subjects. A further 20% of the age group might attempt individual subjects.

(c) The examination should be specially designed to suit the needs and interests of pupils in the ability range concerned and should not simply provide a replica of G.C.E. examinations at a lower level.

(d) Control of the examinations should be largely in the hands of teachers serving in the schools which will use them. The conduct of the examination should be delegated to a committee composed mainly of serving teachers, who should be advised on syllabuses and papers in particular subjects by panels of teachers from schools using the examination.

(e) The examining bodies should act under the general guidance of a central consultative body.

The S.S.E.C.'s proposals for a new school leaving examination were set out in the Fourth Report of the S.S.E.C. issued in May 1961 (The Certificate of Secondary Education: a Proposal for a new School Leaving Certificate other than the G.C.E., 1s 6d). In the Fifth Report (August 1962) the S.S.E.C. set out notes for guidance in the establishment of examining bodies (The Certificate of Secondary Education: Notes for the Guidance of Regional Examining Bodies, H.M.S.O., 1s 9d).

The standards of the new examination were considered at length in the Seventh Report of the S.S.E.C. which also appears as Appendix 3 to Examinations Bulletin No. 1.

The scheme recommended envisaged five grades of which two would

be used as reference grades. The main reference grade (Grade 4) was envisaged as defining the standard of performance to be expected from a 16 year old pupil of average ability in the subject, who has applied himself to a course of study regarded by teachers of the subject as appropriate to his age, ability and aptitude. The average is the average of the whole ability range, not the average of the C.S.E. band nor the average within a group of schools. It is the average of a band of pupils not a hypothetical 'average' pupil. The definition is a description of the character of the collective judgment which teachers are asked to make, in discharge of their own responsibility for the standards of the work which they expect in the schools.

Grade 1 of the examination was defined as follows: 'In each subject the examination should be so constructed that the 16 year old pupil whose ability in the subject is such that he might reasonably have secured a pass in the Ordinary 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 in the C.S.E. examination having applied himself to a course of study regarded by teachers of the subject as appropriate to his age, ability and aptitude.'

The report emphasised that the overlap between G.C.E. and C.S.E. is an overlap only in terms of the calibre of the candidates not in the content of the syllabus, in examination papers or in examination techniques. Both systems should develop on their own lines according to the needs of the majority of pupils for whom they are designed. It follows from this that in general it would be educationally undesirable that the same candidate should simultaneously take a subject both in the G.C.E. and C.S.E. examinations although he might well take some subjects in the G.C.E. examination and other subjects in the C.S.E. examination.

The Associated Lancashire Schools Examining Board

The Associated Lancashire Schools Examining Board is one of fourteen Regional Examining bodies approved by the Department of Education and Science for administering the C.S.E. examination. The Board's area of operation comprises the county boroughs of Bolton, Manchester, Oldham, Preston, Rochdale and Salford. Schools in the Glossop area of N.W. Derbyshire are also affiliated to the Board. The Board's constitution appears as Appendix 1 and the membership of Council, Examinations Committee and the Finance and General Purposes Committee is printed as Appendix 2.

Regulations

1 Approval of examination centres

Secondary schools

(a) Entries for the examination will be accepted on behalf of candidates attending secondary schools which are within the Board's area of operation and which have been approved as examination centres by the Board.

(b) Candidates attending secondary schools must be at least 16 years of age on 1 September in the year of examination or alternatively at the time of the examination must have completed a five-year course of secondary education or be in the final term of such a course.

(c) The Board will approve as examination centres under this section any secondary school within its area which is maintained by a local education authority or which has been recognised as efficient by the Department of Education and Science. Applications from other establishments will be considered by the Board.

Further Education establishments

(d) The Board is prepared to approve as examination centres establishments of Further Education within the area which are maintained by a local education authority. Candidates from these establishments must be not less than 17 years of age on 1 September following the examination and may be entered only for examination under Mode I (see paragraph 7). (Where, for the time being, pupils are unable owing to lack of maintained secondary school facilities to take their fifth year save in a Further Education establishment, candidates from such an establishment 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.)

2 Private candidates

(a) Entries from private candidates will be accepted provided that they are at least 17 years of age on 1 September following the examination. Normally private candidates will be eligible to take the examination only under Mode I.

(b) An entry from a private candidate still in attendance at a school approved by the Board will not be accepted unless the entry is authorised by the head of the school.

3 Entry forms

(a) Internal candidates are to be entered on entry forms submitted by the head of the centre. Private candidates must submit individual entry forms which are to be countersigned by the head of the centre at which the candidate has been given permission to sit. No candidate may be entered for the same examination both as an internal and as a private candidate. Every candidate must be entered for the examination under

one centre only.

(b) The Board reserves the right to disallow work in any subject for which a candidate has not been correctly entered.

(c) The last date for the receipt of entries, both internal and private, will be 1 March. Entries received after 1 March may be accepted at the Board's discretion and subject to the payment of a special fee (see paragraph 5).

4 Fees

For the 1966 examination fees have been provisionally fixed as follows:

(a) *Entry fee* to be paid by every candidate: £1.

(b) *Subject fee* additional to the entry fee under (a) for each subject: £1. The fees for entry under Modes I, II and III (see paragraph 7) are identical. Where fees are payable by a local education authority payment will be due on 1 April preceding the examination. In all other cases the fee is payable at the same time as the entry form is submitted.

5 Amendments to entries

At the discretion of the Board additional entries or amendments to existing entries received after 1 March may be accepted subject to the payment of the following special fees:

(a) For a late entry of an individual candidate an entry fee of £3 together with the appropriate subject fee.

(b) If all entries from a school are submitted after 1 March a special late fee of £10 is payable in addition to the normal entry and subject fee.

(c) Amendments or additions to existing entries will be accepted on payment of the appropriate subject fee.

6 Refund of fees

No part of an entry or subject fee will normally be refunded for cancellation of an entry or absence from the examination. No fee will be transferred from a previous examination or to a subsequent examination.

7 Modes of examination

The Board offers examination under three modes as follows:

Mode I: External examination on syllabuses prepared by the Board and included in this booklet.

Mode II: External examinations on syllabuses prepared by individual schools or groups of schools and approved by the Board.

Mode III: Examinations set and marked internally by individual schools or groups of schools and moderated by the Board.

Schools are free to choose for each subject whichever mode is most suitable to the needs of their candidates and may if they wish adopt more than one mode for a given subject provided that no individual candidate is entered for the same subject under more than one mode.

Schemes of examining under Modes II and III are normally to be submitted for approval to the Board not later than *31 January in the year preceding the examination.*

Schemes are to be submitted in the following form, one copy only being required:

(a) A syllabus or scheme of work in similar detail to the syllabus provided under Mode I;

(b) supporting statement setting out the aims of the course;

(c) (Mode III only) details of the proposed method of examining. This can take the form of assessment of course work, a written paper with essay-type or objective-type questions, a practical examination, an oral test. Each of these methods may be used alone or a combination of several methods may be adopted. Where appropriate, details of the form of the question paper, mark allocation etc should be submitted together with specimen questions on the lines of those provided for Mode I.

8 Date of examination

The written examinations will normally be held during May but certain oral and practical examinations may take place during March and April. A detailed time-table will be issued some months before the examination. Variations from the printed time-table will not be permitted without the express authority in writing of the Board. In all subjects under Mode III and in certain subjects under Mode I and Mode II moderators may need to visit schools during the months before the examination. These visits will be made by arrangement with the head of each school.

9 Conduct of the examination

The examination is to be conducted in accordance with instructions issued by the Board. Representatives authorised by the Board may visit an examination centre during the progress of the examination. Any candidate using unfair means or suspected of using such means will be reported to the Board and may be disqualified from part or all of the examination as the Board may determine.

10 Illness etc

If an appeal is made immediately after the incident concerned the Board is prepared to give special consideration to the performance of a candidate who at the time of the examination is suffering from the effects of an illness or accident. Appeals of any kind received after the publication of results will not in any circumstances be entertained.

11 Examination material

The Board will provide answer books, drawing paper and other stationery for use in its examinations and reserves the right not to accept work which is submitted on unofficial stationery. Where specimens, apparatus etc are to be supplied by the head of the centre, due notice will be given.

12 Notification of results

Results will be communicated as soon as possible after the examination. The head of each centre will receive details of the performance of all candidates for whose entry he is responsible; private candidates will be notified of their results direct by the Board. No pass list will be issued.

The Board deprecates on educational grounds the practice of giving publicity to the examination attainment of individual candidates. Heads of centres are therefore requested not to communicate details of the performance of their candidates to the Press.

13 **Grades of performance**

There will be five grades of performance from 1 down to 5. A performance which is not of sufficiently high standard for the award of grade 5 will be unclassified.

Grades 1 and 4 have been defined, as reference points, as follows:

Grade 1 will be awarded to a pupil whose ability is such that he might reasonably have secured a pass at Ordinary level in the GCE examination had he followed a course of study appropriate to that examination.

Grade 4 will be awarded to a pupil of average ability for the whole age group who has applied himself to a course of study regarded by teachers of his subject as appropriate to his age, ability and aptitude.

(A detailed discussion of the scope and standards of the examination appears as Appendix 3 to Examinations Bulletin No. 1, issued by HMSO, price 10s.)

14 **Certificates**

A certificate will be issued to every candidate who reaches a minimum of Grade 4 in at least one subject. Where a certificate is issued all grades of performance, including Grade 5, will be recorded. Ungraded performances will not be recorded. Certificates will be issued as soon as possible after the publication of results. Duplicate certificates will be issued only if satisfactory evidence is produced of the destruction of the original. Where a certificate is not available the Board is prepared to issue a certifying letter.

15 **Reports**

As soon as possible after the publication of results the Board will publish a booklet of examiners' reports on the work of candidates offering subjects under Mode I of the examination. Reports to schools on individual candidates or groups of candidates under Modes I and II will be provided on request for an appropriate fee.

16 **Interpretation**

The Board reserves to itself the right of interpretation of its own Regulations.

Examination bulletins

The following examination bulletins have been issued by the Schools Council and may be obtained from H.M.S.O.:

Bulletin No. 1. The Certificate of Secondary Education: Some suggestions for teachers and examiners (10s).

Bulletin No. 2. The Certificate of Secondary Education: Experimental examinations—Mathematics (3s 6d).

Bulletin No. 3. The Certificate of Secondary Education: An introduction

to some techniques of examining (6s).

Bulletin No. 4. The Certificate of Secondary Education : An introduction to objective-type examinations (2s 3d).

Bulletin No. 5. The Certificate of Secondary Education : School-based examinations (2s).

Acceptability of the C.S.E. examination

The following bodies have so far agreed to accept for their own purposes a Grade 1 performance in the C.S.E. examination as equivalent to an Ordinary level pass in the G.C.E. examination :

The joint committees for National Certificates and Diplomas in Science, certain branches of Engineering, Textiles, Naval Architecture, Bakery, Business Studies and Hotel Keeping and Catering.

The Army and the Royal Air Force.

The Association of Occupational Therapists.

The Atomic Energy Authority.

The Civil Service Commissioners.

The General Nursing Council.

The Institute of Printing.

The Institutional Management Association.

The National Advisory Council on the Training and Supply of Teachers.

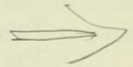
The National Joint Council for Local Authorities, Administrative, Professional, Technical and Clerical Services.

The Royal Institute of British Architects.

The Universities of Essex and Oxford.

Syllabuses

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Art

The examination will consist of an exhibition of work to include the following:

- 1 Course work (70% of the total marks).
- 2 A set piece of work (30% of the total marks).

INTRODUCTION

- 1 It is assumed that the aim of a course in Art is to develop powers of perception, observation, imagination, initiative, curiosity and perseverance. Particular attention should be given to the following:
 - (a) An awareness of environment in personal terms of creative reaction and selection.
 - (b) An awareness of the place of art and design in society.
 - (c) The development of creative skills involving practical experience of tools and materials in solving specific problems, and personal responsibility for work well done.
 - (d) Encouragement of a wide and varied use of media.
 - (e) Experimental work in all fields.
- 2 The aim of the examination is to reflect the work of the course and to give each candidate the opportunity to reveal the breadth of individual artistic experience and the fullest extent to which creative ability has been developed. The examination will therefore consist wholly of an exhibition in which the main emphasis will be on the work which the candidate has done during the last two years of the course. The candidate will also have complete freedom in the choice of subject for the set piece.

THE EXAMINATION

The exhibition

- 1 No candidate will be awarded a grade of 4 or above unless the work exhibited is of sufficient breadth and quality and adequately covers at least two sections of Section A, B, C of the syllabus.
- 2 The exhibition will be held in schools during the period immediately before the written examination. It will be assessed by a panel of visiting assessors together with the art teacher of the school.
- 3 The selection and arrangement of work should be left to individual candidates as far as possible, but guidance by the art teacher is not precluded. One of the pieces exhibited must be the set piece. The exhibition should follow the lines of a 'one-man show'.
- 4 Two-dimensional or relief-work should be arranged on a vertical surface. Three-dimensional work, sketch books, appreciation projects, etc. should be arranged on suitable horizontal surfaces. Work, other than sketch books and appreciation projects, should not be submitted in a

folder. Presentation of work should be adequate but not elaborate.

- 5 The dimensions of each candidate's exhibition should be a vertical surface of approximately 36 square feet (walls or screens) and a horizontal surface of approximately 15 square feet (table and/or floor space).

Course work

The course work must be taken from at least two sections of the syllabus and must consist of work undertaken during the last two years of the course (for the 1966 examination the last year only).

Set piece

- 1 One of the pieces of work exhibited must be the candidate's unaided work and must be labelled as such.
- 2 About four weeks before the date chosen for the exhibition candidates are to be given instructions for the completion of the set piece. They will be allowed one week in which to decide what their set piece of work is to be. They will have complete freedom of choice and the set piece may be taken from any section of the syllabus. During this week candidates will be expected to do any preparation which is necessary and at the end of the period to give their teacher details of the material which they will require for executing the set piece.
- 3 On a date to be determined by the Board candidates will be allowed a period of up to four hours in which to start their set piece. This work is to be undertaken under examination conditions. At the end of the period the work is to be handed to the teacher and if it is unfinished the work is to be completed under supervision within the following three weeks in accordance with a time-table to be decided by the school.

THE SYLLABUS

Section A. Two-dimensional work

Candidates may choose from any of the following classes of work which, for the purpose of enumeration and guidance, have been divided into six main groups all of which overlap to some extent. Preliminary studies should be an integral part of any imaginative work submitted. These lists are not exhaustive.

- 1 *Drawing and painting in any medium*
 - (a) *As evidence of observation*
Figure drawing, Still life, Sketch book, Studies from nature etc.
 - (b) *Imaginative work*
Pictorial composition, Mural, stage, and interior design, Abstract composition, Design for applied decoration
- 2 *Print making and allied crafts*
Lino paper, Lino fabric, Screen, Etching
Woodcut, Lithography, Typography, Wood engraving, Batik, Stencil, Creative photography, Experimental printing in any form.

- 3 *Fabric crafts other than printed fabrics*
Weaving, Dress Design, Costume design, Embroidery appliqué,
- 4 *Lettering and layout*
Lettering formed by pen, brush and other means, Caeligraphy and illumination, Poster, Book jackets, Package design, Sign writing etc, Heraldry
- 5 *Experimental crafts*
Collage, Montage etc
- 6 *Other two-dimensional crafts*
Stained glass, Mosaic etc, Bookcrafts

Section B. Three-dimensional work

An essential element should be the process of working—design in the form of working drawings and/or preliminary studies followed by the practical work in the material chosen.

- 1 *Modelling* could include work in the round or in relief in the following media :
Clay, plaster, plasticine, wax, papier mâché, plastic metal, plastic wood. Materials for armatures could include wire, cane, and metal rods.
- 2 *Carving* could include work in the round or in relief in the following media :
Wood, stone, plaster, salt, soap and chalk and any other materials considered suitable for cutting.
- 3 *Constructions* could include work in the round or in relief in the following media :
Wire, balsa, plywood, hardboard, tin, expanded metal, cane, paper, cardboard, and any other materials which can be used singly or in combination.
- 4 *Pottery* could include almost any approach to fired work :
Thumb pots, coiled pots, slab pots, pressed moulds, slipware, thrown pots, tiled, ceramic ornament, relief work, combined with a good use of the wide variety of decorative processes. Other forms of experimental ceramics could also be included.
Work may be submitted unfired.
- 5 *Canework* could include almost any approach to the use of cane or similar materials :
Basketry, wooden base, cane base and any developments into free forms.
- 6 *Stage design*. Essentially the three-dimensional aspects of this subject :
Sets, costumes, puppets.
- 7 *Interior design*. Essentially the three-dimensional aspects of this subject.

Section C. Appreciation

The work should include evidence of study of some aspect of visual appreciation. This may be compiled by the candidate in any form, provided that it is essentially a visual form, and on any subject he may think interesting or appropriate.

The examiners will expect to see evidence of personal research, direct observation from the local environment and, where relevant, study of collections in Art galleries, museums and other sources. Drawing should form an integral part of the work submitted.

For guidance, a list of suggestions of the kind of study the examiners have in mind is given below ; the list is not intended to be exhaustive.

- 1 A collection of drawings and other visual material illustrating any aspect of the history and appreciation of painting or the visual arts.
- 2 A collection of drawings, photographs, etc, illustrating a period of architecture, the evolution of an architectural feature, the influence of materials on structure, etc.
- 3 A compiled history of interior design and decoration of houses ; a study of modern trends in interior decoration.
- 4 A collection of drawings and photographs dealing with some aspect of the history of furniture or the development of the chair, etc.
- 5 A collection of drawings and photographs illustrating the history of costume or current trends in fashion.
- 6 A compiled history of pottery (e.g. teapots) or glass, cutlery, etc.
- 7 A collection of natural forms with drawings and notes, and reference to fabric design, etc.
- 8 A compiled history or study of the design of bridges, ships, vehicles, etc with drawings and photographs.
- 9 A study with drawings of some aspect of modern design e.g. lampposts or signs, or a collection of package designs with critical comment.
- 10 A history, with drawings and examples, of book illustration or the use of lettering.

Commercial Subjects

Examinations will be available in the following subjects: BOOK-KEEPING, COMMERCE, SHORTHAND, TYPEWRITING. Candidates may offer one or more of these subjects without restriction.

Book-keeping

The examination will consist of two papers as follows :

Paper I. 20% of the marks (20 minutes)

Compulsory questions requiring short answers to test the understanding of the principles involved in Section A of the syllabus.

Paper. II. (Practical) (2½ hours)

A : Compulsory questions on Section A of the syllabus (55% of the marks).

B : Questions on each part of Section B of the syllabus, from which the candidate must choose one (25% of the marks).

The examination is designed to test a candidate's general understanding of the basic principles of double-entry book-keeping and his practical ability to apply them in a well-presented manner.

THE SYLLABUS

Section A

- 1 The purposes of book-keeping ; terms in use ; principles of double-entry as applied to the books of a sole trader.
- 2 Books of Original Entry including (a) Journal, for opening entries, special entries and correction of errors ; (b) Purchases, Sales, Returns ; (c) three column cash book ; (d) Petty Cash Imprest System. Knowledge of the documents involved in the above-named books.
- 3 Ledger : the different classes of accounts ; balancing ; interpretation.
- 4 Extraction of Trial Balance.
- 5 Final accounts of a sole trader. Preparation of Trading Account, Profit and Loss Account and Balance Sheet involving depreciation, amounts due and unpaid, amounts paid in advance and closing stock. A knowledge of fixed and current assets ; current liabilities ; working capital.

Section B (Special Studies)

- 1 Partnerships, current accounts of partners. Appropriation account.
- 2 Simple Tabular Book-keeping with analysed Day Books.
- 3 Accounts of Non-trading Organisations.
- 4 Banking : Reconciliation Statements, Bank Charges and Interest, Current and Deposit Accounts, The Bank Statement.

Commerce

The examination will consist of a written paper of 2½ hours (80% of the marks) and the assessment of course work (20% of the marks). In addition candidates have the option of presenting project work undertaken during the school course. The final grade of performance in the examination as a whole will be based on the aggregate of marks for the written paper and for course work except that work on the project will be considered for upgrading a candidate's performance.

The written paper will include questions both of the objective type and of the essay type.

Commerce is envisaged as an integral part of a general education. The syllabus seeks to provide a broad outline of commercial activities and to provide the pupils with such knowledge as will benefit them as future consumers and wage earners.

THE SYLLABUS

1 *Why people work*

Man's needs and wants. Work as a means of satisfying wants either directly by man's own labour or indirectly by working to obtain money which can be exchanged for goods produced by others. Meaning of production, exchange, barter. Our dependence on one another for goods and services.

2 *Work and its reward*

The different kinds of work ; meaning of industry, commercial services, direct services.

The reward for work. Goods and services and the standard of living.

3 *The role of Commerce in the community*

The various branches of Commerce : trade, transport, finance, warehousing, insurance and advertising. The part played by each branch in the distribution and sale of goods.

4 *How goods are distributed*

(a) Internationally : very brief treatment of imports and exports.

(b) Home Trade :

(i) Wholesaling. The work of the wholesaler in his position between manufacturer and retailer ; the efforts made to eliminate the wholesaler by direct trading. Branded goods.

Commercial documents used : catalogues and price lists, order form, advice note, delivery note, invoice, debit note, credit note, statement. Trade discount and cash discount. Terms of delivery : carriage paid, carriage forward, free on rail, ex-works.

(ii) Where the consumer buys his goods. (The retail trade should be studied in detail and treated as the main part of the course.) What the retailer does in providing a market for consumers. Kinds of retail

organisation: sole traders, multiple chain stores, variety chain stores, department stores, co-operative societies, supermarkets, discount stores, mobile shops, mail order firms and club trading. Advantages and disadvantages of each type to the consumer.

5 *How goods are moved*

(a) Transport. Various methods by which goods are conveyed from where they are produced to where they are sold: road, rail, canal, sea and air transport. The part played by the Post Office in the distribution of goods. How these methods best serve the trader and the community. How the development of transport has affected the distribution of goods.
(b) Communications. The forms of communication provided by the Post Office: letters and parcels, telephones, telegrams and cables, telex, railex, C.O.D., registration and recorded delivery.

6 *How goods and services are paid for*

Money as a means of exchange. Methods of payment provided by

(a) the Government: coins and notes; legal tender.

(b) the Post Office: stamps, postal orders, money orders (details of poundage are not required).

(c) the banks: cheques, credit transfers, bankers' drafts, bankers' orders (detailed treatment of the Bank of England and Clearing Houses is not required).

Other services provided by banks for the ordinary citizen and the trader.

7 *Protection against risks*

Risks against which the individual and the trader should protect themselves.

Types of insurance: property, accident, burglary, fire, motor, loss of profits, goods in transit. Personal assurance.

How to take out insurance: the proposal, policy, premium, claim.

Meaning of insurable interest, utmost good faith, indemnity.

8 *How products and firms become known*

The purposes of advertising: its benefits and its dangers. The different forms of advertising; the methods best suited to the small trader and to large-scale business.

9 *How the consumer is protected*

Weights and Measures Acts, Merchandise Marks Acts, Food and Drug Acts, Sale of Goods Act.

Manufacturers' guarantees.

Information provided by British Standards Institute, Consumers' Council, Consumers' Association, Citizens' Advice Bureaux.

10 *Buying on credit and paying by instalments*

Hire purchase, deferred payments, budget accounts, mail order agreements. House purchase.

11 *Ownership in industry and commerce*

The different methods of ownership:

- (a) sole trader, partnership, limited company, co-operative society.
- (b) broad principles of municipal control and state control of essential industries and services such as water, electricity, gas and coal.

Course work

- (a) Assessment will be based on work done in the twelve months preceding the written examination.
- (b) At least half of the course work must be based on the above syllabus ; the remainder may be based on related topics, such as the work of a large industrial firm, a study of local commerce, family budgeting, rates and taxes, the Stock Exchange, local transport, hire purchase and imports and exports.
- (c) The course work will be marked by the candidate's own teacher. Some written work must be available for moderation by the Board. The Moderator may at his discretion question candidates about their work.

Projects

Each candidate has the option of submitting a project which if presented will be taken into account for upgrading his final performance. The project may be handwritten or typed, and should contain 1,000 to 1,500 words. It may be illustrated by cuttings, pictures, charts and other material. The subject chosen should be based either on the syllabus or on some related topic.

Shorthand

Candidates may take the examination at either Stage I (50/60 w.p.m.) or Stage II (70/80 w.p.m.) or Stage III (90/100 w.p.m.). They may take two adjacent stages in the same series of examinations but only one speed will be recorded on the certificate.

The vocabulary used in Stages I and II will be based on the Two Thousand Common Word Frequency List. The passage for transcription into longhand (Stages I and II) will be set in the Pitman system of shorthand.

The examination may begin with the dictated passages or with the transcription of the passage of printed shorthand. If the printed shorthand is taken first the dictation must commence twenty minutes after the start of the examination. All papers will be collected together at the end of the examination. A one minute interval will be allowed between each dictated passage. The original shorthand notes must be submitted. The transcriptions are to be handwritten. Correction of outlines may be made in the margin. Candidates may use their own shorthand paper.

A preliminary passage will be dictated. The shorthand notes based on this passage are not to be submitted to the examiner.

Stage I (50/60 w.p.m.)

- 1 Two passages, one in the form of a business letter, the other of a general or literary character, each of three minutes' duration, are to be dictated at 50 words a minute. Two similar passages will then be dictated at 60 words a minute. Candidates will submit transcripts at 50 words a minute OR at 60 words a minute, but NOT at both speeds.
- 2 A passage of printed shorthand with outlines appropriate to these speeds will be set for transcription into longhand (maximum length 120 words).
Time allowed: $1\frac{3}{4}$ hours (including time for dictation).

Stage II (70/80 w.p.m.)

- 1 Two passages, one in the form of a business letter, the other of a general or literary character, each of three minutes' duration, are to be dictated at 70 words a minute. Two similar passages will then be dictated at 80 words a minute. Candidates will submit transcripts at 70 words a minute OR at 80 words a minute, but NOT at both speeds.
- 2 A passage of printed shorthand with outlines appropriate to these speeds will be set for transcription into longhand (maximum length 150 words).

Time allowed: $1\frac{3}{4}$ hours (including time for dictation).

Stage III (90/100 w.p.m.)

Two passages, one in the form of a business letter or report, the other of a general or literary character, each of three minutes' duration, are to be dictated at 90 words a minute. Two similar passages will then be

dictated at 100 words a minute. Candidates will submit transcripts at 90 words a minute OR at 100 words a minute, but NOT at both speeds. Time allowed : 2 hours (including time for dictation).

Typewriting

Candidates may take the examination at either Stage I (20 w.p.m.) or Stage II (25 w.p.m.) or Stage III (30 w.p.m.). Alternatively they may take two adjacent stages in the same series of examinations but only one speed will be recorded on the certificate.

The examination will test a candidate's ability to perform tasks that might be expected of a junior typist in a first appointment.

Attention must be paid to accuracy, neatness, display and good English. Marks will be deducted for all errors, and in particular for over-typing, untidy erasures, omissions, transposition, 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.

Two hours will be allowed for the examination which may be preceded by a warming-up practice if desired.

Stage I (based on 20 w.p.m.)

- 1 Proficiency test from printed matter of ten minutes' duration (maximum length 240 words). Candidates are to type accurately, at their best speed; NO eraser is to be used. The candidates' work in this test is to be collected before the remaining part of the examination is attempted.
- 2 Simple display test.
- 3 Business letter (approx. 200 words in length) to be typed on headed paper from manuscript material with simple corrections.
- 4 Simple tabulation test (including ruling in ink or by use of the underscore).

Stage II (based on 25 w.p.m.)

- 1 Proficiency test from printed matter of ten minutes' duration (maximum length 290 words). Candidates are to type accurately at their best speed; NO eraser is to be used. The candidates' work in this test is to be collected before the remaining part of the examination is attempted.
- 2 Display test.
- 3 Manuscript test: business letter with corrections and with or without incidental tabulation or displayed matter. Envelope addressing.
- 4 Tabulation test, including invoices.

Stage III (based on 30 w.p.m.)

- 1 Proficiency test from printed matter of ten minutes' duration (maximum length 400 words). Candidates are to type accurately at their best speed; NO eraser is to be used. The candidates' work in this test is to be collected before the remaining part of the examination is attempted.
- 2 Display test.
- 3 Manuscript test: business letter, report or other draft, with corrections and with or without incidental tabulation or displayed matter. Envelope addressing. Carbon copies.
- 4 Tabulation test, including invoices.

(Note: The Schools Council has decided that in Shorthand speeds only and not grades shall be shown on a candidate's certificate. In Typewriting both speeds and grades will be shown. This decision is subject to review and, if any change is proposed, an announcement will be made).

Domestic Studies

The examination will consist of:

- 1 A written paper of $2\frac{1}{2}$ hours (40% of the total marks).
- 2 The assessment of practical ability (course work) (60% of the total marks).

INTRODUCTION

It is suggested that a course in Domestic Studies should provide opportunities for the pupils to develop 'an awareness of the personal, social and economic problems of adolescence and adult life'. These opportunities will be varied in kind: the acquisition of the basic skills of home making; the understanding of the scientific principles underlying equipment, materials and methods used in the home; the recognition of the home as a place where the individual learns to live with others.

Methods of teaching should be as flexible as possible, encouraging pupils to experiment and think for themselves and make their own judgments.

The examination syllabus should not be regarded as a final document, but as an agreed framework within which work may be carried out in the way most suited to the needs and circumstances of a particular school or group of pupils. The teaching of the subject should be constantly reviewed in the light of practical developments in the sphere of home economics.

THE EXAMINATION

The methods of examining a subject such as Domestic Studies will need to be varied in order to judge fairly the general standard of pupils' work in all its branches.

The examination will therefore consist of:

- 1 A theory paper.
- 2 The assessment of practical ability (course work).

The Theory Paper

The theory paper will consist of two sections A and B, each covering the whole syllabus. $2\frac{1}{2}$ hours will be allowed for this paper, including appropriate reading time. The marks for the two sections will be weighted in the proportion of 2 for Section A to 3 for Section B.

Section A. Questions requiring short answers which will cover all aspects of the syllabus. All questions will be compulsory. Half an hour will be allowed for this section.

Section B. Questions requiring rather longer answers on each section of the syllabus. A wide choice will be allowed. Questions of the 'discussion' type will be avoided as being unsuited to this examination. Two hours will be allowed for this section.

Assessment of practical ability

The Board will not set a formal examination to test candidates' practical ability. Teachers will be asked to give an assessment of this ability which will be moderated by the Board. The Moderator may visit the school for this purpose. The assessment of practical ability may be arrived at either (a) by a process of continuous assessment over the latter part of the course or (b) by a practical examination of the traditional kind, internally prepared and conducted, using a preparation sheet completed by the candidate some days before the examination itself. Alternatively both methods could be used.

Guidance on methods of assessment will be given in due course.

THE SYLLABUS

The house and home

1 *Choice of home*

Acquisition of a dwelling.

Buying a home: knowledge of the simple steps involved, including mortgages, insurance, grants available for modernisation, payment of rates.

Renting a home: how to get on the housing list, agreements with the landlord.

2 *Essential services to the home*

What the housewife should know about the services available to her. Gas; water; electricity; refuse collection.

How to obtain these services (a) when setting up or vacating a home; (b) in an emergency.

Simple outline of use of gas, electricity, oil and solid fuel for heating, lighting and cooking in the home (scientific details not required).

3 *Care of the home* (with special reference to the kitchen)

Choice and care (including daily, weekly and special cleaning routines) of the following: surfaces; furnishings; household equipment; interior decoration.

4 *Family relationships* (within the home)

Learning to live with others: the old, infirm, newly-married and small children.

5 *The social aspect*

Simple entertaining and hospitality, e.g. accommodating the overnight guest, morning coffee, afternoon tea, T.V. supper, birthday parties, semi-formal meals, packed meals, floral arrangements etc.

Food, health and care of the family

1 Candidates should show basic cookery skills as applied to costing, planning, preparing, cooking and serving balanced meals, including the use of convenience foods and up-to-date equipment.

2 Sufficient knowledge of dietetics will be required to ensure that meals

are nutritionally correct, taking into consideration the individual needs of young children, invalids, convalescents, vegetarians etc.

- 3 Dangers of food contamination and necessary precautions to prevent the spread of infection in homes and shops.
- 4 Laundrywork ; family wash to include laundering of a variety of personal and household articles of natural and synthetic materials, using modern laundry aids.
- 5 Necessity for positive attitude to good health ; steps to be taken to ensure good standards of personal hygiene and grooming.
- 6 Safety in the home. Treatment of cuts, burns, scalds, bruises etc.

Management of time, money and leisure

1 *Time*

(a) The value of planning. Rest, meals, work, leisure and other activities.
(b) The value of routine in the home. Special reference should be made to different family circumstances, e.g. the newly-married couple, the young housewife with children under school age, the working mother, grandparents in the home.

(c) A simple study of time and motion. Elimination of fatigue ; unnecessary movement ; prevention of waste of time ; efficiency (the carrying out of a piece of work in the best possible way) ; increased interest in work resulting from the elimination of boredom.

The intelligent use of time-saving equipment ; thermostatic and automatic control of cookers and heating appliances ; the use of convenience foods.

2 *Money*

Personal and family budgets.

(a) Personal budget of the schoolgirl : pocket money ; first earned income whilst still at school, e.g. paper rounds, Saturday and holiday work.

(b) Allocation of first wages : (i) contribution to family income ; (ii) personal allowance.

(c) Family budget. Budget proportions : (i) household expenses ; (ii) housing ; (iii) clothing ; (iv) savings ; (v) insurance ; (vi) holidays ; (vii) amusements ; (viii) incidental expenses.

(d) General points on shopping : discriminate buying, economies : 'sales' and special offers, credit sales, trading stamps, door-to-door salesmen, high pressure salesmanship and advertisements. Types of shops : markets, supermarkets ; family shops.

3 *Leisure*

The use of leisure time : vocational, recreational and voluntary activities.

English

The examination will consist of three parts:

Part I. Written expression (one paper of 2 hours).

Part II. General literature (one paper of 1½ hours).

Part III. Oral English.

The final grade will be based on a combined assessment of these three parts which will be weighted in the proportions 5 : 4 : 3 respectively. This weighting, with particular reference to oral English, will be reviewed subsequently in the light of experience.

Part I. Written expression (2 hours)

The basis of this syllabus is C.S.E. Bulletin No. 1, in particular paragraphs 134 and 144.

Paragraph 134 suggests the area to be examined: 'English, well taught, should train a 16 year old secondary school pupil to use the language confidently, appropriately and accurately, according to the circumstances in which it is used. He should be able to speak his own mind, to write what he has thought and to have a care for the correctness of written and spoken English. He should be able to understand what he reads and hears, to master the ideas and restate them in his own way. He should have some understanding of the different uses of language, of the language which relates, describes, evokes, persuades and is the instrument of the creative imagination.'

Paragraph 144 quotes from the Beloe report—'In practical work we should prefer to see simple tests, so that examiners could mark for quality, method and accuracy'—and continues 'The same principle can be profitably applied to tests of written English.'

The tests in this examination are simple in two ways. By giving a stimulus based on the real or vicarious experience of the candidate they seek to make sure that every candidate can start. Each test is also designed to cover one limited area of expression, on the lines of paragraph 134; but in sum they will present an examination of progressive difficulty, giving opportunity over the whole range of ability to the candidates for whom the examination is intended.

It is a syllabus which bears in mind two further points from Bulletin No. 1, namely that the Written English paper should assume that candidates have studied some literature (138) and that the effects of the examination on work in schools should be beneficial (131). It seems likely that a good proportion of the work done in preparing for this examination will be in the study of literary texts and in the practising of the use of language in passages of continuous writing.

- 1 There will be a paper of 2 hours duration. Candidates will be required to answer four questions, one from each of the four sections of the paper. A choice will be offered in each section.

- 2 The paper will be designed to test the candidate's ability to write continuous prose in a variety of circumstances; answers may be required in various forms—for example, continuous writing, letters, reports, summaries, notes. In each section questions will be framed in such a way as to test a specific skill in the use of language, and the candidates will be assessed according to their proficiency in that skill. Factual and imaginative topics will be provided.
- 3 A significant proportion of marks will be allotted for mechanical proficiency but aspects of this will not be tested as separate and distinct skills. There will be no questions on grammar as such; candidates will, however, be required to demonstrate their proficiency in the accurate use of language and will be expected to be able to use a variety of sentence patterns.
- 4 The form of the questions may vary from year to year. In some questions, material on which answers are to be based may be given; verbal and non-verbal material (e.g. statistics, charts, diagrams) may be used.

Section A

(a) Candidates will be required to show their ability to describe what they see, hear, feel or imagine. They will be expected to develop their ideas with accuracy, imagination, vividness and sensitivity.

(b) Credit will be given for exactness and liveliness of vocabulary and for the ability to evoke mood and atmosphere.

(c) Material in the form of pictures, film, music and titles or passages for development may be provided as stimulus.

Section B

(a) Candidates will be required to show their ability to present information in a logical and orderly manner to describe processes or to give instructions.

(b) Credit will be given for proficiency in the selection, arrangement and presentation of the material with clarity and directness.

(c) Material may be provided in a variety of forms, for example a situation, statistical tables, maps, diagrams.

Section C

(a) Candidates will be required to use language as an instrument of persuasion or emotion.

(b) Credit will be given for forcefulness of presentation in seeking to express an attitude or to persuade others to a point of view or course of action and for the skill in the emotive and rhetorical use of words.

(c) Material may be presented in the form of a situation within the experience of candidates, possibly involving two or more persons.

Section D

(a) Candidates will be required to demonstrate their ability to adapt their style of writing to suit a particular context, for example in friendly or formal communication, in a newspaper, magazine or a book of reference.

(b) Credit will be given for aptness of vocabulary and sentence pattern and choice of style.

(c) Candidates may be asked to write in more than one style or to present the same material in different ways.

Part II. General literature (1½ hours)

Candidates will be required to show that they have read various forms of literature with understanding and appreciation. A list of suggested texts is given for guidance only: schools may make their own choice.

The question paper will be divided into FOUR sections: A. prose, B. drama, C. verse and D. special topics (e.g. newspapers, radio and television, the theatre and cinema). Candidates will be required to answer THREE questions, each chosen from a different section. No context questions will be set. Answers are to be in the form of continuous writing.

Recommended list for study

A. PROSE

Orwell: *Animal Farm*; 1984.

Huxley: *Brave New World*.

Conan Doyle: *Sherlock Holmes*

Dickens.

W. H. Davies: *Autobiography of a Super Tramp*.

Lawrence: *Selected Stories*.

Shute: *No Highway*.

W. Mankowitz: *A Kid for Two Farthings*

Jane Austen.

Conrad: *Mirror of the Sea*.

R. Sutcliffe: *Outcast*.

H. G. Wells: *War of the Worlds*.

Marjorie Allingham: *Tiger in the Smoke*.

James Hilton: *Lost Horizon*.

Hilda Lewis: *Leonardo da Vinci*.

Hunt: *Ascent of Everest*.

B. DRAMA

Shakespeare.

Scenes from Shakespeare.

Shaw.

Thomas: *Under Milk Wood*.

Wilder: *Our Town*.

One act plays: e.g. *Happy Journey*.

Bolt: *A man for all seasons*.

Ustinov: *Romanoff and Juliet*.

Rattigan.

Emlyn Williams.

Alun Owen.

C. VERSE

Penguin Book of English Verse.

Penguin Book of Contemporary Verse.

Enjoying Poetry.

Poems of Spirit and Action (Arnold).

The Poet's Tale (University of London).

Rhyme and Reason (Chatto and Windus).

A Book of Sea Verse (Macmillan).

A Book of Town Verse (Macmillan).

English Book of Light Verse (Macmillan).

The London Book of English Verse (Read and Debree).

Part III. Oral English

The general aim of this examination is to test the child's ability to express and transmit ideas and feelings to an audience through the spoken word. Assessment will have due regard to audibility, intelligibility and expressiveness.

Details of the method of assessment of Oral English will be announced later.

Section A. Personal project

(Aim: To test oral communication when the child is in a position of authority in a formal situation.)

A short prepared talk on the topic of the candidate's own choice which may be on any subject and could be linked with other school subjects. The talk would be followed by questions from the examiner and audience to promote oral communication.

- 1 Visual materials—models etc.—may be used. Notes may also be used for reference. The time for this section will not exceed approximately 3 minutes.
- 2 There should be an audience, familiar to the candidate, and audience participation should be encouraged.

Section B. Reading aloud

(Aim: To test the child's ability to communicate thoughts and feelings to an audience from the written word.)

Reading of a prose or verse passage after a brief preparation. Questions may be asked by the examiner. The book from which the examiner will choose the extract will be provided by the candidate.

Section C. Free choice

(Aim: To test the child's ability to react spontaneously within a group to varied speech situations.)

Either

- 1 *Duologue*

For example:

(a) Making or answering a complaint and making or answering enquiries of a type experienced in everyday life—shoddy workmanship,

landlord and tenant, trespassing animals.

(b) Conversation in fixed circumstances: forgotten latch key, sheltering from a storm, reporting a minor road accident or the theft of a bicycle.
or

2 *Group work*

For example:

(a) The development of a story from a stimulus to be given by the examiner.

(b) Dramatisation of an incident from an outline given by the examiner.

In this section the numbers taking part in any group should be 3, 4 or 5.

Candidates will be allowed about 5 minutes for preparation.

Geography

The examination will consist of three parts :

- 1 Field studies (25% of the total marks).
- 2 A paper of 1½ hours on the British Isles and map reading (45% of the total marks).
- 3 A paper of 1 hour on World, Regional and Physical Geography (30% of the total marks).

All questions will carry equal marks.

Field studies

A Field Work record book must be submitted which will be marked by the candidate's own teacher and moderated by the Board. The Moderator may visit the school for this purpose and may at his discretion question candidates about their work in the field. Guidance will be given to teachers on the method of assessment which they are to adopt.

Suitable material for assessment would include maps, diagrams, photographs and specimens relating to the region studied, as well as records of observations made and data collected. Original work done by candidates in the field is not required if a record of that work is already included in the field work record book.

The programme of field work would normally include some aspects of FOUR of the following, examples of which might be drawn from one or more areas :

- 1 GEOMORPHOLOGY. Drainage, simple geology and land forms of particular interest in the area chosen.
- 2 LAND USE. Vegetation, soils, farm study.
- 3 URBAN SURVEY. This might include site, settlement pattern, growth and distribution of population, function, buildings, (use, age, materials and source of materials).
- 4 INDUSTRY. Location, raw materials used and their sources, power supplies, water supplies, processes (brief), markets.
- 5 TRANSPORT AND COMMUNICATIONS.
- 6 WEATHER OBSERVATIONS. (i) Use of simple weather instruments. (ii) Translation of observations into graphs and tables.

It is not intended to restrict experimental field studies and a liberal interpretation is intended. Schools wishing to undertake field work other than that suggested above should submit details of their proposals for approval by the Board not later than 31 December preceding the examination.

Paper I

(1½ hours plus ten minutes for reading the questions and examining the O.S. map.)

MAP READING

A compulsory question on map reading involving knowledge of the

following, using 1" Ordnance Survey maps :

- 1 (a) 16 point compass.
- (b) Scale and measurement of distances.
- 2 Representation of relief features.
- 3 Use of 4 and 6 figure grid references.
- 4 Cross section (accurate measurement will *not* be required) and inter-visibility.
- 5 Knowledge of O.S. symbols.
- 6 Correlation between maps and photographs.

BRITISH ISLES (excluding Irish Republic)

Candidates must confine themselves to one of the two sections :

Section A. Regions.

Section B. Topics.

Section A. Regions

Questions will be set on any TWO of the four regions in Group A, and on any THREE of the five regions in Group B. Candidates will be required to answer ONE question from each group.

Group A

- 1 South West Peninsula (including Somerset).
- 2 East Anglia, Lincolnshire and the Fens.
- 3 Agriculture in Cheshire, Lancashire and Cumbria.
- 4 Scotland north of the Central Lowlands.

Group B

- 1 The Midland triangle.
- 2 Lancashire and Cheshire (industrial).
- 3 West Riding of Yorkshire.
- 4 South Wales.
- 5 The London Basin.

Section B. Topics

Questions will be set on any THREE of the five topics in Group A, and on any TWO of the four topics in Group B. Candidates will be required to answer ONE question from each group.

Group A

- 1 Cattle: main areas of distribution; rearing dairy and beef cattle; intensive beef and milk production; marketing boards.
- 2 Market Gardening: type of product and suitable conditions; important areas in Britain; importance of the 'market'; transport and marketing of perishables.
- 3 Motor Vehicle Industry: basic construction process; sources of materials and components; siting of main factories; the industry's importance for the British economy.
- 4 Coal Mining: how coal is worked; chief mining areas; recent changes in the industry; uses of coal and its association with other industries.
- 5 London: site, situation and function as an administrative, commercial,

cultural and industrial centre ; role as a major port and focus of communications ; problems of size.

Group B

- 1 New Towns : geographical, social and economic bases of their development.
- 2 Tourist Industry : factors influencing the growth and development of tourist areas ; changes in the character of the industry ; the industry's contribution as an invisible export.
- 3 British Trade : imports of raw materials and foodstuffs ; their sources, and the main British ports involved ; major exports and the markets concerned.
- 4 Oil Refineries : sources of imported oil ; its uses ; location of refineries and associated industries.

Paper II

(1 hour plus 5 minutes reading time.)

Candidates must answer questions from TWO of the following sections :

Section A. World Geography.

Section B. Physical Geography.

Section C. Regional Geography.

Section D. World Geography : topics.

SECTION A. WORLD GEOGRAPHY

A world map question together with short questions based on :

(a) *Foodstuffs and Beverages*. Wheat ; rice ; beef ; maize ; tea ; coffee ; cocoa.

(b) (i) *Metallic Minerals*. Iron ore ; gold ; copper ; bauxite.

(ii) *Power Resources*. Coal ; oil.

(iii) *Fibres*. Cotton ; wool ; jute ; softwoods.

(c) *World Climate Regions*. A study of the following five major regions including reference to rainfall, temperature, winds, natural vegetation and crops.

(i) Hot Monsoon areas of South-East Asia.

(ii) Equatorial Rain Forests.

(iii) Mediterranean type lands.

(iv) Temperate Grasslands.

(v) Cold Deserts.

(d) *Major areas of dense and sparse population*.

SECTION B. PHYSICAL GEOGRAPHY

Two questions will be set of which candidates must answer ONE.

(a) The earth's structure and the principal types of rock, rock layers of the earth (simplified), volcanoes and earthquakes, fold and block mountains. Igneous, sedimentary and metamorphic rocks.

(b) The recognition and explanation of features produced by the work of ice *or* the sea.

(c) The recognition and explanation of features produced by the work

of rivers (including the topography of calcareous rocks).

SECTION C. REGIONAL GEOGRAPHY

The regions will be divided into THREE groups. Candidates must choose one of these groups and answer ONE question. Questions will be set on any TWO regions from each group. Comparison between areas will not be required.

Group 1. The Ukraine ; South-East Australia ; Japan.

Group 2. The Indo-Gangetic Plain ; the Ruhr ; South-East Brazil.

Group 3. Egypt ; California ; the Netherlands.

SECTION D. WORLD GEOGRAPHY: TOPICS

The topics will be divided into THREE groups. Candidates must choose ONE of these groups and answer ONE question. Questions will be set on any two topics from each group.

Group 1

World Food Problems : a study of underdeveloped areas.

Air Transport : major air routes and their importance to travel and international trade.

Petroleum : elementary geology of oilfields ; major oilfields ; movement and world trade in oil ; uses of oil.

Group 2

Irrigation : areas where irrigation is essential for farming ; method used ; study of large scale schemes.

Fishing : major world fishing grounds ; the major countries involved ; world trade in fish and fish products.

Location of Industry : geographical basis underlying world distribution of industry.

Group 3

Plantation Agriculture : important crops grown under this system and the problems involved, with special reference to rubber and sugar cane.

Soil Erosion : causes and consequences ; methods used to combat its effects.

*Geography of an Expedition : an account of an expedition and its objects and achievements.

*Schools choosing Group 3 are requested to submit to the Board by 30 September 1965 details of the expedition on which the questions may be set.

History

AIMS

The examination has the following aims :

- (a) to encourage enthusiasm in the study of history ;
- (b) to test a candidate's powers of reasoning, bearing in mind the ability level for which the examination is intended ;
- (c) to test a candidate's factual knowledge.

INTRODUCTION

The following syllabuses are offered for examination under Mode I and are designed to cover a two-year course.

Alternative A. British History 1688-1815.

Alternative B. British History 1851-1951. ✓

Alternative C. British Social and Economic History 1750-1960.

Alternative D. European History 1815-1939.

Alternative E. World History in the Twentieth Century. ↓

Since it is likely that most teachers will wish to deal with Modern History during the last two years of the course the syllabuses which the subject panel has prepared are confined to this period. *Teachers who have a keen interest in a period of history not included in the set syllabuses, or who wish to develop a particular theme, should unhesitatingly take advantage of either Mode II or Mode III of the examination.* To indicate what may be done in this respect three themes are offered for guidance. Two, those on 'Light' and 'South Lancashire between the Ribble, Mersey and Irwell', are given in outline ; the third, 'The Development of the British Empire and Commonwealth', in more detail. None of these themes is intended as a set syllabus. The primary aim is to stimulate interest in the possibility of such plans of work. Extensive use may of course be made under Modes II and III of candidates' individual studies.

THE EXAMINATION

The examination under Mode I will consist of two written papers. Questions on both papers may be set from any part of the syllabus.

Paper I (1 hour. 40% of the total marks).

Paper II ($1\frac{1}{2}$ hours. 60% of the total marks).

Optional individual study: candidates may submit an optional study which will be considered for purposes of upgrading their final performance only. Normally the final assessment will not be adjusted by more than one grade. The position of individual studies in the examination will be reviewed within two years.

Paper I will include among other questions a simple comprehensive passage, objective-type questions, questions requiring an interpretation of maps, graphs or other illustrative material.

Paper II will be more searching of historical understanding and reasoning. Among other questions there may be an additional comprehension passage, essay questions of the 'guided' type and omnibus questions (e.g. explain four of the following).

(a) The introductory section of a syllabus will not be specifically examined.

(b) In both papers where there is a choice of questions it will be a choice between questions of the same type.

(c) Candidates should be encouraged to use sketch maps and drawings to illustrate their answers where this is appropriate.

(d) Reading time will be allowed for both papers, the amount of time being decided in the light of the type of questions which are set.

(e) In Paper II, while the examination is normally intended to take 1½ hours, an additional 15 minutes may be allowed for any candidate who requires it.

Alternative A. British History 1688-1815

1 *The consolidation of Parliamentary government*

(a) The Stuart monarchy fails: the Glorious Revolution and Settlement.

(b) The Whigs and the Tories.

(c) The main features of the eighteenth century constitution.

(d) Scotland: Act of Union; Jacobite Rebellions.

(e) The Hanoverian Succession; Whig Supremacy; the development of the Cabinet system and the emergence of the office of 'Prime' Minister.

(f) The attempt by George III to rule as well as reign and the reason for his failure.

(g) Wilkes and Liberty. Demands for parliamentary reform. The impact of the French Revolution on Britain.

(h) Ireland in the eighteenth century. Act of Union.

2 *The development of the Empire*

(a) An outline of colonial development from the beginning of the seventeenth century.

(b) Anglo-French rivalry for commercial and colonial supremacy.

(c) Conflict in America and India—the War of the Austrian Succession and the Seven Years War—Treaty of Paris (as far as they affected the British Empire).

(d) Events leading up to the loss of American colonies.

(e) Consolidation in Canada and India.

(f) Exploration and settlement in Australia and Tasmania.

3 *The beginnings of those changes in industry, agriculture and transport, which have since been called 'revolutions'*

(a) Industry:

(i) factors favouring an industrial 'revolution' in England.

(ii) changes in methods of production in the textile, iron and coal industries.

- (iii) the development of steam power and its application to industry and transport.
- (iv) the old cottage industry and the new factory system.
- (v) the developments in commerce and economic thought.
- (b) Agriculture :
 - (i) the need for change in agriculture.
 - (ii) enclosures: methods of securing, and their economic and social effects.
- (iii) improvements made in farming.
- (c) Transport :
 - (i) the need for improved transport and communications.
 - (ii) the state of roads at the beginning of the century and their subsequent improvements. Stage coach and waggon services.
 - (iii) improvements in rivers and the building of canals.
 - (iv) advantages and disadvantages of road and water transportation.
- 4 *English life in the eighteenth century*
 - (a) Life in the country and in the town for the upper classes and for the lower classes.
 - (b) Games and sports.
 - (c) Religion: the eighteenth century Anglican Church; Wesley and the new Nonconformity; Evangelicalism and Humanitarianism.
 - (d) The Arts: architecture and craftsmanship, painters, writers and musicians.
 - (e) Scientific developments.

Alternative B. British History 1851-1951

- 1 *A survey of Britain in 1851*
The Great Exhibition. The workshop of the world; trade and industry; Free trade. Railway development and the effect on communications and industry. Disraeli's Two Nations: a social survey of family life, houses, factory conditions, clothes. Local and National government.
- 2 *The reform of Parliament*
The Reform Acts of 1867, 1872, 1884. Parliament Act 1911. Lords v Commons. The Suffragette Movement and the emancipation of women: the 1928 Act. Parliament today as compared with 1851, e.g. how MP's are chosen; the formation of a government; how an Act of Parliament is passed.
- 3 *Development of social welfare*
Mid-nineteenth century poverty: causes and treatment. New opinions: the Liberal reforms of the early twentieth century. The Depression in the 1920's and 1930's: the Dole. The Beveridge Plan: modern social services.
- 4 *Britain and Ireland*
Problem of Ireland in 1851: land; church; Home Rule. Effects of these on British politics: Parnell and Gladstone. Achievement of Home Rule:

Sinn Fein and De Valera.

- 5 *The practical applications of Conservatism, Liberalism and Socialism*
Disraeli and the new Conservatism. Gladstone and the Liberals in the nineteenth century. Lloyd George and the Liberals in the twentieth century. Decline of the Liberal party and the rise of Socialism. The Labour Government 1945-1951.
- 6 *How people have tried to help themselves through Trade Unions*
Skilled and unskilled workers; 1851-1900. 1900-1914 attack on legal position of Trade Unions: (a) Taff Vale 1901, (b) Osborne Case 1909. Postwar depression: the General Strike 1926. The functions, activities and practices of modern Trade Unions. Study of an outstanding Trade Union leader in this period.
- 7 *Britain and the two world wars*
How Britain became involved in the First World War. Britain's part in the 1914-1918 War: Western front and Naval warfare. British foreign policy between the Wars: disarmament; appeasement; entry into the Second World War. An outline of Britain's part in the Second World War: (a) the struggle for survival; Battle of Britain; Battle of the Atlantic; the Middle East; (b) Britain's contribution to the Allied victory. Britain and the post war world to 1951.
- 8 *Aspects of the life of the people in mid-twentieth century*
Effects of newspaper, radio and television. Air transport and its effect. Educational developments in the twentieth century and their effects.

Alternative C. British Social and Economic History 1750-1960
Introduction

The early eighteenth century; work and play; the size and distribution of population; different social classes; houses; clothes; transport, including roads and navigable rivers; trade; colonies; government; established religion; non-conformism; Wesleyan movement; education.

- 1 *Changes affecting the way people worked*
 - (a) from open fields to enclosure: agricultural pioneers and improvements in farming; the results, good and bad, of these changes.
 - (b) from the domestic system to the factories: the textile inventions, especially the water-frame.
The organisation of the earliest factory communities, pauper apprentices; the truck system; women and children at work; local examples. Comparison of working conditions under both systems.
 - (c) the age of iron and steam: eighteenth-century developments in the iron industry and their results; the expansion of coalmining; the search for an improved steam pump.
Watt, Boulton, Wilkinson; rotary engine and its application; Cartwright's power loom.
 - (d) the lifelines of the new system: roads; Macadam, Telford and Metcalfe.

- The canals and early railways ; social effects of the coming of the railways.
- (e) the location of industry : the increase in population ; movements of population.
- (f) life in the industrial communities at the end of the eighteenth century : factory towns ; conditions of work ; homes ; health etc.
- (g) the post-war unrest : reasons for it ; expressions of it ; Government attitude.
- 2 *Attempts to alleviate social suffering caused by the changes in industry and agriculture*
- (a) Parliamentary reform : 1832 Act ; disappointment of many sections of the community ; Chartism.
- (b) Trade Unions : repeal of the Combination Acts ; Robert Owen and the G.N.C.T.U. ; Tolpuddle martyrs.
- (c) The Co-operative movement.
- (d) Reformers : Fry, Wilberforce, Owen, Shaftesbury etc. Factory and Mines Acts to 1850.
- (e) The problem of cheaper bread : the Corn Laws and the Anti-Corn Law League ; Free Trade v Protectionism ; the repeal of the Corn Laws.
- (f) Attitude towards poverty : the eighteenth century ; Speenhamland ; the Poor Law Amendment Act of 1834.
- 3 *Britain in the mid-nineteenth century—'Workshop of the World'*
- (a) The great Exhibition 1851 : representing Britain at the height of the iron age ; the age of steel ; Bessemer and later developments. Mid-century railway mania ; cheap travel and excursions.
- (b) Victorian England : the arts and literature ; Darwin's theory of evolution.
- (c) The Government accepts some responsibility : factory legislation ; public health ; education ; linked with extension of the franchise.
- (d) The importance of engineering in the new community : the significance of the fact that the new unions were unions of skilled workers ; A.E.U.
- (e) Agriculture in the 'Golden Age'.
- (f) Advances in medical science and nursing : Lister ; Simpson ; Nightingale etc.
- 4 *Britain meets competition*
- (a) Growing competition : Germany ; U.S.A. ; railways open up new continents ; the steamship ; the Suez Canal.
- (b) Effects on Britain's agriculture : emigration.
- (c) Effects on Britain's trade : Joseph Chamberlain and his tariff reform policy.
- (d) Second Industrial Revolution : electricity ; motor transport etc.
- 5 *Struggle for social reforms before 1914*
- (a) Position of women in the nineteenth and early twentieth centuries : legal rights ; rights to higher education ; right to enter the professions ;

- right to vote.
- (b) The 'Dockers' Tanner': new unions of unskilled workers; distrust; Taff Vale dispute; Osborne judgement; link with Labour Party.
 - (c) Socialism: I.L.P.; rise of the Labour Party; the rise of Communism.
 - (d) The foundations of the Welfare State: social reform from 1906-1913; conflict with the House of Lords (1911 Parliament Act).
- 6 *Britain's struggle to maintain her position since 1918*
- (a) The Great War and its effects on Britain's economy.
 - (b) After the war: attempts to create 'a land fit for heroes'; housing and education.
 - (c) Depression and unrest in the 'twenties': unemployment and the decline of heavy industries and the rise of new industries; the General Strike; contrast with the gaiety of the Charleston era.
 - (d) Wall Street Crash: world depression; unemployment; the means test; return to Protection; Imperial Preference; comparative prosperity of the South East; London.
 - (e) Government measures: recovery towards the end of the 'thirties'; welfare measures of the 'thirties'.
- 7 *The Second World War and after*
- (a) Conditions of life during the war; shortages, controls, rationing etc.
 - (b) The twentieth century in education; the 1944 Act.
 - (c) The Labour Government nationalised industries; National Insurance Act; the Beveridge Report 1942; National Health Service; the 'Welfare State'.
 - (d) Development in transport and communications, especially air transport, television etc.
 - Experiments in space travel and communications.
 - (e) The export drive; balance of payments; Government policy.

Alternative D. European History 1815-1939

The struggle for nationhood, democracy and international understanding

The aim and purpose of this syllabus is a simple one. Throughout modern times the nerve centre of world history has been the continent of Europe; until very recently the U.S.A. was the only non-European state to have made a considerable impact upon global politics.

The accepted tenets of the eighteenth century were challenged by the ideas of the French Revolutionary era and the influence of Napoleon. The effects of this period are vital to the understanding of the events that followed. The economic developments, such as Capitalist industrialisation, and changes in political thought, such as Marxism, and other factors which underline these events, were to produce the clash of ideologies of the 1939-1945 war.

This syllabus aims at an understanding of these ideas and events which were to produce the circumstances of the modern world in which we live. Three main themes can be traced:

- (a) the development of nationalism and international rivalries;
- (b) the struggle for sovereignty of the people against absolutism in many forms;
- (c) the failure up to 1939 to promote international understanding and lasting agreements.

Introductory survey

A. The French Revolution

A survey of its causes; some aspects of its course; some of its immediate and later effects.

B. Napoleon

A survey of the main reasons for his rise; a survey of the main reasons for his fall; an assessment of his influence.

1 *The Vienna Settlement and its breakdown*

The main aims; the actual settlement and comments—the idea of the Concert of Europe; the influence of Metternich and examples of the breakdown of the settlement down to about 1848 (three examples will satisfy examination requirements).

2 *The emergence of a united Italy*

Liberalism and nationalism in Italy and the failure of 1848—Mazzini; the struggle for unity—the work of Cavour and Garibaldi; the completion of unity 1862-1920, the influence of the Papacy.

3 *The unification of Germany*

Central Europe before 1848; Metternich's domination; the Zollverein. The lessons of the 1848 Revolutions and the Frankfurt Parliament. Bismarck and the Prussian defeat of Austria; its effects. Bismarck and the Franco-Prussian war; its influence on Europe.

4 *The Eastern Question*

Its meaning—the decline of Turkey; Balkan nationalism and the attitude of the Great Powers. The problem up to the Crimean War and the Treaty of Paris. The transformation of the Eastern Question into a matter of concern for all Powers.

5 *Europe after 1870—the road to World War I*

The rise of German power and ambitions. The French feeling for revenge, her fears and internal instability. The expansion of Europe and rivalries overseas; Africa and the Far East. The alliances and diplomatic tension—British power and policy. Causes of the war of 1914.

6 *Russia: failure of absolutism; the Revolution (the New Russia)*

Reforms and repression to the 1890's. Crisis of the old system to 1914. The Communist Revolution and Civil War 1917-1920. The rule of Lenin and N.E.P. The rule of Stalin. Russia's position in the world 1918-1939.

7 *The First World War and its effects*

The general character of the war; its extent; warfare techniques; its general effect on the nations involved (it will be sufficient to study *only one* area in any detail). American relations with Europe: Monroe

Doctrine; the return to Europe. The Treaty of Versailles: its hopes and failings. The League of Nations: its organisation, work and failings (only an outline knowledge of the organisation will be required).

8 *The rise of Fascist Dictators*

Fascism in Italy and Spain: Mussolini and Franco.

The rise of National Socialism in Germany: Hitler.

9 *The origins of the Second World War*

The spread of aggression: Italy, Japan, Germany. The failures of the Western Powers: the crises of the 'thirties' and the search for peace. America—isolationism.

10 *Developments in other fields*

Science, Art, Literature, Painting, Communications, Status of women, Industrial development. (One or more questions will be asked in such a way as to allow answers from the widest possible range of subjects along the lines indicated above.)

Alternative E. World History in the Twentieth Century

Two themes have been adopted:

(a) The progress towards international co-operation;

(b) the declining importance of Europe, in relation to the rest of the world.

It is recommended that pupils taking this syllabus make an extensive use of maps.

Introductory survey

Europe.

Interests and relative strengths in 1900 of the Great Powers: Britain, France, Germany, Italy, Russia.

Africa.

Scramble for Africa resulting in European empires. (A detailed knowledge is not required. A map approach would be useful).

Asia.

Weakness of China; emergence of Japan; European colonies and economic control.

America.

Effects of Civil War on U.S.A.; Monroe Doctrine; outline of economic growth of North and South to 1914.

1 *Lack of international co-operation leading to First World War*

Alliance system and the Ententes (an outline study only is required to show the state of the alliances by 1900).

Rivalries: Austro-German; Franco-German; Anglo-German.

Forces working for international co-operation: Hague Conferences, Red Cross, Olympic Games (an outline study only is required).

The three major crises and the outbreak of war.

2 *The First World War*

Study of its general character only: global extent, new techniques and

- weapons, mass participation, mass destruction.
- 3 *The Versailles Treaty and the attempt at international co-operation*
Peace treaties and change in the map of Europe.
Treatment of Germany and her resentment.
League of Nations, its organisation and hopes; attitude of USA.
 - 4 *Russia and the rise of Communism*
The causes of the 1917 Revolutions.
Revolution, civil war and Allied intervention.
The Communist ideal; Marx and Lenin (to be approached in the simplest possible terms).
The Communist state in practice under Lenin and Stalin; N.E.P.; Stalin-Trotsky feud; five-year plans; purges.
 - 5 *The Great Depression*
World depression resulting from Wall Street slump (knowledge of stock exchange procedure is not required).
General world-wide effects (including Britain).
Effect on U.S.A.; election of Roosevelt; the New Deal.
Effect on Europe; rise of authoritarian forms of government.
The emergence of Hitler and the Nazi state.
 - 6 *The breakdown of international co-operation leading to the Second World War*
Failure of the League; fundamental weaknesses; limited membership; ambivalent attitude of national governments.
The rise of aggression; Japan (Manchuria and China); Italy (Abyssinia and Albania); Germany (the Rhineland, Austria, Czecho-slovakia); Rome-Berlin axis; Franco.
The failure of appeasement; foreign policy of Russia; outbreak of war.
 - 7 *The Second World War*
Conquests of the Axis Powers; nature of the war; the Blitzkrieg.
Study of *one* theatre of war with reference to its distinctive problems. (Theatres: Western Europe, Russian front, North Africa and Middle East, War at sea, Far East.)
 - 8 *The attempt to restore international co-operation*
United Nations; organisation and plans for peace and co-operation.
Settlement after the war; division of Germany.
Problems of post-war reconstruction; Marshall Plan.
Iron curtain and cold war; Berlin blockade; NATO and Warsaw pacts; Korean War.
Significance of nuclear weapons and emergence of super-powers.
Hungary, Suez, Cuba; liberalisation of Russia under Khrushchev; peaceful co-existence.
European unity; Common Market and EFTA. (An outline knowledge only will be required of this section).
 - 9 *The emerging nations*

The end of the colonial and economic domination of the European nations. (An outline survey only is required. A map approach would be useful).

The Commonwealth; the changing relationship of Britain with her overseas territories; effect of new members on the nature of the Commonwealth.

Indian sub-continent, Gandhi, Nehru and the struggle for independence; neutralism; the Afro-Asian bloc.

China, the Communist revolution, her position in the world.

Under-developed parts of the world; attempts at assisting the under-privileged both nationally and internationally in the post-war world.

THEMES

South Lancashire between the Ribble, Mersey and Irwell

1 *Pre-Norman South Lancashire*

Before the Roman era: New Stone Age settlements in W. Pennines; Bronze Age settlements in lower Ribble and upper Irwell valleys; the Brigantes.

Roman Lancashire: Defeat of Brigantes by Cerialis and Agricola; lack of 'villa' settlement; mining; road system and camps; Ribchester, Castle-shaw, Manchester.

Saxon and Viking occupation: Place names as indicative of occupation: 'eccles' (church) pre-Saxon conversion?; Saxon: 'ton', 'worth', 'ing', 'ham'; Viking: 'by', 'fell', 'kirk', 'ness', 'wich', 'wick', 'breck'.

2 *South Lancashire in the Middle Ages*

Life after the Conquest; Roger of Poitou; Domesday survey, e.g. Salford Hundred, Hundred of W. Derby. Spread of Monasticism; Whalley 1296. The County Palatine; Castles; Stanley Family.

3 *Tudor Lancashire*

Economic background: Leland's description. Reformation in Lancashire: Pilgrimage of Grace; Recusancy; Puritanism.

4 *Stuart era*

Prevalence of witchcraft. Chetham's Hospital and Library. Civil War; split of county between Royalist and Parliamentarian; Siege of Latham House; Battles of Wigan, Warrington and Preston. High Church Plot 1696. Jacobite movement; Jack Byrom's poems; campaigns of 1715 and 1745 in area; Colonel Townley.

5 *Hanoverian era*

Defoe's description of South Lancashire. Era of the Industrial Revolution; Manchester Exchange; Metcalfe's roads; Brindley's canals; cotton machinery and machine breaking; Sir Robert Peel and early factory legislation. Influence of the war era 1792-1815 on area; Rochdale strike of 1808; Peterloo. Railway development.

6 *Victorian age*

Effects of Parliamentary and municipal reforms. Lancastrians: Peel and Bright and the Corn Laws. Industrial development; influences of the American Civil War. Social and economic conditions; Rochdale Pioneers. Transport developments; docks at Manchester and Liverpool; Ship Canal.

Light

1 *Natural sources*

Primitive peoples and their attitudes, e.g. Sun, Moon worship.

Making light: fire sticks, flints, friction, matches, petrol lighters, buthane gas.

2 *Artificial light*

Oil lamps: Little progress between 2500 B.C. and late eighteenth century. Babylonians', Assyrians' and Egyptians' lamps. Saucer lamps of Egypt, Greece and China. Greek and Roman. Aimé Argand (cylindrical wick, large flame, no smoke). Lamps of today.

Torches: Rushes and candles, resinous wood, tallow dips, wicks, candlesticks, electric.

Gaslight: Clayton, Murdoch, Bunsen, Roscoe, Wenham, Welsbach, Gas Companies, Gas Council, Area Gas Boards.

Electric light: Galvani, Volta, Faraday, Davy, Swan, Edison, fluorescent lighting, nationalisation, grid, atomic energy for light supply.

3 *Windows*

Roman glass; Anglo-Saxon 'wind-eyes'; glass—scarcity in twelfth century; stained glass; Window Tax.

4 *Technical uses of light in life, work and leisure*

Street lighting: Link lamps, lamplight, gas, electricity, old and new methods.

Navigational and transport aids: Use as directional aids, e.g.

Lighthouses: Colossus of Rhodes; Pharos (about 280 B.C.), Egyptian and Roman, Church responsibility, e.g. Blakeney (Norfolk), Boston Stump (Lincs.), Eddystone (Trinity House).

Riding lights: Exterior and interior lamps of ships, aircraft, trains, motor vehicles.

Fog lamps: Flarepaths, beacons, signal lamps, traffic lights, railway signals, landing lights.

Communications: Beacons, heliograph, signal lamps.

Scientific and medical fields: Spectrum, prisms, health rays (x , violet, sun), operating theatre, microscopes etc. Possible study of stars, lenses (optical and scientific).

Lighting in houses, workshops, offices and shops.

Night into day in mines, factories, workshops.

Photography: Film production units, cameras, flash bulbs, infra red.

Entertainment: Cinemas, theatre, floodlighting for sports arenas, football grounds, television etc.

Aids to food production: Battery hen houses for chicken and egg production; milking aids etc.

Pets/hobbies: Breeding tanks for tropical fish etc. Breeding cages for tropical birds, e.g. budgerigars.

The development of the British Empire and Commonwealth 1603 to the present day

GENERAL

This theme is based on the assumption that the evolution of the Commonwealth has been a major factor in world history and that the study of it would have significance for the pupil of today in his attempt to understand his own world.

It is held that more could be achieved by studying only the main areas in greater depth than by attempting a fuller coverage in geographical extent but on a more superficial level.

The major part of the study would deal with internal problems of the areas concerned and in part with their relations to the mother country.

THE THEME

1 *Introductory survey*

- (a) A survey of the extent, diversity etc. of the modern Commonwealth.
- (b) The Tudor explorations and the beginnings of the Empire (no questions would be set directly on this part).

2 *The English in North America*

- (a) The search for the North West Passage:
Early explorations; the settlements—New England, Middle, South Plantation; rivalry with France, English victory, Wolfe.
- (b) English colonial policy and relations with the American colonies:
English policy; events leading to war with the colonies; the war—Washington; the U.S.A.; some effects of the war on both sides.
- (c) Canada after English victory at Quebec:
Canada a Crown Colony; rebellion; Durham Report and responsible self-government; boundary matters; British and North America Act 1867—dominion; expansion; Canadian Pacific Railway; prairie provinces to British Columbia; economic progress. World War I and the inter-war period—Canada's part; effects; changing relations with the mother country; Statute of Westminster; economic problems and Ottawa Agreement (Note 1). World War II—Canada's part; effects (Note 1). Recent developments—e.g. Newfoundland; French; relations with U.S.; links with Britain (Note 2).

3 *The English in India*

- (a) The English defeat their rivals:
Early explorations and Indian background; East India Company—factories; struggle with France—Clive; consolidation under Clive and Hastings.
- (b) The end of Company rule:

Reform and westernisation—Bentinck and Dalhousie; the Mutiny—causes, some events, some results (Note 3).

(c) The emergence of Indian nationalism:

The Indian National Congress; Curzon (Note 4); frontier problems—Russia.

(d) Independence:

Work of Gandhi, Nehru, Jinnah; provincial self-government. World War II—effects on India (Note 1); Independence—partition—India, Pakistan; Republican departure; Burma (Note 5). Problems and attempted solutions—e.g. caste; standard of living; Kashmir; China; links with Britain (Note 2).

4 *The English in Australasia*

(a) Early exploration:

Cook; early settlement, convicts; Captain Phillip, missionaries.

(b) Internal exploration and geography:

The move into the interior and geography; sheep, gold, railways, settlement; natives—Aborigines, Maoris.

(c) Problems of government:

Wakefield; the various states and responsible self-government; Commonwealth.

(d) Australasia, the two world wars and after:

Participation and some effects (Note 1); economic developments—welfare state; immigration—white Australia policy; defence—Seato, U.S.; links with Britain.

5 *The English in Africa*

(a) Exploration of Africa:

Early coastal exploration—slave trade; reasons for neglect of interior; exploration of interior—Livingstone, Park, Stanley.

(b) South Africa:

Dutch and English settlements; English take over—influx of English; missionaries; conflict of views; Great Trek—why and where.

(c) The new Boer States:

Natal, Orange Free State, Transvaal; natives and frontiers; diamonds and gold—Rhodes; the Boer Wars—Kruger.

(d) The Dominion of S. Africa:

Establishment of the Dominion; the two world wars—Smuts (Note 1); problems and attempted solutions—e.g. apartheid; economic, resignation from the Commonwealth; Malan; Verwoerd.

(e) Other parts of Africa:

Scramble for Africa; the wind of change—movement towards independence; diversity and unity; problems and attempted solutions, e.g. government, tribal, economic links with Britain etc; Ghana, Nigeria Kenya, Tanganyika, Zambia, Malawi, S. Rhodesia etc. (Note 6).

6 *The Commonwealth today*

(a) The links—crown, institutions, sentiments, economic, immigration, language, defence, sport, conferences, communications etc.

(b) The meaning and influence of the Commonwealth in the world today.

NOTES FOR THE GUIDANCE OF TEACHERS

- (a) 1 It might be useful to give some indication of how attitudes to Empire have changed and why, and how these were put into practice, e.g. meaning of self-government, responsible self-government, dominion etc, mill stones round our necks, white man's burden etc.
- 2 A history of any Commonwealth country and the Commonwealth as a whole can best be understood by constant reference to the geographical setting. Map work would form a vital part of the course.
- 3 A useful method of approach would be through the leading personalities of the time. Some examples have been given.
- 4 Where possible contemporary sources should be used to enliven the teaching. Much illustrative material etc is readily available through the U.K. offices of the various Commonwealth governments, as well as the Commonwealth Institute and various firms. Many children would probably have had first hand contact with Commonwealth people.
- (b) Note 1. Brief indications of the part played by Commonwealth countries with particular reference to any campaign in which each was particularly concerned, e.g. Canada : Dieppe raid ; Australia : Tobruk.
- Note 2. It would obviously not be possible to deal with all recent developments.
- Note 3. Some coverage of the actual mutiny would add colour.
- Note 4. The various constitutional reforms of this period would probably be too complicated.
- Note 5. It would not be intended that Burma should here become a major study.
- Note 6. Not all the new African states could be dealt with. A possible approach might be to deal with two or three contrasting states ; alternatively the major common problems could be dealt with and illustrated by reference to any one country.

Mathematics

The examination will consist of three parts :

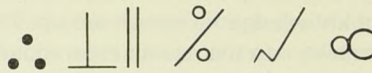
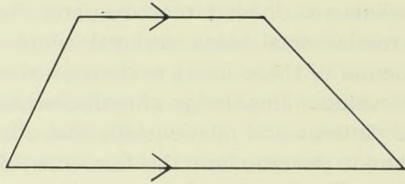
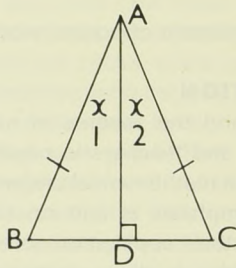
- 1 A paper (Paper I) on the basic syllabus (up to $2\frac{3}{4}$ hours ; 50% of the total marks).
- 2 A paper (Paper II) on optional topics (up to 2 hours ; 25% of the total marks).
- 3 Teachers' assessment of course work (25% of the total marks).

INTRODUCTION

The syllabus and the scheme of examination have been designed to assist schools and teachers in creating an atmosphere in which satisfying, enjoyable mathematical understanding can develop in confidence. Throughout emphasis is laid on the comprehension of fundamental concepts and their application to a variety of mathematical situations sufficiently wide to allow much individual freedom within a broad general framework.

The syllabus is divided into two parts. The basic syllabus is concerned with fundamental ideas and the simple techniques essential to the application of these ideas to a range of experience in which the pupil may develop a knowledge of mathematical language and a recognition of the patterns and relationships that abound in the world about him. Freedom to develop from this fundamental understanding in a variety of more specific directions is provided in a range of optional topics which constitute the second part of the syllabus. The Board will be prepared to consider further topics submitted by individual schools or groups of schools.

The examination will aim at assessing the candidate's ability to use the knowledge and insight that he has acquired rather than to measure the amount of knowledge he has stored up. To this end candidates will be allowed to take into the examination room any aids which they desire ; these may include such aids to calculation as slide rules, desk calculators, ready-reckoners etc ; they may also include text-books, note books, and any other reference material. Advantages will continue to accrue to those who know the necessary facts and techniques, but others, whose memories are less reliable, will not be precluded from demonstrating other qualities that they may possess. While the need for lengthy calculations will be minimised, a reasonable standard of computation will be expected. Formal proofs will not be required but working must show clarity of thought and expression. The usual equipment for conventional examinations, ruler, graduated in eighths and tenths of an inch and centimeters, mathematical tables, compasses, protractor and set-square, will, of course, be required. Candidates will be expected to be familiar with the following symbols and abbreviations :



THE EXAMINATION

1 Paper I

This paper will be set on the basic syllabus and will be in two sections. Candidates will be allowed a break between the two sections.

Section A will consist of a large number of short objective-type questions, all of which must be attempted. This section will carry 30% of the marks and will be designed to take 1 hour, but candidates will be allowed up to $1\frac{1}{4}$ hours.

Section B will be complementary to Section A in that it will be concerned with topics on the basic syllabus which do not lend themselves to objective questioning and with the assessment of mathematical objectives which cannot be measured in this way. It will consist of a smaller number of compulsory questions designed to test the candidate's ability in sequential thinking. This section will be more conventional in form and its marking will take reasonable account of the candidate's ability to communicate his thought processes on paper; it will carry 20% of the marks and will be designed to take 1 hour although up to $1\frac{1}{2}$ hours will be allowed.

2 Paper II

This paper will be divided into sections corresponding to the optional topics set out in the syllabus. In each section six questions will be set except in Modern Mathematics where there will be eight questions. Candidates will be required to answer four questions in all and will normally select their questions from one or two sections that have formed part of their course. Supervisors may direct candidates' attention to the appropriate sections, but an unrestricted choice of questions from any section is in no way prohibited. This paper will carry 25% of the marks and will be designed to take $1\frac{1}{4}$ hours, but 2 hours will be allowed.

3 Teachers' assessment

This is to be based on the assessment of individual candidates and will carry 25% of the total marks. Guidance will be given to teachers on the methods by which their assessments should be determined. The performance of candidates in Paper I will be used to moderate teachers' assessments.

THE SYLLABUS

Part I. Basic syllabus

Number

- 1 Derivation of our number system; simple aids to counting; Roman numerals; Arabic numerals.
- 2 Scales of notation (decimal and other scales including Binary); place value; zero as a place holder.
- 3 Notation in words and symbols; natural numbers (or counting numbers); positive and negative integers; common and decimal fractions sufficient for use with section on measurement; four operations on these numbers (addition, subtraction, multiplication and division); number patterns and series; odd and even numbers; prime numbers; index notation and its use for very large and very small numbers. Approximation and estimation, degree of accuracy, significant figures and decimal places. Logarithms; use with positive and negative characteristics but excluding roots of numbers less than one. (This section implies use of tables and ready-reckoners wherever possible.)

- 4 Irrational numbers as required by other sections of the syllabus.

Measurement

- 1 Simple comparison : ratio.
- 2 Comparison with a unit. The concept of measure. Units of measure and the incorporation of the number structure.
- 3 An appreciation of the various concepts capable of measurement ; the units of measure in each case. British and Continental units of the following : length, area, volume, angle, time, weight, liquid capacity.
- 4 Money as a means of exchange. Monetary systems.
- 5 The four operations applied to measures. Practice methods. Average (arithmetic mean). Proportional division in connection with measures.
- 6 Conversion of compound units to decimal and vulgar fractions, and vice versa, i.e. interchange of units of the same type of measure.
- 7 Rate : as a comparison of two different measures
 - (a) graphical representation,
 - (b) percentage : interest, profit and loss, discount, and other simple applications.
- 8 Graphical representation and interpretation of data.
- 9 The use of co-ordinates to specify position.

Shape

- 1 Recognition of the geometrical properties, simple plane and solid figures, triangle, parallelogram including rectangle, square and rhombus, convex polygon, trapezium, circle, sphere, cube, cuboid, pyramid including cone, prism including cylinder. Faces, edges, vertices of solid figures (Euler's theorem). Symmetry about a line and about a point. Reflections.
- 2 Use of geometrical instruments : construction of circles, triangles and quadrilaterals from given data.
- 3 Standard constructions : bisecting a line ; constructing angles of 30° , 45° , 60° and 90° ; constructing a perpendicular at a point in a line or from a point to a line ; copying an angle ; drawing parallel lines ; dividing a line into a number of equal parts ; inscribing and circumscribing circles to a triangle ; drawing tangents to a circle.
- 4 Compass directions, true bearings. Solution of problems by drawing to a given scale.
- 5 Angles and parallel lines. Angles of a triangle and polygon. Isosceles and equilateral triangles.
- 6 Similarity and congruency. The idea of locus of a point with reference to standard constructions and graphs. Theorem of Pythagoras, applications, recognition of 3, 4, 5, and 5, 12, 13, triangles. Use of appropriate tables.
- 7 The circle. Symmetric properties of chords in a circle. Angle properties of circles ; angle at centre and circumference, angles in the same segment, angle of a semi-circle ; cyclic quadrilateral. Tangents : tangent perpendicular to a radius, equal tangents from a point.
- 8 Mensuration. Perimeters of simple figures : triangle, rectangle, circle.

Area of triangle, rectangle, parallelogram, trapezium and circle. Volume of right prisms including cylinder (area of cross section \times length). Volume of right pyramids including cone. Sphere. Surface area of rectangular, triangular, and circular prism.

- 9 Similar figures: (a) corresponding dimensions in proportion; (b) area proportional to squares of corresponding dimensions; (c) volume proportional to cubes of corresponding dimensions.
- 10 Measurement of angles by ratio. Sine, Cosine, tangent. Simple application to right-angled triangles in two dimensions. Derivation of one ratio from another.

Generalisations

- 1 Literal representation of numerical processes.
- 2 Linear functions, e.g. $y = ax + b$, plotting at integral values and interpretation. Simple non-linear functions from given data.
- 3 Inequalities: sections of a graphical diagram in which the represented function bears values greater or less than specified values; equalities appearing as marginal cases between inequalities. Solutions of simultaneous linear equations and inequalities.
- 4 Expansions of expressions including $(a+b)^2$, $(a-b)^2$, and $(a-b)(a+b)$ and diagrammatic representation.
- 5 Common factors; grouping in pairs; and factors of quadratic expressions with unitary coefficient of x^2 .
- 6 Equations. Linear and quadratic (by factors only). Simultaneous linear equations; simplification of expressions including fractions with simple binomial denominators; evaluation, substitution and transformation of formulae.
- 7 Laws of indices. Questions involving fractional and negative indices limited to one operation.
- 8 Variation, direct and inverse with one independent variable.

Part II. Topics

A. GENERAL MATHEMATICS

More advanced application of the mathematics of the Basic Syllabus will be expected together with the following:

- 1 *Shape*
Simple deductive problems on existing geometry in common core syllabus.
- 2 *Generalisations*
General solution of quadratics for real values only (completing the square, or formula given).
Solution of acute- and obtuse-angled triangles, including area.
Plotting and interpretation of graphs of quadratics $(ax^2 + bx + c)$ including the determination of maximum or minimum values.
Extension of work on logarithms. Meaning of fractional and negative indices.

Simple calculations involving right-angled triangles in three dimensions.

B. CALCULUS AND CO-ORDINATE GEOMETRY

The aim of this topic is to lead up to some of the basic abstract concepts by a practical study of approximations, principally through the field of graphs. The questions for the most part will be designed to allow for an exact or approximate answer and either method of approach will be acceptable. In the interests of testing the understanding fully, however, certain questions may demand one or other approach and in this instance the wording of the question will clearly state the intention of the examiner.

1 *Further interpretation of graphs*

The meaning of the gradient of a straight line, the rate of change of one variable with the other.

Curved graphs, gradient of chords, leading to gradient of tangents, idea of a tangent as a limit to a chord, gradient as a rate of change of two variables, interpretation of maximum and minimum values from a graph. The area under a curve by a variety of methods such as counting squares, integration and approximate methods, e.g. Simpson's Rule and Trapezoidal rule.

2 *Generalisation to graphs of functions*

Distance between points, gradients, ways of writing the equation of a straight line (excluding the perpendicular form), parallel and perpendicular lines.

3 The meaning of a limit, tending to zero, tending to infinity and tending to Q , differentiation from first principles, leading to the use of the rule for differentiation for positive integral index only.

4 The gradient of a tangent to a curve by differentiation.

5 Application of differentiation and integration to distance, velocity and acceleration.

C. CIVIC AND COMMERCIAL MATHEMATICS

1 *Graphical representation*

Histogram, pictogram, circular, line, curve.

2 *Wage calculations*

Basic rates, piece rates, overtime rates, production bonus, commission, deductions.

3 *Taxes and rates*

Rates, rateable value, rate poundage, taxes. Calculation of simple tax problems.

4 *Method of investment*

Simple and compound interest. Insurance. Endowment. Stocks and shares. Savings. Dividends.

5 *Methods of purchase and rental*

Hire purchase. Cash purchase. Trade and cash discounts. Mortgage repayments.

6 *Economics of foreign travel*

Foreign exchange calculations. Conversion of units. Comparative travel costs. Time-tables (24 hour clock).

7 *Household and personal accounts*

Budgeting, to include such items as heating, lighting (meter reading), food, clothing and transport. House maintenance. Post Office services.

D. MECHANICS

The aim of this topic is to couple the introduction of the concept of vectors with an understanding of the part which mathematics plays in the furtherance of certain scientific facts and their application in everyday life. A major part of the work should be exploration within the pupil's own experience through the field of simple experiments and the practical interpretation of data through graphical work.

Vector quantities, Velocity, Acceleration, Force, Addition and resolution into perpendicular components.

Interpretation of (s.t.) and (v.t.) curves. Relative velocity in the same straight line. Uniformly accelerated motion, e.g. under gravity.

Distinction between Weight and Mass. Measurement of a force in gravitational units.

Conditions of Equilibrium of a particle. Principle of moments. Centre of Gravity by construction or calculation.

Newton's Laws of Motion. Questions on Newton's Second Law will assume constant mass and will be set in gravitational units only.

Work and Power. Use of machines as an effective means of doing work, e.g. levers, inclined plane and single pulley.

E. ELEMENTARY NAVIGATION AND EARTH GEOMETRY

1 Early navigation, lodestone, magnetic compass (16 points).

2 Introduction of appropriate units, e.g. Nautical mile, knot, fathom, cable.

3 Variation and Deviation.

4 Quadrantal and three-figure bearings.

5 Fix by Sun or Pole Star.

6 Position by (a) bearing and distance, (b) cross-bearings.

7 The Earth as a sphere; latitude and longitude.

8 Time variation with longitude (24 hour clock).

9 Radian measure and arc length. Qualitative consideration of Great Circles, Small Circles, Rhumb lines.

10 Distances along parallels of Latitude and Meridians.

11 Scales and Representative Fractions (R.F.). Mercatorian compromise.

12 Map reading. Position by Latitude and Longitude or Grid.

13 Simple air navigation; Parallelogram and Triangles of Velocities, Course, Track, Drift, Air speed, Ground speed.

F. STATISTICS

1 The scope of statistics. Use and misuse of statistics.

2 The collection of data. Questionnaires. Sampling.

- 3 Tabulation of data.
- 4 Pictorial representation and interpretation of data : pictogram, pie-chart, bar-diagram, bar-graph.
- 5 Frequency distribution. Grouping in intervals. Histogram and frequency polygon. Cumulative frequency. Quartiles. Percentiles.
- 6 Averages : mean, median, mode. Weighted averages. Determination of median and mode. Selection of the appropriate average. Moving averages.
- 7 Measurement of dispersion. Range. Semi-inter quartile range. Mean deviation. Standard deviation.
- 8 Simple correlation.
- 9 Simple probability. Normal distribution curve.

G. ELEMENTARY SURVEYING

Although emphasis will be placed on those aspects of surveying which have the most significant mathematical content, questions may be asked which require the candidate to know the practical methods of performing the necessary techniques.

- 1 *Units of measurement*
Normal British units with the addition of Gunther's chain and link. Metres. Angles of elevation and depression, horizontal angles (0° to 180°), bearings (0° to 360°).
- 2 *Formulae additional to the basic syllabus*
Sine and Cosine formulae. Area of triangle by 's' formula and by two sides and the included angle.
- 3 *Triangulation*
Field survey, use of field note book, base line and offsets (limited to quadrilateral). Chain survey—sides and diagonals of a polygon. Base and base angles.
- 4 *Determination of relative heights*
Levelling. Right-angled triangle with measured base, (i) from foot of perpendicular, (ii) remote from perpendicular.
Three-dimensional situations. Similar triangles (shadow stick).
Gradients, intervisibility. Nature and use of contours.
- 5 *Determination of relative position*
Bearing and distance from map co-ordinates or National Grid. Base line and radials. Similar triangles in inaccessible triangulation.

H. MODERN MATHEMATICS

This topic has been designed so that a coverage of the first five sections will form the basis of a course. Additional sections have been added to allow schools to develop in other directions. One question will be set on each section.

- 1 Set notation and language. Simple Algebra of sets. (Membership, Inclusion, Universal and null sets, Sub-sets, Complements, Operations of Union and Intersection, Use of Venn diagrams).

- 2 Operations and Basic Laws of Algebra. (Commutative, Associative, Distributive Laws) Identities and Inverse Elements. Inverse Operations.
- 3 Simple relations in numerical and non-numerical situations, e.g. $=$, $>$, $<$, 'is the brother of', 'is the father of', 'is the sister or brother of', 'is a divisor of'. The reflexive, symmetric and transitive properties of an equivalence relation. Relations to be shown graphically, where possible.
- 4 Further development of Inequalities leading to simple linear programming.
- 5 Symmetry. Reflections, rotations, translations.
- 6 Elementary vector algebra; 1- and 2-dimensions. Addition, subtraction, multiplication by a scalar. Components. Applications to simple geometrical problems.
- 7 Matrices: addition, multiplication, multiplication by a scalar, unit matrix, null matrix, inverse matrix. Non-commutativity of matrix multiplication in general—the examples not to involve 'larger' matrices than two by two. Applications to e.g. Motion geometry, solutions of simultaneous equations, relations.
- 8 Finite Arithmetic. Elementary approach to congruences, simple examples of groups.

Metalwork

The examination will consist of:

- 1 A Practical test of 2½ hours (40% of the marks).
- 2 A Theory paper of 2 hours (30% of the marks).
- 3 The assessment of Course work (30% of the marks).

Grades will be awarded on the total marks gained in the examination; there will be no hurdle in individual sections.

The examination has been designed to allow as much freedom as possible to schools with varying facilities and special interests.

Candidates will be expected to work from drawings, developments, pictorial views, sketches and instructions.

THE EXAMINATION

1 The practical test

The practical test will involve the construction of a piece of work from prepared drawings and instructions. Four tests will be set, one on each of the following aspects of the craft: Benchwork; Forgework; Sheet metalwork; Art metalwork. Candidates are to attempt only one test. Benchwork may include some simple turning. Materials will be provided by the school from instructions to be issued by the Board before the examination.

2 The theory paper

The theory paper will be related as far as possible to the candidate's experience in the school workshop. It will consist of two sections A and B, Section A to be attempted before Section B.

Section A (30 minutes). This section will test knowledge of the basic skills, processes and principles normally taught in the school workshop and common to such aspects of the craft as Forgework, Sheet metalwork, Art metalwork and Benchwork (benchwork may include simple turning). Questions requiring short answers will be set, sampling the whole of basic course.

Section B (1½ hours). In this section, answers employing tabulation and functional sketches with notes will be encouraged rather than the descriptive essay-type answer. Candidates will be given a wide choice and questions will provide opportunity to display more detailed knowledge of chosen aspects of the craft. Questions on elementary milling, shaping, moulding and casting will be included in this section though they will not form part of the formal practical test.

3 Course work

The candidate's course work over a period of not less than one year immediately before the examination will be assessed by the school and moderated by the Board.

THE SYLLABUS

- 1 *Safety.* Safety precautions in the workshop.
- 2 *Measuring, marking out, testing.* Rule, try square, centre square, dividers, calipers, micrometer, surface plate, surface gauge, vee block and clamps, angle plate, simple tests for squareness and straightness.
- 3 *Hand tools.* Chisels, saws, shears, files, scrapers, taps and dies, hammers, mallets, common stakes, the anvil and common forging tools.
- 4 *Machine tools.* Simple turning. Hand and power drilling. Feeding, holding and clamping work. Parallel and top-slide taper turning in chucks and collets. Parallel turning between centres, drilling and knurling.
- 5 *Joints.* Screwed, riveted, hard-soldered, soft-soldered, brazed, lapped and seamed joints.
- 6 *Processes.* Folding, safe edging, wire edging, hot and cold bending, drawing down, upsetting, twisting, fullering, swaging, hardening and tempering, annealing, raising, hollowing, sinking, planishing.
- 7 *Common metals.* Workshop properties. Iron, steel, copper, brass, gilding metal, aluminium.
- 8 *A practical knowledge of the following:* Metal finishes, acid bath, blacksmith's hearth, general lubricants, solders and fluxes; the main parts of a lathe; tool profiles, clearances and rakes; sand moulding.

Modern Languages

Papers will be set in FRENCH, GERMAN and SPANISH.

In each language the examination will consist of an oral examination and a written paper of $1\frac{3}{4}$ hours. The oral test will include dictation, reading, aural comprehension and conversation. Marks will be awarded in the proportion of 6 for the oral test to 5 for the written paper.

Candidates may if they choose submit for assessment work on a project undertaken during the school course. The work need not necessarily be written in the language, but might reflect the candidate's interest in the background of the country being studied. The final grade of performance in the examination as a whole will be based on the aggregate of marks for the oral test and the written paper except that work in the project will be considered for upgrading a candidate's performance.

INTRODUCTION

'Candidates entered for this examination should be able to understand the language spoken by a native speaker talking on a subject within the pupil's experience; to read with reasonable fluency and good understanding a straightforward prose passage in the foreign language; to express himself with reasonable accuracy in speech and writing in the foreign language on subjects within his linguistic experience; have acquired some knowledge of the general background of the people who speak the language as their mother tongue' (Bulletin No. 1, page 62). The vocabulary will be that required to deal with everyday situations and experiences in the country concerned. In French the basis will be the Premier Degré of 'Le Français Fondamental' (distributed by Harrop). Notes of guidance on the vocabulary required in German and Spanish are given in the appendix to the syllabus.

In French the past historic tense will be used in the written paper only and candidates will be expected to do no more than recognise it.

ORAL EXAMINATION

(120 marks)

The oral examination will consist of tests of dictation, aural comprehension, reading and conversation. All the tests will be conducted by the candidate's own teacher in accordance with instructions issued by the Board.

Dictation (20 marks; 30 minutes)

The passage for dictation will consist of not more than 100 words in a simple style within the candidate's linguistic experience. There will be no grammatical traps and in French the past historic tense will not be used. Marking will be positive (i.e. credit will be given for work which is correct).

The test is to be administered as follows :

(a) The passage for dictation will be read in its entirety at normal speed ; each phrase will then be dictated twice ; three minutes will be allowed for revision ; the passage will then be read again in its entirety at a slightly slower speed with pauses for checking and two minutes for revision.

(b) Any proper names will be simple and will be spelt out in the language.

(c) Punctuation, which will be limited, will be given in the language.

Aural comprehension (40 marks ; about 45 minutes)

Part I (10 marks)

A standardised test presented as a tape recording which will include exercises of the following kind : simple instructions in the language ; true or false statements between which the candidate must distinguish ; pairs of sentences similar or dissimilar in meaning ; a vocabulary test (a word in each set to be selected as being 'odd') ; comprehension of numbers, times, dates, money.

Part II (30 marks)

A narrative passage of about 150 words read by the teacher to the candidates and on which the candidate must answer questions. Question and answer sheets will be provided. Both questions and answers will be in English.

The test is to be administered as follows :

(a) The whole passage, including its title which will be in English, is to be read at normal speed.

(b) The question sheet is then to be given to the candidates and time allowed for reading the questions.

(c) The passage will be read in sections and after the reading of each section candidates will be required to answer the questions set upon that section.

(d) The passage will be read through in its entirety and candidates will be allowed five minutes for revision.

Reading (20 marks)

Part I will consist of a number of sentences, including various letter combinations, to test pronunciation. Part II will consist of a continuous passage of about 100 words, to test phrasing, intonation and expression. No questions will be asked on the reading passage. The marking of both parts of this test will be positive.

Conversation (40 marks)

The test will comprise three parts :

Part I (15 marks). Candidates will be required to ask questions based on situations illustrated by a picture or described in words.

Part II (15 marks). Questions will be asked based on a picture chosen from among a number provided by the Board.

Part III (10 marks). General questions asked by the teacher from a list provided by the Board.

THE WRITTEN PAPER

(100 marks)

- 1 **Comprehension** (30 marks)
One or more passages of not more than 300 words in all will be set. Comprehension will be tested by questions of the objective type in the language.
- 2 **Free composition** (40 marks)
A free composition of 80-100 words. A choice will be allowed from stimuli such as the following : a picture or a series of pictures, a given topic, a dialogue to be continued, an outline in the language, a letter to be answered. The tenses should be appropriate to the alternative chosen.
- 3 **Comprehension or translation** (25 marks)
Comprehension. The second passage for comprehension will be more difficult than those set in Question 1. Questions on the passage will be in English to be answered in English.
Translation. A passage in the language to be translated into English.
- 4 **Background knowledge** (5 marks)
Background knowledge of the country concerned will be examined in English. There will be a wide choice of topics.

APPENDIX

NOTES ON THE SYLLABUS CONTENT FOR GERMAN

Vocabulary

The vocabulary will be that required to deal with everyday situations and experiences in a German-speaking country.

Grammar

The minimum requirements are listed below but evidence of wider knowledge will be welcomed.

Nouns. Singular and plural declension, with and without definite and indefinite articles.

Adjectives. Declension, comparison, possessive, demonstrative, interrogative.

Pronouns. Personal, interrogative and relative.

Cases

- (i) Parts of sentence : subject, complement, direct and indirect objects, possessive genitive.
- (ii) Prepositions :
 - (a) Common prepositions followed by accusative or dative cases.
 - (b) Prepositions with specific cases :
Accusative : durch ohne gegen um für entlang.
Dative : aus zu gegenüber von bei nach mit seit.
Genitive : während (an)statt, wegen.

(iii) Common verbs governing the dative case.

(iv) Expressions of time, e.g. eines Tages, jeden Abend, am Abend, im Winter.

Verbs

Present, Imperfect, Perfect, Pluperfect and future tenses. Imperative mood. Modal verbs (present and imperfect only). Separable and inseparable prefixes. Reflexive verbs. Infinitives with and without 'zu'. NOT subjunctive mood, passive voice or conditional. 'Ich möchte' and 'ich hätte gern' could be taught as set phrases.

Numerals

Cardinal and ordinal, time, dates, quantities, e.g. ein Glas Bier, zwei Pfund Butter, drei Mark.

Punctuation

Special attention should be given to it where it differs from English usage (e.g. commas). Capital and small letters.

Word order

Interrogative, main and dependent clauses, adverbial expressions (time, manner, place).

NOTES ON THE SYLLABUS CONTENT FOR SPANISH

Verbs

Candidates should be able to recognise, understand and use all tenses and moods necessary to sustain simple conversation, but no candidate will be expected to have more than a casual acquaintance with the Imperfect and Pluperfect subjunctives. Knowledge of the Past Anterior will not be required.

Pronouns

'El que', 'el cual' etc, should be taught for purposes of recognition rather than examination.

Conjunctions

The compound conjunctions such as 'para que', 'de modo que', 'con tal que', etc. introducing adverbial clauses with the subjunctive should be avoided.

Punctuation

Should be included as part of the syllabus, particularly as regards speech and the use of capitals and small letters where these are contrary to English usage.

Accentuation

The revised rules of accentuation issued by the Spanish Academy in 1952 should be used.

Music

The examination will consist of FOUR sections.

- A. Practical test (15% of the total marks).
- B. Listening and writing test (35% of the total marks).
- C. Written paper (1¼ hours) (30% of the total marks).
- D. Projects (20% of the total marks).

As a condition of entry to the examination, evidence must be submitted of the participation by each candidate in some ensemble work, i.e. vocal or instrumental, varying from duets to choir and orchestra. The Moderator may wish to hear some of this ensemble work. Eight set works will be prescribed each year and questions will be set on all the works. The questions will appear in Sections B3 and C1, but not all the works will necessarily be tested in each of these sections.

Section A. Practical test

The candidate's ability in sight-reading is to be continuously assessed by the teacher throughout the course. In addition, each candidate will take a short test in sight singing conducted by the teacher, being required to sing, hum or whistle from sight a simple four bar melody in simple time, in a major key and excluding accidentals. Movement will be by step or by leap between notes of the tonic chord. The melody will start on the first beat, and will be restricted to semibreves, minims, dotted minims, crotchets and two quavers. The test may be transposed as necessary. It is to be performed once only.

Section B. Listening and writing test

This will have three sections. Written answers are required to questions based on a disc recording of musical excerpts, supplied by the Board. It is expected that this part of the examination will not exceed 1¼ hours.

- 1 *Musical literacy.* An aural test to measure the candidate's knowledge of simple rudiments and ability to listen carefully. Candidates will be given a manuscript sheet marked off in bars, with the time signature given. The questions will be based on tempo, phrasing, simple form, musical terms and expression marks, instrument recognition on the score (viz. entries etc.), continuation of melodic line from a given point, and inserting of a given melodic figure into the correct place and with correct rhythm.
- 2 *General musical experience.* Questions on the disc on such subjects as: Recognition of instruments; Instrumental ensembles, e.g. string quartet, brass band; Types of scales; Musical periods, e.g. classical, romantic; Dance forms and rhythms; Hidden tunes; Recognition of a well-known work; Vocal forms and styles, e.g. recitative, Lieder, blues; Recognition of simple forms.
- 3 Written questions of a general nature on excerpts from the following:

1966

- (i) Overture and Bourrée from Music for the Royal Fireworks—Handel (original version).
- (ii) Kyrie from Mass in B minor—Bach.
- (iii) Theme and Variations, Fourth movement, Clarinet Quintet—Mozart.
- (iv) Overture, 'Egmont'—Beethoven.
- (v) Study in C minor, 'Revolutionary'—Chopin.
Study in E major—Chopin.
- (vi) Third movement, Fourth Symphony—Tchaikovsky.
- (vii) Quartet and Caro Nome, 'Rigoletto'—Verdi.
- (viii) Dance of the Magician, Lullaby and Finale, 'Firebird' Suite—Stravinsky.

1967

- (i) 'Behold, I tell you a mystery'
'The Trumpet shall sound'
'For unto us a Child is born' } 'Messiah'—Handel.
- (ii) Air and Gavotte from Third Orchestral Suite in D—Bach.
- (iii) Overture, 'Marriage of Figaro'—Mozart.
- (iv) First movement, 'Spring' Sonata—Beethoven.
- (v) Erl King and Ungeduld (Impatience)—Schubert.
- (vi) Second movement, Violin Concerto in E minor—Mendelssohn.
- (vii) Fourth movement, Concerto for Orchestra—Bartok.
- (viii) Sea Interludes: 'Dawn' and 'Sunday Morning' from 'Peter Grimes'
—Britten.

Section C. Written paper

This will consist of three sections. Time allowed $1\frac{1}{4}$ hours with 10 minutes reading time. Candidates are advised to spend approximately 25 minutes on each section.

- 1 Questions on the set works.
- 2 Questions on one set work for more detailed study. Candidates will be required to bring a copy of the work into the examination with bars numbered but free from annotations of any kind.
1966. 'Eine Kleine Nachtmusik'—Mozart (suggested edition: Boosey & Hawkes).
1967. 'Songs of Travel' (Part I)—Vaughan Williams. (Boosey & Hawkes).
- 3 General musical history. There will be a wide choice of questions, requiring short answers, designed to test the candidate's knowledge of the development of music.

Section D. Projects

Candidates are to offer some original project of their own choice. The following list is provided as a guide.

- 1 Performance as solo vocalist or instrumentalist, having prepared three contrasting pieces of own choice.

- 2 Extended essay with illustrations of all kinds, i.e. programmes, photographs, diagrams, drawings, cuttings etc on such topics as opera, ballet, development of instrumental music (opportunity here for making musical instruments as *part* of the project), folk music, survey of local music, film music, diary of (a) concert-going activities, or (b) TV and radio listening, with collected programmes, notes and comments; scrapbook of record reviews.
- 3 Ensemble work. Performance by an ensemble (instrumental or vocal), rehearsed and directed by the candidate.
- 4 Original composition or arrangement, e.g. descants, arrangements of folk song for voices or instruments.

The work of this section is to be assessed by the candidate's own teacher and moderated by the Board. The Moderator may visit the school for this purpose and may, at his discretion, question the candidates. While it is intended that this section should consist of the candidate's own work, the advice and guidance of the music specialist will be allowed where necessary.

Details of the projects should be submitted to the Board by 1 March preceding the examination.

Needlework

The examination will consist of the following :

- 1 A practical test (50% of the marks).
- 2 A written paper of 1½ hours (30% of the marks).
- 3 The assessment of course work (20% of the marks).

The examination assumes that the aim of a course in needlework is to widen a girl's natural interest in fashion and clothing, to develop her practical skills in the subject, and to provide an outlet for her creative needs.

The examination has been designed to test whether a girl has developed a good standard of taste and workmanship, both in the clothes she makes and the clothes she buys. The course of preparation and the examination are seen not as means to an end, but the beginning of much that can enrich a girl's interests, abilities and personality.

THE SYLLABUS

The syllabus outlines work which a girl should have experienced by the end of her fifth year. It is entirely up to the individual teacher to decide at which stages of her course the girl will carry out the suggestions of the syllabus.

1 *Fabrics*

Natural and man-made fibres: brief outline of manufacture, properties, handling in construction, washing and cleaning, suitability to style and purpose, safety.

Awareness of modern finishes.

Use of bonded fabrics.

2 *Use of Commercial Patterns*

Selection for appropriate figure types.

Intelligent use of information on pattern envelope and instruction sheet. Adaptation to fit.

Layout of pattern on material with special reference to stripes, napped fabrics, one-way designs and plaids.

Transference of pattern markings: carbon, french chalk and thread marking.

3 *Tools and equipment*

Knowledge of tools and equipment and their use, care and maintenance.

4 *Processes*

Seams: french, open, machine felled, overlaid.

Disposal of fullness: darts, pleats, gathers, tucks, smocking.

Cutting and joining of crossway strips and their use as bindings, facing and for decoration.

The use of facings.

Openings: continuous strip, faced slit opening, insertion of zip fastener,

simple dress or skirt placket.

Fastenings: buttonholes—worked, bound and machine made (the last type not compulsory); attaching hooks, eyes, bars and loops, press studs, velcro; sewing on of buttons.

Making and setting in of sleeves, including raglan. Setting on of cuffs.

Neck finishes: facings, bindings and attaching of collars.

Hem finishes.

Treatment of skirt waistline (including the use of petersham).

The use of linings and interlinings.

5 *Embroidery*

Simple hand and machine stitchery used in decoration and construction.

6 *Planning a wardrobe*

Clothes for different occasions, budgeting, wise shopping. Good grooming, including valeting and simple up-to-date methods of repairing clothing.

THE EXAMINATION

Practical test

The content and form of this test is experimental: with experience there may well be a need for adaptations and developments in order that the examination may be of maximum value to candidates. *The aim* of the test is to present the candidate with a realistic problem which will involve her in making decisions, organising and executing a project, and in using her own discrimination and judgement and the practice of the craft itself.

The examination is to be carried out as follows:

- 1 Each candidate will be supplied by the Board in advance of the examination with a recognised printed pattern of an appropriate size.
- 2 The candidate will be required to make a garment using the printed pattern supplied. The cost of materials will vary from year to year but it is not intended that it will exceed 15s. The making of the garment will call for knowledge and skill compatible with the scope of the syllabus.
- 3 Within seven days of receiving the pattern, the candidate must purchase the fabric and all the 'notions' needed for its completion. Receipts for purchases must be retained.
- 4 A maximum number of hours for the execution of the test will be stated by the examiner. The work must be completed within five weeks of receiving the pattern. An invigilator must always be present when candidates are working on the test.
- 5 The Board will provide a chart for each candidate to complete during the test. On this chart the candidate will be required to record the time spent on the test and information about suitable accessories. Receipts for fabric and 'notions' are to be attached to this chart so that credit may be given for wise buying.

- 6 Garments will not be required by the Board after the examination. Garments appropriate to a test of this kind might be: overblouses, shorts, shift dresses, trews, skirts in wool or cotton, baby doll pyjamas.

Written paper

A theory paper is included primarily to cover aspects of the syllabus that cannot fully be dealt with in the practical sections.

Candidates will not be required to give diagrams or sketches but may do so if they wish.

The theory paper which will be of 1½ hours duration will consist of two sections:

Section A

Short objective-type questions all of which will be compulsory.

Section B

Questions involving rather longer answers. There will be a choice of questions in this section.

Course work

The work submitted for this section must be completed before the beginning of the practical examination. The work should consist of *either* (a) a garment *or* (b) a piece of work (possibly accompanied by a folder) relating to one of the following:

- (a) a dress,
- (b) simple two-piece,
- (c) blouse and skirt,
- (d) leisure wear,
- (e) sports wear,
- (f) children's clothing and/or babywear,
- (g) household furnishings,
- (h) embroidery—hand and/or machine,
- (i) lingerie and sleepwear.

(Knitted garments are *not* acceptable in any section).

Course work is to be assessed internally and moderated by the Board. A Moderator may visit the school for this purpose and may at her discretion discuss their work with the candidates. The work in this part of the examination will be done under the guidance and supervision of a teacher; a good technical standard should therefore be apparent. Suitability for the wearer is important where this applies; the garments are to be worn by candidates at the request of the Moderator.

Religious Knowledge

The examination will consist of two parts:

- 1 A written paper of 2½ hours (80% of the total marks).
- 2 The assessment of course work (20% of the total marks).

THE EXAMINATION

The written paper

Section A. Compulsory questions requiring short answers set on Section A of the syllabus (30% of the total marks).

Time allowed: a maximum of 45 minutes.

Section B. Questions requiring an essay-type answer on Section B of the syllabus. A choice of questions will be allowed and guidance will be given on the form of answer expected (50% of the total marks).

Reference to bibles will be allowed in Section B. It is recommended that one of the following editions be used: Revised Standard Version, the New English Bible, Duoi or Knox. Quotations from the Bible in the question paper will be from the Revised Standard Version and the Knox edition.

Time allowed: a maximum of 1¾ hours.

(A break of 15 minutes between the two sections is recommended.)

Course work

Course work is to consist *either* of the continuous assessment of the candidate's own work carried out during the last eighteen months of the course *or* the assessment of a project. The continuous assessment is to be made by the teacher and externally moderated. The Moderator may ask to see samples of work and if he so desires may orally examine candidates. The project is to be submitted for assessment by the Board's examiner.

(For the 1966 examination course work is to be assessed on the last twelve months of the course.)

PROJECT WORK

Additional notes for the guidance of teachers.

- 1 Project work is to be presented for assessment mainly in written form supplemented by relevant illustrative material and will be evaluated for relevance, originality and presentation.
- 2 The teacher's guidance should be confined to the following:
 - (a) advice on choice of topic;
 - (b) advice on available sources of information;
 - (c) making contact with extra-mural organisations and individuals where necessary;
 - (d) suggesting reading lists;
 - (e) attention to grammar and spelling.
- 3 The following are listed as examples of possible projects but candidates

are free to choose any other subject.

The development of Christianity in an area at home or overseas.

History of the Book of Common Prayer.

A study of aspects of Church membership.

How the Bible came to be written.

Archaeology and the Bible.

Pioneers and champions of Christianity (the story of one person).

A record of the candidate's social service in the community.

A diary kept by a Sunday School teacher—to include such items as lesson notes and examples of work done.

THE SYLLABUS

The aim of the syllabus is to present Christian teaching in a vital and relevant manner and to stimulate the application of it to twentieth century life. Though based on the life and teaching of Jesus Christ there is involved an appreciation of the many challenges to be met in living as a Christian within the likely experience of the candidates.

The syllabus will consist of two sections :

Section A. The Risen Lord.

Section B. Christian living.

Section A. The Risen Lord

This section deals with the life and teaching of Jesus Christ and our conviction that He is alive today. The syllabus begins therefore with the Resurrection narrative and sees the other subjects in this section in the light of this belief.

The Resurrection story: Mark 15 v 42-47, 16 v 1-8; John 19 v 38-42, 20 v 1-10.

Appearances of the Risen Lord: John 20 v 11-31, 21; Luke 24 v 13-49.

The Ascension: Luke 24 v 50-53; Acts 1 v 1-11.

Pentecost and the proclamation of the Good News: Acts 2 v 1-42.

Jewish prophecies of the coming of the Messiah: Isaiah 2 v 2-4, 9 v 1-7, 11 v 1-9; Micah 5 v 2-4; Zechariah 9 v 9-10; Isaiah 9 v 14.

Background of the Messianic hopes during the time of Jesus' ministry: Luke 2 v 8-14, 1 v 46-55, 2 v 25-35.

Jewish sects and politics as illustrated by the Pharisee sect and the Zealot Party.

Is Jesus the Messiah? Matt. 11 v 2-6; Mark 8 v 27-33.

Key points in the life of Our Lord

Birth: Luke 2 v 1-20 and 42-52; Matt. 2 v 1-23.

Baptism: Mark 1 v 9-12.

Temptation: Matt. 4 v 1-11.

Opposition: Mark 2 v 1-17 and 23-28, 6 v 1-6.

Caesarea Philippi: Mark 8 v. 27-33.

Transfiguration: Mark 9 v. 2-13.

Entry into Jericho : Mark 10 v 46-52.

Entry into Jerusalem : Mark 11 v 1-11.

Cleansing of the Temple : Mark 11 v 15-19.

The Last Supper : Mark 14 v 12-26.

Passion story : Mark 14 v 1-11 and 27-72, 15.

The growth of the early Church

Ascension to Pentecost.

Choice of Matthias : Acts 1 v 15-26.

Pentecost : Acts 2 v 1-4.

Immediate effects of the coming of the Holy Spirit : Acts 2 v 5-13.

St Peter's first sermon : Acts 2 v 14-36 and 37-40.

Effects of the sermon : Acts 2 v 41.

Life of the first Christian community : Acts 2 v 43-47, 4 v 32-37, 6 v 1-6.

Spread of the Church through persecution : Acts 8 v 1-2 and 4-5.

Conversion of St Paul : Acts 9 v 1-30.

One Church to Jews and Gentiles : Isaiah 56 v 6-8 ; Acts 10, 13 v 46-49.

Brief outline of the first missionary journey of St Paul up to the Council of Jerusalem : Acts 13, 14, 15 v 1-35.

Ecumenical movement

John 17 v 20-23, 10 v 16 ; I Corinthians 1 v 10 and 13 ; Ephesians 4 v 4-6.

Disunity amongst Christians today as being contrary to the mind of Christ.

Brief reference to the World Council of Churches and its work for unity, the Vatican Council and the Secretariat for promoting Christian unity, as examples of the contemporary movement towards reunion.

Section B. Christian living

This theme is understood as living in response to God, in the family, the community and the world, by the power of the Holy Spirit. Part I deals with personal response and commitment to God and the other parts are concerned with the way of life which follows such a response and commitment. The arrangement of the topics and references in no way implies any priority. The biblical references are therefore given only as guides.

Part I. Personal response to God

Commitment, discipleship, worship, prayer, service :

Matthew 6 v 5-15, 7 v 7-11, 25 v 31-46 ; Mark 1 v 16-20 ; Luke 10, 4 v 16, 18 v 1-14, 22 v 39-46 ; John 13 v 13-17, 1 v 28-51, 4 v 24 ; James 2 v 14-26, 5 v 16 ; Philippians 4 v 6-7 ; Acts 9 v 1-8, 2 v 41-47 ; Romans 12 v 1-2 ; Isaiah 6 ; Psalm 37 v 5, 104 ; Joshua 24 v 15 ; Genesis 12 v 1-5 ; Exodus 3 v 4-6.

Honesty, justice, love, mercy, truth :

Deuteronomy 19 v 15-21 ; Matthew 5 v 33-37 ; II Kings 22 v 7 ; Mark 14 v 53-54 and 66-72 ; Amos 5 v 8-24, 8 v 4-7 ; Matthew 20 v 1-16 ; Luke 23 v 39-43, 15 v 11-32 ; Mark 12 v 28-34 ; I John 4 v 7-12 and 18-21 ;

I Corinthians 13; Micah 6 v 6-8; Psalm 103 v 1-8; Isaiah 55 v 1-7; Matthew 18 v 21-35; Luke 23 v 34; Acts 7 v 60; I John 1 v 5-7, 3 v 19-21, 14 v 5-6; I Peter 3 v 10; Ephesians 4 v 20-25.

Part II. The family

Family relationships:

Deuteronomy 6 v 4-9; Exodus 20 v 12; Luke 2 v 51-57; John 19 v 26-27; Romans 14 v 7-8; Ephesians 5 v 21-33, 6 v 1-4.

Loyalty, friendships:

John 15 v 12-14; Mark 12 v 30-31; John 1 v 12-13, 15 v 12-15; Luke 14 v 27-33; Matthew 5 v 23-24; Ruth 1 v 16-17; I Samuel 18 v 1-4; II Samuel 1 v 23-27.

Courtship, marriage, divorce:

Deuteronomy 24 v 1-4; John 2 v 1-10; Mark 10 v 1-12; Matthew 5 v 27-32; John 7 v 53, 8 v 11; Philipians 4 v 6-8.

Part III. The community

Responsibility of employers and of workers:

Matthew 7 v 15-23, 20 v 1-16, 21 v 28-32; Mark 3 v 1-6; Ephesians 6 v 5-9; Colossians 3 v 22, 4 v 1; Matthew 25 v 14-27.

Service to and by the community:

Matthew 5 v 43-46; John 15 v 12-15; Acts 2 v 44-45, 15 v 36-40; Luke 9 v 57-62; Genesis 4 v 1-16; II Samuel 11, 12; Romans 12 v 14-21; I Corinthians 12 v 12-26; Esther 4 v 15-17.

Use of leisure, talents and money:

Matthew 25 v 14-27, 6 v 2-4, 19-21 and 24-33; Mark 6 v 7-13, 12 v 41-44, 6 v 30-32, 10 v 17-22; Luke 15 v 11-24, 3 v 10-14, 12 v 13-21.

Class and race relations:

I Corinthians 12 v 12-26; Galatians 3 v 28; Luke 10 v 29-37; Acts 10 v 9-16; Luke 6 v 28-38, 17 v 11-19; John 4 v 3-9; James 2 v 1-7; Romans 12 v 3-5.

Authority of state and school:

Genesis 2 v 18-24; I Peter 2 v 13-25; Romans 13 v 1-7; Mark 12 v 13-17; Luke 2 v 46.

Crime and punishment:

Matthew 5 v 21-26; Luke 23 v 40-41; Ephesians 5 v 5; I Kings 21 v 1-29; John 8 v 1-11; I Peter 2 v 11-21.

Part IV. The world

Nationalism and internationalism:

(*Note.* The first two references should be studied against the remainder of the references showing intense nationalism against the growing awareness of world wide brotherhood.)

Nehemiah 13 v 23-27; Ezra 10 v 1-17.

The story of Ruth and Jonah; Luke 10 v 25-37, 9 v 51-56; Acts 8 v 26-40; Matthew 5 v 43-48; Acts 10, 15; Matthew 8 v 5-13, 15 v 21-28.

Missionary activity of the Church:

	The work of Christ	The work of the Church
Preaching	Any parable.	Acts 2 v 1-40, 13 v 1-43.
Healing	Any miracle.	Acts 14 v 1-18, 3.
Teaching	Deuteronomy 6 v 4-8; Matthew 5 v 17-20; Isaiah 42 v 1-9, 49 v 1-13; Mark 10 v 35-45; Matthew 25 v 31-46.	Romans 13 v 6-10, 6 v 15-23; I Peter 2.
Feeding	Matthew 6 v 30-44, 10.	James 2 v 14-17; Acts 6 v 1-7; I Corinthians 12 v 12-31.

War and the use of force, pacifism:

Exodus 20 v 13; Genesis 4 v 1-16; Isaiah 2 v 4; Ephesians 6 v 10-20; Matthew 5 v 21-26 and 38-48, 26 v 47-56; James 3 v 13-4 v 12; I Peter 3 v 8-12; I John 2 v 7-11, 4 v 7-21.

Part V. The following topics should be studied in relation to each of Parts II, III and IV

Prejudice and intolerance:

Matthew 5 v 43-48, 7 v 1-5; Mark 12 v 28-34; Acts 7 v 54-60, 9 v 1-3; Colossians 3 v 12-15.

Greed:

Matthew 6 v 19-21, 20 v 1-16; Mark 10 v 17-22; Hebrews 13 v 5-6; I Timothy 6 v 17-19; Ephesians 4 v 28.

Evil and suffering:

Matthew 5 v 6-10; Mark 2 v 15-17, 13 v 7-8; John 16 v 33; James 1 v 2-4.

Ambition and vocation:

Acts 1 v 23-26, 5 v 29; Galatians 1 v 1; Luke 19 v 11-27.

FOR 1966 NO QUESTIONS WILL BE SET ON THE 'GROWTH OF THE EARLY CHURCH' IN SECTION A AND ON PART V IN SECTION B OF THE SYLLABUS.

Rural Studies

The examination will consist of :

- 1 A written paper (60% of the total marks). 1 $\frac{3}{4}$ hours.
- 2 The assessment of practical work (40% of the total marks).

INTRODUCTION

The aims of a course in Rural Studies should be to develop skills in the handling of living plants and of tools ; to give a knowledge and understanding of plant growth and plant culture and an appreciation of the wealth of plant types ; to show how modern horticultural practice has grown from years of accumulated experience and the more recent application of scientific principles, and how the plant resources of the world have been tapped to serve man's various needs ; to introduce pupils to the methods of field trials and controlled experiments and, finally, to foster a love of plants and animal life.

Rural Studies should foster an enquiring mind, pride in a job well done, interest in horticulture, farming and the countryside and a lasting interest in the appreciation and conservation of the beauty of nature as a whole. Rural Studies can also contribute to the work in most subjects of the curriculum, but it can only do this if a broad view is taken of its functions and the teaching is treated imaginatively. It also provides an opportunity for character training and the development of responsibility, particularly in connection with plant and animal life.

The syllabus is based on science in relation to rural practices and environment, and the study of gardening and agriculture in general will provide the main centre of interest.

All work done in the school garden will have an educational value, but apart from being a place for instruction and experiment the school garden will serve as a means for enjoyment and relaxation.

It is important that pupils should follow the seasonal work closely.

THE EXAMINATION

The written paper

A written paper will be set on Section A and B of the syllabus. The paper will be divided into two sections corresponding to the divisions of the syllabus.

Section A will contain compulsory questions on basic principles (25% of the total marks). Section B will offer a choice of questions on *either* (a) Horticulture *or* (b) Agriculture (35% of the total marks).

In both sections the examples listed are intended to be indicative and candidates may include other examples in their answers. Questions will be set in such a way as to give a wide choice from the range of plants,

shrubs, pests etc which are indigenous to each area. Questions may be set on the selection, care and maintenance of tools.

Practical work (40% of the total marks)

A special study which candidates are to make during the last year of the course in plant growth, glass cultivation, forestry or animal husbandry. A detailed record of the work is to be kept by each candidate. Marks will be allocated by the teacher for the practical work and a visiting Moderator will assess the records and question the candidates.

THE SYLLABUS

Section A. Basic principles

(a) *Introduction: the plant and its environment*

Conditions necessary for germination.

Structure of seed—seed dispersal.

Functions and types of roots, stems, leaves, flowers.

Structure of a flower. Pollination.

Fruit and seed formation.

Vegetative reproduction.

Bulbs, corms, tubers, rhizomes, runners.

Photosynthesis and movement of water in plants.

Respiration.

(b) *Beneficial and 'harmful' animals*

Characteristics of living things (plant and animals compared).

Simple life history of earthworms, slugs and snails, aphids, cabbage white butterfly, ichneumon fly, ladybird, centipede, millepede, leather jacket, wireworm, cutworm, bees.

Birds and mammals closely linked with agriculture and horticulture and some knowledge of their habits.

(c) *Soil*

Use is to be made of practical and experimental work wherever this is possible.

The origin and formation of soil.

Kinds of rocks: igneous, sedimentary, metamorphic.

Weathering agents; erosion; water, frost, heat, wind, air; assisted by plants and animals. Parent rock, sub soil, top soil, soil profile.

Types and classification of soils, their characteristics and their corresponding flora; chalky, clayey, loamy, peaty, sandy.

Constituents of soil: gravel, sand, clay, humus, water, air, mineral salts (elements), bacteria.

Compositing.

Effects of humus in the soil.

Water and air in the soil: soil particles, pore space.

The rain cycle: surface tension, capillary layer and capillary action, waterlogged soils, drainage.

Heat and the soil : radiation, absorption, conduction, convection, effect of slope, colour, heat capacity : late and early soils.

Soil acidity and alkalinity ; lime.

Soil fertility and its maintenance.

Fertilisers and manures, methods of cultivation ; crop rotations.

Effects of the earthworm and bacteria in the soil.

Composts ; John Innes seed and potting ingredients.

Section B

either Horticulture

(a) *Vegetables*

Cultivation of common vegetables :

Soil preparation, maintenance of soil fertility, crop rotation. Seed sowing, thinning, spacing, planting succession, intercropping.

Cultivation in detail of one root, one brassica, one legume, one salad crop, one herb.

Life cycle of a biennial vegetable, e.g. carrot, onion, turnip, kale.

Pests ; recognition, effects and controls of such pests as cabbage white butterfly, wireworm, leatherjacket, cutworms, cabbage root fly, onion and carrot flies, flea beetle, slugs, black fly and green fly.

(b) *Diseases*

Club root, potato blight.

(c) *Garden hygiene.*

(d) *Beneficial life*

Earthworms, ladybird, centipede, ichneumon fly, bees.

(e) *Flowers*

Cultivation and propagation of flowers :

Hardy and half hardy annuals, biennials, herbaceous perennials, bulbs, corms, tubers, rhizomes, times of flowering and relative heights of herbaceous perennials.

Spring and summer bedding ; cut flowers.

(f) *Cultivation under glass*

Greenhouses, garden frames, cloches and their uses in growing crops, cultivation of pot plants, bedding plants.

Window boxes, tubs and other methods of growing plants in restricted spaces.

(g) *Pests and diseases*

Recognition, life cycle, effects and control of such pests as greenfly, earwig.

(h) *Study of a specific flowering plant.*

(i) *Identification and control of common weeds*

Perennial and annual : couch, dock, buttercup, shepherd's purse, groundsel, dandelion, daisy, chickweed.

(j) *Fruits*

Cultivation :

Soil preparation, planting, basic pruning, general management, propagation, certified stocks of blackcurrant, redcurrant, gooseberry, strawberry, raspberry or loganberry, apples, pears.

(k) *Pests and diseases*

Recognition of life cycle, effects, controls.

(l) *Common shrubs, ornamental trees and roses*

Cultivation:

Soil preparation, planting, staking, pruning, propagation (including budding and grafting).

(m) *Shrubs*

Forsythia, cornus, ribes, weigelia, buddleia, philadelphus, berberis, cotoneaster, azalea, rhododendron.

(n) *Ornamental trees*

Cherry, crab, hawthorn, mountain ash, willow, laburnum, almond, cypress.

(o) *Hedging plants*

Beech, privet, quickthorn, holly.

(p) *Roses*

Hybrid tea, polyantha, climber, rambler.

(q) *Lawns*

Soil preparation, sowing, turfing, seed mixtures, after care.

or **Agriculture**

(a) Types of farming in Great Britain in relation to the physical environment.

Arable; mixed; predominantly dairying; stock raising and grazing; hill sheep farming; rough grazing; forest and land of small agricultural value.

(b) *The land and its uses*

Land distribution. Competition for land and land-use planning. Quality of land, use of the farmland, crop yields.

(c) *Farms crops*

Soil cultivation on farm scale. Use of farm machinery for soil preparation. Manuring: effects of fertilisation and manures. The destruction of weeds and pests: use and application of weed killers, crop sprays, fungicides and insecticides.

(d) *Growing of crops*

Grain crops: wheat, oats, barley, potatoes and root crops, kale, turnips, swedes, mangolds, sugar-beet.

Grass crops. Pasture and meadow. Temporary and permanent lays. Silage.

Common grasses: Italian and perennial ryegrass, cocksfoot, timothy, red and white cloves.

Common weeds of farmland. Charlock, chickweed, thistle, nettle, buttercup, dock.

Harvesting and storage of farm crops, distribution.

(e) *Animal husbandry*

General principles as applied to pigs, sheep, cows and poultry.

(f) *Machinery*

Farm tractors; ploughs; cultivation machinery; drills, distributors, sprayers; hay and silage making machinery; balers; corn harvesting machinery; root harvesting machinery; safety precautions.

The farmer's task in relation to a type of farm chosen by the candidate.

PRACTICAL WORK

Candidates are free to choose a special study in connection with plant growth, glass cultivation, forestry or animal husbandry.

The following is an example of how a project might be treated:

Poultry

- 1 The hatching and rearing of chicks to laying stage.
- 2 Comparison of battery, free range or deep litter.

Further suggested outlines for special study

(a) *Horticulture*

- 1 Complete cultivation of a specific flowering plant.
- 2 Planning, sowing and management of a hardy annual flower border.
- 3 Complete cultivation of a vegetable crop or a fruit.
- 4 Study of a plant pest or disease.
- 5 Soil fertility—controlled experiments—NPK fertilisers.
- 6 Propagation of trees and shrubs.

(b) *Cultivation under glass*

- 1 Complete cultivation of specific flowering or foliage plants.
- 2 Seasonal use of cold frame or cold greenhouse.
- 3 Experiments in propagation: unusual methods; rooting mediums; use of hormone rooting compounds; mist propagation.
- 4 Hydroponics: water cultures.
- 5 Soil sterilisation.
- 6 Soil compost mixtures.

Other special studies might include the following:

(c) *Agriculture.*

(d) *Livestock.*

(e) *Forestry.*

(f) *Bee-keeping.*

(g) *Rural crafts.*

(h) *Weather study.*

(i) *Wild life studies.*

A list of the topics chosen for special study should be submitted to the Board by 1 October preceding the examination.

Science Subjects

Examinations will be offered in the following subjects: BIOLOGY, CHEMISTRY, GENERAL SCIENCE, HUMAN AND SOCIAL BIOLOGY, PHYSICS.

Candidates may offer one or more of these subjects without restriction *except* that Biology may not be offered at the same sitting as Human and Social Biology.

Every candidate taking one or more of the science subjects will be required to attempt a paper in Basic Science which will carry 25% of the total marks allocated to each science subject.

BASIC SCIENCE

The syllabus represents a broad core of scientific knowledge which every boy and girl who has followed a course in science should possess. Questions will be set covering the whole range of the Basic Science syllabus. Questions involving formulae, equations and a knowledge of valency will *not* be set. Questions involving calculations will be set only on the topics underlined.

The examination will consist of objective-type questions, no choice being allowed. It will be designed so that it can be completed by an average pupil in approximately half an hour, but up to one hour will be allowed so that speed of working will not be a significant factor.

Science and the world around us

Topic 1. Air

- The atmosphere. Air pressure and the use of any one type of barometer.
- Composition of air. Balance of oxygen and carbon-dioxide in the air; respiration—releasing energy; photosynthesis—storing energy.
- Properties of oxygen and carbon-dioxide and one method of preparing each.
- Combustion as combination with oxygen. Rusting and its prevention.
- Air pollution: smoke, corrosive gases and their effects.

Topic 2. Water

- The water cycle. Reservoirs and public water supply. Distinction between hard and soft water. The syphon.
- Change of state: ice, water and steam.
- Water as a solvent. Other solvents. Crystallisation, filtration and distillation.
- Chemical composition of water as shown by electrolysis.
- The importance of water to living things.

Topic 3. The nature of matter

- Simple ideas of atoms and molecules as basic units of matter.

(b) Idea of elements, compounds and mixtures (including alloys). Ideas of acids, bases and salts.

(c) Common uses of iron, aluminium, copper, lead, zinc, tin and the alloys brass and solder. The properties which determine these uses.

Topic 4. Soil and living organisms

(a) Formation, types and composition of soil. Maintenance of fertility.

(b) Cellular structure and characteristics of living things.

(c) The flowering plant. Functions of root, stem, leaves, flower and seed. Simple ideas of pollination and fertilisation. Seed dispersal.

Topic 5. The human body

(a) Bones for support and protection. Muscles and movement.

(b) Simple idea of the circulatory system. Functions of the blood.

(c) Nutrition : classes of food, a balanced diet. Teeth. Simple treatment of the digestive system and digestion (no knowledge of specific enzymes will be required). Food hygiene.

(d) Excretion : functions of kidney, lung and skin (no details of structure will be required).

(e) The senses, co-ordination by central nervous system (no details of structure will be required).

(f) Reproduction.

(g) Personal hygiene. Bacteria and disease.

Topic 6. The earth in space

(a) The sun as a star. The solar system.

(b) Satellites (natural and artificial).

Topic 7. Energy and its applications

(a) Sound waves : vibrations as sources, need for transmission medium. Velocity of sound.

(b) Light : propagation, plane reflection and refraction. The spectrum and colour.

(c) Sources of heat. Thermal expansion and its effects. The difference between heat and temperature. Liquid-in-glass thermometers ; clinical thermometer. The thermostat. Transfer and use of heat. Hot water heating systems. Heat insulation. Ventilation.

(d) Properties of magnets (no magnetic field diagrams will be required).

(e) Electricity : conductors and insulators. Simple electric circuits. The domestic circuit (including three pin plug wiring and loading). The power equation as applied to mains voltage. The Kilowatt hour as the unit of consumption of electricity.

(f) Transformation and conservation of energy.

Biology

Biology may not be offered at the same sitting of the examination as Human and Social Biology

All candidates must offer the Basic Science paper which will carry 25% of the total marks.

The examination in Biology will consist of the following :

- 1 A written paper of from 2 to 2½ hours (60% of the total marks).
- 2 A practical examination of from 1 to 1½ hours (15% of the total marks).

THE EXAMINATION

The written paper

The written paper will be divided into two sections A and B. Section A will consist of objective type questions, no choice being offered. Thirty minutes will be allowed for this section which will carry one quarter of the marks. Section B which is to be answered in a separate answer book will consist of questions requiring longer answers and will offer a wide choice, but there will be a compulsory question on Part II of the syllabus. 1½ up to 2 hours will be allowed for this section and it will carry three-quarters of the marks.

The practical examination

The practical examination is intended to be completed in 1 hour, but an extension of up to 30 minutes will be allowed.

The examination may include the identification of specimens and the carrying out of simple investigations. Identification may require the use of a hand lens and/or a simple key. Keys will be provided, where necessary, by the Board. The responsibility for the provision of materials, and the administration of the examination will rest with the school. All the tests will require written answers to be assessed externally.

THE SYLLABUS

The aims of the syllabus are to convey the underlying unity among living organisms which, while exhibiting a wide variety of form and size, perform the same basic processes and fulfil the same purpose, each by differing methods and structures in a manner fitted to its environment; to give a true appreciation of the interdependence shown by all forms of life and to present some aspects of their importance to man.

At all stages the approach should be as practical as possible and living organisms should be available for study throughout the year—either by visits to them in their own environments or by maintaining them in the school.

The development of an attitude of curiosity and enquiry should be encouraged by careful observation, the critical appraisal of evidence and the designing of controlled experiments. It is hoped that a good scientific

attitude will be developed in candidates who will have had the opportunity of making observations and recordings, coming to some conclusions about their observations, and putting their conclusions to the test to verify their validity. Throughout the course attention should be paid to evolutionary trends; students should be encouraged to follow up any points of particular interest, if necessary by private or group study.

Part I

Section A. The variety of life

- 1 (a) A detailed study of *one* ecological community, (b) a general knowledge of others, *studied in situ* throughout the year. These studies include reference to the inter-relationships of organisms, seasonal change, adaptation to environment and other general topics.

Possible communities for study could be a pond, ditch, seashore, moorland, woodland, hedge row, rubbish heap, wall, garden plot, disused railway site. The community selected for *detailed study* should *preferably* be one which is within a reasonable distance from the school, so that frequent visits may be paid to it. However, if the community chosen is one which is a considerable distance from the school e.g. a seashore, this would necessitate a visit lasting several days but not exceeding one week. In this case, a more detailed knowledge of the community at the particular period of the visit would then be expected, and the candidate would have to confine the study of seasonal change and other topics to the communities examined locally.

- 2 A general study of a wide range of living organisms and the principles of classification.

It is hoped that the variety of habitats used will provide most of the material in this section, so that the characteristics of the divisions will be arrived at gradually from the seasonal and ecological changes. The use of simple keys will allow the candidates to gain knowledge of the general characteristics of the following divisions:

Protozoa, Coelenterates, Nematodes, Annelids, Molluscs, Arthropods and the five classes of Vertebrates; Bacteria, Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.

Section B. The life processes

Throughout this section examples of organisms for study should be selected wherever possible from those which the candidate has observed in the studies under Section A and continual cross-references should be made as the course proceeds.

An introductory study of the cell as the unit of structure in living organisms. The general structure of plant and animal cells.

This should include microscopical examination of a variety of living cells and reference should be made to specialisation.

- 1 *Respiration*

The distinction between the liberation of energy and the exchange of

gases. The idea that respiration is a chemical process taking place in the protoplasm in order to release energy and the concept that this process involves the oxidation of digested food in the tissue cells. Surfaces and mechanisms used for obtaining oxygen and getting rid of carbon dioxide e.g. skin, trachae, gills and lungs in animals, and stomata, lenticels and piliferous layers in plants. Anaerobic respiration. Energy utilisation by the organism.

2 *Nutrition*

Foods, vitamins, mineral salts. The composition, sources and uses of foods.

Food tests. Deficiency diseases.

Feeding, digestion (enzyme action), absorption and assimilation in man. Defecation.

Food and methods of feeding in a wide variety of animals with reference to those studied in Section A. Dentition in relation to diet.

Nutrition in plants. Soil and air as sources of raw materials.

A simple study of diffusion and osmosis, water uptake, transpiration, photosynthesis and translocation. Water culture experiments.

Food storage in plants and a knowledge of storage organs.

A comparison of plant and animal nutrition.

The interdependence of plants and animals. The carbon and nitrogen cycles. Special methods of nutrition ; parasitism, saprophytism.

3 *Excretion*

The disposal of the waste products of metabolism either by storing them in an insoluble form or by removing them from the organism.

The use of the lungs, kidneys, and skin for this purpose in man ; transport of excretory products.

The reason for the formation of little excretory material in plants.

Integration of these processes

The vascular system of animals and plants as transport media.

A study of the composition and functions of the blood, the structure of the heart and blood vessels, and circulation in man.

The function of xylem and phloem tissues in plants.

4 *Irritability and movement*

The reaction of the organism to its environment and its ability to respond to stimuli. The response may involve movement of part of the organism. Examples of irritability in organisms studied under Section A.

Nervous systems made up of receptors, which may be neurons or are organs that are specialised to receive stimuli such as light, temperature, touch ; neurons which are specialised cells for transmitting nerve impulses ; and effectors, which in complex animals, are principally glands and muscles. Reflex—the basic functional unit of nervous systems.

The central nervous system and main sense organs in man. The linkage

between nervous and endocrine systems.

Responses to stimuli in plants. Phototropism, geotropism (including reference to plant hormones). Nastic movements in flowers and leaves.

5 *Locomotion*

The change from one place to a different place of the entire organism which is carried out by movements of locomotive organs. Micro-organisms: locomotion brought about by pseudopodia, cilia, flagella. Multi-cellular animals: locomotion effected by contraction of muscle tissue which in the case of arthropods and vertebrates involves the muscles and skeleton functioning together.

Examples of exo- and endo-skeletons and their functions in animals selected from the studies in Section A.

The principal bones and joints in man and the interaction of the bones and muscles in a simple hinge joint in the arm or leg.

Locomotion in plants.

6 *Reproduction*

The necessity for reproduction. Asexual and sexual reproduction in animals with reference to those studied already. Reproduction in man. Asexual (including vegetative) and sexual reproduction in plants. Reproduction in Angiosperms to include pollination (wind and insect), fertilisation, formation of seeds and fruits, dispersal.

The significance of the differences between asexual and sexual methods of reproduction. A simple idea of nuclear division to show reduction in the chromosome number. Mendelian inheritance of one pair of allelomorphs, including some reference to sex-linked characters and D.N.A. Some reference to the lines of evidence supporting the theory of evolution and possible mechanisms by which it may have occurred.

7 *Growth and development*

The endocrine system responsible for growth and development in animals (no details required). Reference should be made to animals studied under Section A and where possible to those which undergo a metamorphosis.

The change in body proportions of the infant and adult in man.

Cross reference within this section to deficiency diseases and other factors which affect growth and growth rates.

The structure of a seed and the functions of its parts.

The conditions necessary for germination and changes occurring during the process.

Quantitative measurements of growth rate, e.g. root tip.

The appearance of trees in winter. The growth and development of buds and twigs.

Some reference to secondary thickening in roots and stems.

It is expected that, under Section A, candidates will have paid attention

in each main division to one representative at least, with regard to its habitat, morphology and life history, in order to build up an idea of the general characteristics of the division. It follows that if, during the studies under Section B, some of these representatives are the selected examples for comparative study, the candidate will have developed a composite picture of a number of individual organisms, thus, candidates who have completed Part I of the syllabus, should be in a position to answer a conventional-type question demanding the presentation of the knowledge of an organism as a complete entity.

Part II

This section is intended to promote an understanding of the importance of living organisms to man and the significance of some of the effects which man has upon them.

It will be expected that the candidate will have a good knowledge of *one* only of the following topics and that the examples chosen for study will not be confined to the British Isles.

1 *Man and bacteria*

The discovery of bacteria. The size and shapes of bacteria, their structure, nutrition, reproduction and life cycle.

The economic importance of bacteria shown by a study of those which are harmful to man and those which are beneficial.

(a) Harmful bacteria known to cause disease. Methods by which they enter the body; their effects and virulence. The development of modern knowledge concerning the body's resistance to disease, antibodies and acquired immunity. The use of antibiotics, drugs, disinfectants and antiseptics. Methods of preventing bacterial decay in foods.

(b) Beneficial bacteria to include those which aid completion of digestion, those which are used by certain industries in the processing of various substances and others which promote the circulation of nitrogen.

Laboratory experiments with cultures of bacteria.

2 *Man and fungi*

The importance of fungi related to those which cause damage and to others which are of use to man.

(a) Harmful fungi studied with reference to diseases in plants and animals and to the damage caused to trees and the wood of buildings.

(b) Useful fungi to include those used as food, those used for brewing, baking, medicinal or horticultural purposes and those which assist the decay of organic matter.

3 *Man and insects*

The economic importance of insects, particularly those which are harmful.

(a) Harmful insects to include all the domestic pests, those which are pests on man's plants and animals and those which transmit disease.

(b) Beneficial insects such as the pollinators, insects which provide food, those which are parasitic on other insect pests, and those useful in scientific research.

4 *Man and the balance of nature*

A brief study of the ways by which primitive man lived in balance with nature. The effects on this balance of the activities of modern man.

(a) The imbalance which has been caused by allowing (i) large scale tree-felling and poor agricultural practices in the past to add to the natural problem of soil erosion and (ii) wild life to be threatened with extinction due to several reasons, among them the pollution of waterways, the side-effects of insecticides and the increasing effects of urbanisation.

(b) The efforts now being made to restore the natural balance of nature by such schemes as re-forestation, the formation of bird sanctuaries, game reserves and national parks, and the fostering of a greater respect for wild life. The work of scientists in encouraging the reclamation of land, the adoption of new methods of conserving water supplies and of new types of farming which could restore and maintain the balance.

5 *Plants and animals of economic importance in providing materials*

A study of the plants and animals which provide man with his food and of the large variety of materials which can be obtained from them for different purposes.

(a) Plants and animals as sources of food with particular reference to those which have been specially bred to increase the quantity and quality of the food they produce.

(b) Plants and animals which provide material for the clothing, building and other industries, for medicine and for scientific research with special reference to the methods used to prepare these materials for their intended purpose.

Chemistry

All candidates must offer the Basic Science paper which will carry 25% of the total marks. The examination in Chemistry will consist of the following:

- 1 A written paper of up to $2\frac{3}{4}$ hours (65% of the total marks).
- 2 *Either* an external practical examination *or* the internal assessment of practical skill (10% of the total marks).

INTRODUCTION

It must be stressed that this is an examination syllabus, outlining those points on which questions may be set, but not precluding a wider or more radical study of contemporary chemical materials and practice. It is indeed with this in mind, that a compulsory section on the modern applications of chemistry in industry has been included.

The examiners will assume that the subject matter has been presented largely on a practical basis, with particular reference to applications in everyday life. Candidates will be expected to show in their answers that they are familiar with the techniques and materials listed in the syllabus. The chemistry of the compounds mentioned will be assumed to include a knowledge of formulae, useful properties and common names, where applicable.

Laboratory preparations only are required, except in those cases where industrial processes are specified. Other than in the compulsory section, detail of industrial plant will NOT be required. Quantitative work will only be required where indicated in the syllabus.

The examination will set out to assess, not only a candidate's factual knowledge, but also his ability to observe, record and draw conclusions from results obtained by simple chemical experiment.

THE EXAMINATION

The written paper

The written paper will consist of two sections A and B. In *Section A* for which up to 1 hour will be allowed questions of the objective type will be set covering the whole of Part I of the syllabus. There will be no choice of questions. A short break will be allowed between sections. In *Section B* there will be a choice of questions requiring rather longer answers which will be set on Part I of the syllabus. Section A will carry 30% of the total marks and Section B 35%.

Practical work

Candidates have the choice of having their practical ability assessed *either* by a practical examination set and marked by the Board but conducted in the schools *or* by internal assessment by the teacher of their practical skill during the course. The examination and the assessment

will be based on Part II of the syllabus.

THE SYLLABUS

Part I

1 *Structure of matter*

Atoms

Outline only of atomic structure, i.e. protons, neutrons and electrons only (not detailed electron structure).

Molecules

Simple compound formation. Conservation of matter, as illustrated by course work experiments. Symbols of the commoner elements. Simple formulae and equations. Simple calculations on reacting weights from equations.

2 *Laboratory techniques*

Safety, solution, filtration, evaporation, distillation, crystallisation, sublimation, drying.

3 *Air*

Composition ; simple experiments to show (a) that air is a mixture, (b) to show the proportion of oxygen by volume in this mixture. Mention of rare gases and their uses. Burning and breathing. Atmospheric pollution. Atmospheric corrosion, and mechanical methods of its prevention. Preparation of oxygen by laboratory and industrial methods. Burning of carbon, magnesium, phosphorus, sodium, sulphur, sugar and wood. Acidic and basic oxides. Presence of air in water.

4 *Water*

Synthesis ; analysis by electrolysis ; household water supply ; hard and soft water ; methods of softening ; solvent action ; solubility (qualitatively) ; salt hydrates.

5 *Elements*

Comparison of physical properties of metals and non-metals. Symbols and valencies of :

(a) *Metals*: Aluminium, barium, calcium, copper, iron, lead, magnesium, potassium, silver, sodium, zinc.

(b) *Non-metals*: Carbon, chlorine, hydrogen, nitrogen, oxygen, phosphorus, sulphur.

(c) *Radicals*: As required for Section 8.

A. Metals

Aluminium :

Its properties of conduction, density, reflection, resistance to corrosion. Uses of the metal and its common alloys.

Calcium :

The occurrence of the carbonate, bicarbonate and sulphate. The formation, properties and uses of quicklime, slaked lime and plaster of paris.

Copper:

Occurrence, electrolytic purification (only the outline of the process required). Important uses of the metal and its alloys.

Iron:

Occurrence, haematite, magnetite, pyrites (formulae and chemical names are required). Simple explanation of blast furnace, including equations. Production of steel; the purification of cast iron by the oxidation of impurities. Knowledge of *one* of the following: Bessemer, open hearth and electric furnace processes (equations are NOT required). Uses and properties of steels; variation with carbon content. Elementary knowledge of annealed, tempered and case-hardened steel; stainless steel. Rusting, and the removal of rust stains.

Potassium:

Similarity to sodium compounds below; also, potassium chlorate and potassium permanganate.

Sodium:

Occurrence, its uses and reactive nature. Sodium chloride; occurrence, extraction, purification and important uses. The uses and simple chemistry of sodium nitrate, sodium carbonate, sodium bicarbonate and sodium hydroxide.

Zinc:

Occurrence as zinc blende and calamine. The extraction of the metal and its use (a) in galvanising iron, (b) in alloys.

B. Non-metals

Carbon:

Properties and uses of different forms. Laboratory preparation of carbon dioxide, its properties and uses. Carbon monoxide, preparation from carbon dioxide, its reducing properties and poisonous nature.

Chlorine:

A preparation by oxidation from hydrochloric acid; physical properties, uses, reaction with hydrogen, sodium, and cold dilute caustic soda solution. Laboratory preparation of hydrochloric acid from salt. Reaction of chlorides in solution with silver nitrate.

Hydrogen:

Properties and uses; its presence in acids.

Nitrogen:

Inert nature. Laboratory preparation of an aqueous solution of ammonia and its properties; action of an alkali or ammonium salts; action of heat and concentrated sulphuric acid on nitrates.

Oxygen:

As included in the section on Air.

Sulphur:

Occurrence and Frasch process. Sulphur dioxide by (a) burning sulphur and sulphur compounds, (b) action of dilute acid on a sulphite. Action of

sulphur dioxide on water and alkalis; test for presence of sulphur dioxide; sulphuric acid as (a) an acid, (b) a dehydrating agent. Sulphuric acid, its use in industry. Action of dilute acid on sulphides. Test for hydrogen sulphide.

6 *The chemistry of everyday materials*

The appearance, properties, and chemistry of the uses of: Sodium bicarbonate; action of heat and acids, including solid acid. Sodium carbonate; in softening water. Calcium carbonate; for lime and mortar. Calcium sulphate; as gypsum, in hard water and plaster of paris. Metal oxides; in paint. The waterproofing of cloth. The dyeing of cloth. Copper sulphate; Cuprinol, Bordeaux mixture. Fire extinguishers. Aluminium sulphate; in sewage works. Hypochlorites, bleaches and disinfectants. Ammonium chloride; in electrical cells. Ammonia; solution. Common uses of the metals in Section 5, together with lead, magnesium, tin; their following compounds—Epsom salts, milk of magnesia, sodium thiosulphate (hypo) and zinc oxide.

7 *Acids, bases and salts*

Acids:

Action on litmus, action of magnesium and carbonates on dilute acids; taste and corrosive action.

Bases:

Metallic oxides and hydroxides defined by acid and base gives salt and water only; neutralisation. Common alkalis, action on litmus paper; corrosive properties.

Salts:

Preparation of soluble salts; e.g. acid and soluble base, acid and insoluble base, acid and metal, acid and carbonate. Precipitation processes in so far as they are required in the Analysis Section.

8 *Simple analysis and theory*

Tests for: sulphate, nitrate, chloride—in solution; carbonate, sulphite, sulphide—in solids; ammonium—using sodium hydroxide on solid; calcium, copper, potassium, sodium—flame tests; aluminium, copper ferric, ferrous, zinc—precipitation of hydroxides by adding dilute ammonia solution and dilute sodium hydroxide solution to solutions of the metal salts.

9 *Simple organic chemistry*

The simple organic chemistry and physical properties of: petroleum; crude oil as a source, distillation products and the petroleum gases, propane and butane. Sugar: occurrence, fermentation and the separation of alcohol.

Acetic acid. Simple ester formation.

Uses and properties of common synthetic plastics and fibres including bakelite, polyethylene, poly vinyl chloride, perspex, polystyrene, resin glues, nylon, Terylene, urethane foams. (Formulae are NOT required.)

Laboratory experiments to include the preparation of the plastics casein—formaldehyde and urea—formaldehyde plas and of cuprammonium rayon.

Detergents—soap, simple laboratory preparation: action on grease, oil and water. Synthetic detergents: outline of action and comparisons with soap and among different commercial detergents.

10 *Industrial processes* (compulsory)

One only of the following topics is to be studied in depth.

Topic A—Agriculture: fertilisers, nitrogen cycle, pesticides, lime.

Topic B—Motor cars: steel, petroleum and lubricating oils, rubber vulcanising, chromium, plastics.

Topic C—The home: sugar refining, vinegar, plastics, metals, detergents.

Topic D—Coal: coal gas, tar, dyestuffs, coke, water gas, producer gas, manufactured solid fuels, ammonium sulphate, sulphuric acid.

Topic E—Textiles: raw materials, natural and synthetic fibres, dyeing and finishing, dry cleaning.

Topic F—Building: structural materials, plumbing, insulation, paints and varnishes.

Part II

Practical examination or assessment of practical skill

The practical examination may be set on any of the following groups of experiments. Those choosing to have their practical skill assessed internally will be required to show competence in the same groups.

Details of the method of assessment will be given later.

Groups of experiments

Group A: Inorganic preparations:

Gases: oxygen, from hydrogen peroxide, properties; carbon dioxide, properties.

Salts: acid and soluble base—sodium chloride; acid and insoluble base—copper sulphate; acid and metal—magnesium sulphate; acid and carbonate—lead nitrate.

Group B: Simple analysis, as in Section 8 of the syllabus.

Group C: Action of heat on carbonates, bicarbonates, nitrates, hydroxides, salt hydrates, ammonium salts.

Group D: Preparations: alcohol by fermentation; simple ester formations; ONE preparation of urea-formaldehyde, OR casein OR cuprammonium rayon.

Group E: Separation of mixtures by: E1, sublimation, E2, use of a solvent, E3, distillation also, E4, purification by recrystallisation.

Group F: Percentage of oxygen in the air; hardness of water, soap and synthetic detergents; conditions for rusting; reduction of metallic oxides; production of quick lime, slaked lime and the action of carbon dioxide in limewater; law of the conservation of matter and the increase of weight on burning.

General Science

All candidates must offer the Basic Science paper which will carry 25% of the total marks. The examination in General Science will consist of the following :

- 1 A written paper of 2 hours (65% of the total marks).
- 2 A practical examination (10% of the total marks).
- 3 Candidates have the option of submitting individual course work in place of part of the written examination for 10% of the total marks.

THE EXAMINATION

The written paper

This paper will consist of two parts, although there will be no set period of time for each part. Two hours will be allowed for the whole of the paper.

Section A will carry 25% of the total marks and will consist of questions requiring short response answers, with no choice of questions.

Section B will consist of three sections each of three questions from which a candidate must attempt four questions in all, at least one from each section. 10% of the total marks will be awarded for each question.

Practical examination

There will be a practical examination which will be school based and school assessed but on a time-table supplied by the Board.

Course work (optional)

A candidate may opt to enter a piece of individual work, written and/or practical, showing evidence of further study of a scientific topic, e.g. first aid, evolution, ecology, photography, radio, space-travel etc.

Where the candidate intends to exercise this option, the school must indicate this *at the time of entry for the subject*. The topic will be assessed internally and the marks forwarded to the Board before the examination, the piece of work being retained in school for external moderation.

The score for the optional topic will count *in place of the lowest* mark obtained by the candidate for a question in Section B of the written examination, unless the optional topic scores a lower mark than any of the four questions, in which case the score for the topic will be disregarded.

The topic will carry 10% of the total marks.

THE SYLLABUS

It is emphasised that the syllabus is an examination syllabus. It is not intended to be a teaching syllabus. It is presented in this form for ease of reference by teachers, especially in the early years of the examination. Questions involving calculations will be set only on those topics which

are underlined in the syllabus.

Knowledge of the Basic Science syllabus is assumed and questions involving this knowledge may be set.

The universe, the meaning of a galaxy, the solar system, the differences between stars and planets, simple treatment of distance and sizes involved. The earth's crust, types of rocks, fossils and their uses, formation of coal and oil, erosion, types of soil, water and air in soil, capillarity humus and humus content. Function of lime and nitrogenous fertilisers. The importance of salts in plant nutrition as shown by the water culture method.

Simple classification of living things.

Germination; conditions necessary for germination: Geotropism, phototropism, hydrotropism, simply illustrated.

Parts of the flowering plant and their function. Simple osmosis, diffusion, transpiration, photosynthesis, pollination and fertilisation. Fruit and seeds—methods of dispersal with examples of each.

Food reserves and storage, tap roots, rhizome, tuber, bulb, corm and seed with examples of each.

The nitrogen cycle.

The carbon cycle.

The cell as the unit of life; respiration, nutrition, reproduction by fission (no details); amoeba, spirogyra as examples of undifferentiated animals and plants. Hydra as an example of specialisation and prototype of a multicellular animal.

Life history—the simple structure, habits and reproduction of earthworm, insect, fish, frog, bird and reptile.

Simple study of man, function of skeleton, principal bones and joints, and their movements, structure and location of principal organs. Simple study of digestive, respiratory, excretory, circulatory and central nervous systems, special sense organs, reproduction.

(NB. It is hoped that the moral and social aspect of human reproduction will also be stressed.)

The skin, structure and functions.

Nutrition; classes of food, tests, balanced diet, teeth. Simple treatment of the digestive process. Food hygiene, personal hygiene. Bacteria and disease.

Elements, physical characteristics of metals and non-metals, mixtures, compounds, physical and chemical changes.

Suspensions and solutions. Filtration and distillation.

The water cycle, evaporation. Crystallisation.

Composition of the air; burning, breathing; rusting and its prevention. Preparation, properties and uses of oxygen. Liquid air as a source of oxygen, nitrogen and the rare gases. Oxidation of metals and non-metals, acidic and basic oxides.

Preparation, properties and uses of hydrogen and carbon dioxide.

General properties and uses of acids and alkalies.

Simple treatment of neutralisation and salt formation.

Chalk, limestone, quicklime, slaked lime, lime water.

Symbols of common elements.

(The use of formulae will be expected in that part of the syllabus beginning 'Elements, physical characteristics etc . . .' and ending 'slaked lime, lime water').

Manufacture of soap. Effects of soap and synthetic detergents on surface tension.

Temporary and permanent hardness of water—its advantages and disadvantages, causes and removal.

Coal; destructive distillation and some common derivatives. Gas flames.

Atmospheric pollution.

Crude oil and its common derivatives.

Measurement of weight and volume.

Density by direct weighting.

Archimedes' principle, flotation and buoyancy. The Plimsoll line. Use of hydrometers.

Air pressure, simple mercury and aneroid barometers. The water manometer. Syphon. Lift, force and bicycle pumps.

Fluid pressure.

Pressure and thrust.

Simple understanding of force, friction, gravity and mass, work (measured in foot pounds only). Centre of gravity, stability.

Levers and the law of moments. Other simple machines—inclined plane, screw, single and double pulleys, simple gear ratios.

Heat and temperature, the transfer of heat.

Principles and applications of thermal expansion of solids, liquids and gases.

Thermometers; simple and clinical.

The Centigrade and Fahrenheit scales. Fixed points.

The change in volume of water on freezing.

The effect of pressure and dissolved substances on boiling and freezing points, with everyday examples.

Heating on compression and cooling on expansion of gases.

Simple treatment of steam and internal combustion engines. Rocket and jet propulsion.

Change of state and latent heat. Application to regulation of body temperature, refrigeration etc.

Atmospheric conditions; humidity, dew, cloud, mist, fog and frost.

Rectilinear propagation of light. The pinhole camera. Shadows and eclipses.

Reflection by a plane mirror. Velocity of light. Refraction by glass and

water.

Properties of spherical mirrors and lenses. The parabolic reflector. Graphical method of determining the position, nature and relative size of an image.

Simple study of the following instruments employing mirrors, lenses and prisms: periscope, driving mirror, shaving mirror, simple camera, magnifying glass.

The human eye as an optical instrument. Short and long sight and correction.

The visible spectrum as part of the electro-magnetic spectrum.

Colours of objects in white light and coloured light.

Production of sound, loudness and pitch. Transmission of sound. The ear. Velocity, echoes and echo sounding. Simple acoustics.

Permanent magnets and their properties. Simple magnetic fields. The earth as a magnet. The magnetic compass.

Magnetic effect of a current flowing as a conductor. Simple electro-magnet.

The electric bell, single loop electric motor, telephone receiver and moving coil speaker.

Electro-magnetic induction and its application to transformers and generators. The transmission of electricity by the National Grid.

The simple cell. Leclanché cell (wet and dry).

Structure, care and use of the lead/acid accumulator (not chemical changes).

Conductors and insulators. The simple electric circuit. Series and parallel circuits. Units: ampere, volt, ohm. Use of ammeters and voltmeters.

Ohm's law.

Heating effect of an electrical current. Electric fire and electric lamps.

Action of a fuse. Domestic electrical circuits.

Power equation. $\text{Watts} = \text{volts} \times \text{amperes}$, and its use to calculate correct fuses for domestic appliances. Consumption and cost of electricity. The Board of Trade Unit.

Chemical effect of an electric current. The electrolysis of water. Simple ionisation and electro-plating.

Human and Social Biology

Human and Social Biology may not be offered at the same sitting of the examination as Biology.

The examination will consist of :

- 1 The Basic Science paper to take from $\frac{1}{2}$ hour to 1 hour (25% of the marks).
- 2 The Theory paper in Human and Social Biology to take from 2 to $2\frac{1}{2}$ hours (75% of the marks).

THE EXAMINATION

The Theory Paper will be divided into two sections A and B. Section A will consist of objective type questions, no choice being offered. Thirty minutes will be allowed for this section which will carry one quarter of the marks. Section B which is to be answered in a separate answer book will consist of questions requiring longer answers and will offer a wide choice. $1\frac{1}{2}$ up to 2 hours will be allowed for this section and it will carry three-quarters of the marks.

THE SYLLABUS

The aims of the syllabus are to give the candidate an understanding of the organisation, functions and working of the various organs of the body ; to give guidance in maintaining the health and well-being of the body and to present a knowledge of some of the ways by which the health of the community is guarded and maintained. Practical work should be incorporated wherever possible.

Section D of the syllabus should be supplemented by visits to establishments connected with the health of the community. Questions in the examination will necessitate reference to such visits.

Section A. Man as a multi-celled organism

Protoplasm ; the living substance of the body.

The cell as a unit from which a multi-celled organism is built.

Plant and animal cells.

Multi-celled organisms formed by increase in cell number ; a simple account of mitosis. The need for division of labour and the consequent development into tissues, organs and systems.

Man as a multi-cellular organism. General structure of the human body to show its basic plan. The cavities of the body and their contents.

The characteristics of living organisms, related to man.

Section B. Physiology and related hygiene of the human body

In the following sections anatomy is necessary only in sufficient detail to allow an understanding of the physiology involved.

- 1 *Movement and locomotion*

Simple study of bone and cartilage with reference to their properties.

An outline knowledge of the human skeleton.

Axial skeleton including the form of the skull. The structure of a vertebra and the modifications shown in different regions of the spinal column according to function; the thoracic framework.

Appendicular skeleton; limb girdles and their appendages. Joints; immovable, movable joints illustrated by ball and socket joint, hinge joint, gliding joint.

Simple account of ossification with relation to the enlargement of the skeleton.

Muscle and its function; voluntary and involuntary muscles.

Functioning together of skeleton and skeletal muscles. Levers of the skeleton including one example of each order.

The importance of good posture and exercise; well-fitting footwear.

2 *Nutrition*

The need for materials to build up protoplasm and supply energy.

Food: composition, sources and uses of the three main classes of foods. Food tests. Mineral salts, vitamins and water in the diet. Calorific values related to balanced diets and to occupational requirements. Deficiency diseases.

The alimentary canal. Feeding, digestion (enzymes and their action to be demonstrated by simple experiments), absorption. Functions of the liver. Assimilation. Defecation.

Hygiene of the teeth and mouth. Dietary needs for healthy teeth; tooth structure and the effects of neglect. Need for roughage in the diet, the dangers of constipation. Symbionts in the alimentary canal. The importance of food hygiene.

3 *Respiration*

The need to liberate energy contained in the food.

Respiration as the liberation of energy and occurring in the protoplasm, and breathing as the method whereby oxygen is obtained and carbon dioxide is removed from the organism.

Structure of the breathing organs in man, including the main details of an alveolus. How the breathing mechanism operates. Experiments connected with breathing; difference in composition between inspired and expired air; controlling the rate of breathing, measuring its increase during and after exercise. The effect of shock on the rate of breathing; methods of artificially induced breathing.

Oxidation and the release of energy. The variety of ways in which the energy is used by the body.

Common diseases and ailments of the respiratory tract. The importance of handkerchief drill in the young and the incidence of swollen tonsils and adenoids. The importance of fresh air, good ventilation. Smokeless zones. The dangers of air pollution and cigarette smoking—bronchitis, cancer. Some mention of related occupational diseases. The importance of early detection of respiratory diseases and including some reference

to mass radiography, B.C.G. vaccination and the precautions taken in many industries.

4 *Transport*

The need for a transport system to carry to the tissues, e.g. muscle, the materials required for life and to remove from them the waste products of metabolism.

The composition and functions of the blood. The structure of the heart (refer to the properties of the cardiac muscle), and of the arteries, veins and capillaries. Circulation. The meaning of heart beat; pulse; blood pressure. A simple account of blood groups and an explanation of the Rhesus factor. Blood transfusion. Effects of diet on the blood; anaemia. Blood temperature and its importance. Lymph and its functions.

The need to prevent loss of blood from cuts or wounds and the dangers of infection. The importance of pressure points in the case of severed arteries. The cause of varicose veins. The clinical thermometer and its use. The need for a balance between rest and exercise.

5 *Excretion*

The necessity for the removal of the waste products of metabolism.

An elementary account of the structure of the skin and urinary system.

The work of the kidneys, skin and lungs. The importance of an adequate supply of water in the diet and of micturition being voluntary.

The supply of pure water to the home and arrangements in the home for sanitation.

Artificial methods of regulating the heat of the body including reference to clothing and to heating systems used in the home, school and factory.

6 *Co-ordination and control*

The need for all activities of the body to be co-ordinated.

Co-ordination brought about by the endocrine and nervous systems.

Position and function of the main endocrine glands and the effect produced by their secretions.

The central nervous system in man and the functions of its various parts. The structure of a neuron.

The eye, the ear, the skin, the tongue and the nasal passages as receptors. Muscles and glands as effectors.

Linkage between receptors and effectors by neurons and hormones.

Reflex arc and reflex response. Unconditioned and conditioned reflexes. Some reference should be made to the control exercised by the autonomic system.

The care of the eye and ear. Common ailments in each case. The use of lenses to correct long sight and short sight. Some reference to the assistance which is available to children who suffer from blindness or deafness. The use and abuse of stimulants and tranquillisers.

7 *Growth and development*

Methods by which growth can occur (refer back to mitosis in Section A).

The change in body proportions from the infant to adult man.

Effects of endocrine secretions—particularly thyroid and pituitary—on growth. Growth in size accompanied by development as physical maturation begins with onset of puberty. The significance of menstruation in the female; the development to maturity and the progression to the menopause as the action of the reproductive organs decreases. The trend towards senility with greatly advancing years.

Reference may be made to anabolism and katabolism and the gradual change in the balance between them. The meaning of positive, balanced and negative metabolism.

8 *Reproduction and genetics*

Meaning of sexual reproduction; simple account of nuclear division to show reduction in number of chromosomes.

Position, structure and functions of the male and female reproductive organs, including the menstrual cycle and ovulation. Fertilisation, and an outline of the subsequent development to include implantation, the functions of the placenta (with some idea of its dual origin) and parturition. The mammary glands and lactation.

Hygiene of the reproductive organs. Dangers of promiscuity, e.g. unwanted children, venereal diseases and their possible effects on the next generation. Importance of suitable diet in pregnancy; ante-natal and post-natal care.

A study of Mendelian inheritance for two pairs of allelomorphs. Sex determination and sex linkage. Mutation; mongolism, sickle cell anaemia. Reference to the distinction between inherited characteristics and environmental influences.

Section C. Man's place in nature

Simple study of evolution to include the evidence in favour of the theory and some of the ways by which it is thought to have occurred. An outline account of the suggested evolution of man with reference to some of the major types, e.g. Australopithecus, Pithecanthropus, Neanderthal Man.

Section D. Man—the social organism

Analogy between the idea of the cell as the basic unit from which tissues, organs and systems of multi-celled organisms are formed, and the idea of man as a member of a number of societies which graduate from the family, local societies, national groups to an international association. The society or group may have enemies. One of man's enemies is disease.

1 *A study of disease*

In this section reference should be made where appropriate to the work of Leeuwenhoek, Pasteur, Jenner, Lister, Koch, Ross and Fleming.

Bacteria, viruses and other pathogenic micro-organisms as causative agents of disease.

Sources of infection—air, water, contaminated food, skin contact. A

named example of each type.

Insects as disease carriers; the life history and habits of the housefly. The spread of disease by the housefly. Methods of controlling houseflies. Reference should be made to other animal vectors such as body parasites and vermin, and to the work of the local authority in controlling these.

General principles and application of disinfection, sterilisation and asepsis.

Resistance of the body; natural and acquired immunity.

Laboratory experiments with cultures of bacteria.

2 *Personal hygiene*

Necessity for good standards of personal hygiene for individual health and as responsibility towards the well-being of the community. Care of the skin, hair, nails; of clothing and personal effects. Importance of a balanced diet; sensible eating habits. Food hygiene in the home. The need for sufficient rest and sleep, relaxation, recreation and the wise use of leisure, exercise and fresh air.

3 *Community health*

Housing and health

Good and bad housing; the effects on the health and outlook of the occupants. Adequate and well-sited lighting in the home, school, office and workshop. Importance of sufficient heating and ventilation. Problem of slum clearance. Benefits of clean air, smokeless zones, gardens and parks.

Water supply

Problems of procuring both suitable and adequate supply. Methods of supply and of purification used by the local authority.

Removal of waste

Sewage: removal and treatment; methods used by the local authority. The problems of polluted coastal seas, rivers and inland waterways. Modern methods being used to overcome these problems.

Garbage: work of the local authority in disposing of refuse and litter. The problems of availability of land for tipping; reclamation of such land later. Modern methods of dealing with refuse.

Hygiene of prepared and manufactured foods

Hygiene of such foods from the point of view of the supplier and the distributor. Food hygiene in shops, markets and restaurants. Methods of food preservation including some reference to food additives. The work of the Public Health Officer with reference to the inspection and enforcement of satisfactory standards of food hygiene. The special problems of milk, foods derived from milk; of fresh meat.

National health and social welfare

The preservation of the health of the entire community.

People and services involved: the general practitioner, the district nurse,

the health visitor, the home help; hospitals, ambulance service, school health service and clinics, ante- and post-natal clinics, infant welfare centres, nurseries, geriatric centres, homes for the physically or mentally handicapped.

The work of the Medical Officer of Health.

The significance of economics in relation to health; the effects of low income on the diet of the family and on home conditions. The hardships which may accrue when unemployment or sickness occurs in the home. Unemployment and sickness benefits; supplementary benefits.

International welfare

Some reference to the problems of world food supplies and the ever increasing populations of some countries. The prevalence of some diseases and the work of the World Health Organisation in fighting two of the following: malaria, smallpox, hookworm, typhoid.

Physics

All candidates must offer the Basic Science paper which will carry 25% of the total marks. The examination in Physics will consist of the following:

- 1 A written paper of 2 hours (45% of the total marks).
- 2 A practical examination of up to a maximum of 2 hours (30% of the total marks).

The written paper will be divided into two sections A and B.

Section A will consist of a large number of compulsory questions requiring short answers.

Section B will consist of questions requiring rather longer answers; a choice will be allowed. Section B will carry one quarter of the total marks for the written paper.

The syllabus is divided into the conventional groups for the convenience of teachers in participating schools but it is not intended that the question papers will follow this or any other form of grouping. Questions may be asked which will cut across the grouping and so will stress the unity of the subject and it is hoped that teachers will emphasise this unity in their teaching.

Questions involving calculations may be set in the written paper on those parts of the syllabus which are underlined. The calculations will be such as to test a knowledge and understanding of the subject; simple numbers only will be used.

The practical examination will be designed to test the ability of the candidate to manipulate simple standard equipment, make observations, record results and draw conclusions. Questions involving the use of ray boxes may be set.

A list of apparatus required for the practical examination will be sent out to schools some months before the examination. The apparatus required for 1966 will be of a simple nature as far as possible.

THE SYLLABUS

- 1 *Mechanics and general properties of matter*

Units: C.G.S. and F.P.S. systems of units.

Density of solids and liquids.

Relative density (specific gravity): volume by pipette, burette and measuring cylinder; displacement can; specific gravity bottle required for liquids only.

Mass and weight; use of a balance.

Pressure: pressure in fluids; effect of depth and density; use of pressure gauge, including manometer and Bourdon gauge; simple mercury barometer; aneroid barometer and its uses; Hare's apparatus or balancing columns; buoyancy and Archimedes' principle; principle of

flotation; Plimsoll line; battery hydrometer.

Air pressure: simple experiments to illustrate and simple applications of air pressure; Boyle's law; simple treatment of surface tension and capillarity.

Force: simple ideas of force, work, power, friction.

Centre of gravity: simple cases.

Levers: simple examples and applications.

Machines: simple pulley systems, inclined plane, screw jack; work ratio for efficiency, mechanical advantage, velocity ratio.

Hooke's law: the spring balance.

Vector and scalar quantities; simple examples of these quantities; parallelogram of forces.

Velocity and acceleration: graphical treatment of velocity, acceleration; acceleration due to gravity and its estimation by a simple method. Energy and its conversion.

2 *Wave motion and sound*

Transverse and longitudinal waves; progressive and stationary waves. Reflection, refraction and interference of waves as illustrated by ripples and stretched strings. Amplitude, wavelength, frequency and velocity; Doppler effect.

Simple treatment of the electromagnetic spectrum.

Production of sound by vibration; need for a transmission medium; detection of sound—the ear.

Velocity of sound in different media; simple method of estimating the velocity of sound in air; echoes, echo sounding. Resonance, frequency, pitch, quality and amplitude. Stretched strings.

3 *Light*

(Simple ray diagrams to scale may be required; the use of formulae involving u , v and f is optional.)

Straight line propagation: shadows and eclipses.

Reflection and image formation by plane mirrors: lateral inversion, parallax error; convex and concave mirrors and their properties and uses; simple method of finding the focal length of a concave mirror.

Refraction: concept of refractive index; total internal reflection; use of right-angle prism for 90° and 180° deviation; convex and concave lenses and their properties; simple method of finding the focal length of a convex lens; real the virtual images; magnification.

Descriptive treatment of the spectrum and its extension beyond the visible region; primary colours; secondary colours (by addition and subtraction); filters; coloured light and pigment mixing.

Instruments: simple treatment of pin-hole camera, single lens camera, the eye, magnifying glass, projection lantern, periscope, simple reflecting and refracting telescopes, microscope.

4 *Heat*

Heat as a form of energy, including an elementary treatment of the kinetic theory.

Expansion of solids: uses and occurrences.

Expansion of liquids: anomalous expansion of water.

Expansion of gases: comparison with solids and liquids.

Temperature: liquid-in-glass thermometers; Centigrade (Celsius), Fahrenheit, absolute (Kelvin) scale of temperature; clinical thermometer; maximum and minimum thermometers.

Transfer of heat: by conduction, convection and radiation; house heating systems; insulation; greenhouse, vacuum flask.

Measurement of heat: British Thermal Unit, therm, calorie; Calorie; calorific values of fuels and foodstuffs.

Elementary calorimetry: comparison of thermal capacities.

Change of state: melting points and boiling points; effect of impurities and pressure; applications; volume changes of water during change of state; latent heat; latent heat of fusion of ice, latent heat of vaporisation of water.

Evaporation: cooling by evaporation—the simple refrigerator. Moisture in the atmosphere: formation of dew, mist, clouds, fog, frost, rain, hail and snow; simple direct-reading hygrometer.

Simple treatment of steam engines, internal combustion engine and the jet engine.

5 *Magnetism and electricity*

Magnets and their properties; magnetic properties of iron and steel; law of poles, including the effect of distance; simple treatment of the molecular theory of magnetism.

Electrostatics: charging by friction; positive and negative charges; attraction and repulsion; conductors and insulators; concept of potential difference; function of a condenser.

Current electricity: conductors and insulators; circuits—series and parallel; domestic circuit, including the rings circuit, wire sizes, fuses and use of earth; uses of ammeter and voltmeter.

Ohm's law.

Heating effect of electric current.

Electrical energy: Joule and unit (kilowatt-hour); power; watts = volts \times amperes.

Magnetic effect of electric current: electromagnets and their uses; electric bell and telephone receiver.

Motor and dynamo effect: moving coil galvanometer; D.C. motor; dynamo; generator.

Electromagnetic induction: induction coil; transformer; high voltage transmission system.

Simple cell; dry cell including layer type; lead-acid accumulator—its

construction, care and maintenance only.

Chemical effect of electric current; electroplating.

Modern physics: simple atomic structure; discharge tube; production and properties of cathode rays, X-rays, the diode valve as a rectifier; cathode ray tube; simple treatment of radioactivity (limited to alpha, beta and gamma radiations).

Technical Drawing

The examination will consist of :

Paper I of 2 hours (with an additional 10 minutes reading time). There will be a choice of questions based on the whole syllabus.

Paper II will be of $2\frac{1}{2}$ hours and 10 minutes preparation time during which freehand sketching will be permitted on paper provided by the Board. The paper will consist of a major projection question and a subsidiary question.

Half imperial paper will be provided ; both sides are to be used and drawing aids will be permitted in both papers.

Each paper will be of equal mark value.

Projection

Candidates will be expected to read and understand the whole or part of a working drawing. This may involve explanation of an assembly or the preparation of a schedule of parts.

1 *Orthographic projection*

Production and understanding of orthographic projection views in first and third angle projection. Questions will be set in first angle projection only but candidates may use either projection provided that the method used is clearly indicated.

Alternative questions will be provided with Engineering bias or Building bias (B.S.S. 308 or B.S.S. 1192 as amended to September 1964.)

A knowledge of assemblies, sections and common fastening methods may be required.

2 *Isometric and oblique projection*

Production of isometric and oblique projection drawings. Isometric scale will not be required. Any circular work involved will be elementary.

3 *Auxiliary views*

Auxiliary elevations from orthographic projection. Views with the angle of projection 30° , 45° or 60° .

True shape.

4 *Sections*

Sections of solids made by vertical, horizontal and inclined cutting planes. True shape of section.

5 *Developments*

Development of simple geometrical solid surfaces, right prisms, pyramids, cylinders and cones. Truncations. Intersection of right rectangular prisms and cylinders.

6 *Freehand drawing*

Freehand drawing of the accepted conventions in good proportion.

Related geometry

Constructions related to :

1 Straight lines and angles.

- 2 Division of lines into equal and proportionate parts. Plain and diagonal scales.
- 3 Triangles, quadrilaterals and polygons.
- 4 Circles in contact with lines and area. Common tangency of equal and unequal circles. Practical methods will be accepted.
- 5 Loci. Linkages of simple mechanisms.
The ellipse, helix and cycloid.
The tangent, normal and foci of ellipse.
- 6 Similar figures with sides increased or decreased in proportion.
- 7 Inscribed and circumscribed circles.
- 8 Simple solids including prisms, pyramids, cylinders and cones in various positions relative to the principal planes and, if inclined, to one plane only.
True lengths and inclinations of edges.

Woodwork

The examination will consist of three sections:

- 1 Course work (30% of the total marks).
 - 2 Individual project (40% of the total marks).
 - 3 Craft knowledge: written paper of 2 hours (30% of the total marks).
- The final grade of performance will be based on the total marks gained; there will be no hurdle in any section of the examination. There will be no formal timed test of practical ability but timed tests could however form part of normal course work. Each candidate should have a *personal folder* containing his own notes, drawings and sketches, and his record of practical work, teachers' marks, and any other relevant information.

1 Course work

This should consist mainly of the candidate's work during his fourth and fifth year, before the commencement of the PROJECT. This work will be assessed by the teacher and moderated by the Board. A Moderator may visit the school for this purpose. Credit should be given for:

- (a) Quality of workmanship.
- (b) Good progress and consistent effort.
- (c) Wide range of processes.
- (d) Originality and individual work.

For this purpose it is assumed that teachers will prefer to use their own methods of keeping records of pupils' work.

The course should call for a knowledge of the basic joints and the use of all the commoner woodworking tools. The basic joints referred to would be expected to include:

Halving—cross, corner and 'T',
Mortise and tenon including haunched and long and short shoulder,
Corner and lap dovetails,
and any of their simple variations.

These joints are named for general guidance only. They should not exclude any of the work undertaken during the normal Woodwork period and should not necessarily be confined to cabinet work. For example work done in co-operation with other school departments, Metalwork, Gardening, Science, Geography etc. could be assessed.

2 Individual project

Preliminary work

The Board will issue for general guidance a list of Projects each of which should entail 15-20 hours of normal workshop time. This list will include one item allowing a free choice comparable in conception with the others on the list. Candidates will be allowed about 14 days to make their choice, carry out design research, prepare necessary sketches and/or drawings, make templates if required and cutting lists. All this

information is to be kept in the personal folder, together with any modifications and amendments considered desirable by the teacher. Suggestions and recommendations of this kind should be made in coloured ink.

Final planning session

About six weeks before the written examination (i.e. March) there will be a 2½ hour session of work under examination conditions. Half imperial drawing paper will be supplied and drawing instruments are to be available. During the first two hours of this session candidates are to make dimensioned working drawings and/or clear sketches. A further half hour is to be allowed for the tracing of the original drawing which is then to be submitted to the examiner. The candidates are to be permitted to take their personal folders into the final planning session but their work during this session and the subsequent practical work must be entirely unaided.

The practical work may be commenced immediately after the planning session, in normal workshop time. The original idea may be amended during the progress of the work, and a second piece of material may be supplied if required. Timber machined to approximate sizes may be used. A marks sheet, which will be received at the same time as the project list, is to be completed by the teacher and his assessment modified where necessary by a visiting moderator. Quality of craftsmanship will be the main consideration when marking this work.

3 Craft knowledge

Craft knowledge will be examined by a written paper of 2 hours. The paper will be in two parts, the first consisting of compulsory questions requiring short answers, the second of questions requiring longer answers from which a choice will be allowed.

Materials

Timbers. Distinguishing between hardwoods and softwoods. Growth of a tree, with cross section. Defects. Seasoning: methods and reasons for their use. Familiarity with common timbers used in the workshop room. Dowels, veneers, manufactured boards, laminated plastics, self-adhesive plastics.

Adhesives. Animal, resin and impact. Preparation and use.

Tools

Knowledge of the common hand tools used in the school workshop: bench, vice, sawing board, cutting board, planes, saws, chisels, boring tools (including hand drill and metal drills), spokeshaves, abrasive tools such as rasps and files, cabinet scraper, sash cramps and G cramps, marking out tools, pincers, hammers, mallets, screwdrivers and nail punches.

Sharpening and setting of saws (theoretical knowledge only). Grinding and sharpening of plane irons and chisels (theoretical knowledge only).

Safety

The normal safety precautions observed in a workshop, with emphasis on safe handling of hand tools and small electrical power tools.

Processes

Planing: face side, face edge, width and thickness. Marking out and testing. Sawing, chiselling, boring and cleaning-up. Setting-out and cutting common joints: housing (stopped and through); mortise and tenon (through, stub and haunched including use with grooves and rebates), wedging and pegging; dovetail (common and lap); halving (cross tee and dovetail); bridle.

Gluing and assembly: use of cramps and checking methods.

Decorative treatment: chamfers and shaping.

Fixing methods: nails (types in common use), screws (types, length and gauge), hinges, door fastenings and buttons.

Glasspaper: grades and uses.

Finishes: a knowledge of the suitable finishes for jobs which lie within the boys' range of work.

Preparation of cutting lists from given data.

Constitution of the Board

Regional Examinations Board

- 1 *For the exercise of the functions hereinafter referred to there shall be established a Regional Examinations Board to be known as the Associated Lancashire Schools Examining Board (hereinafter called 'the Board').*
- 2 *The region of the Board (hereinafter called 'the region') shall initially comprise the county boroughs of Bolton, Manchester, Oldham, Preston, Rochdale and Salford.*

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

- 3 *The functions of the Board shall be:*
 - (a) *to offer external examinations on syllabuses and examination papers prepared by the Board and to publish such syllabuses and specimen examination papers;*
 - (b) *to offer external examinations on syllabuses and examination papers proposed by individual schools, or groups of schools, and approved by the Board;*
 - (c) *to offer external assessment and validation of examinations conducted internally by individual schools or groups of schools;*
 - (d) *to issue certificates to candidates judged successful in the examinations, such certificates to be known as the Certificate of Secondary Education and to be endorsed by an officer of the Ministry of Education appointed for the purpose by the Minister;*
 - (e) *to determine the arrangements necessary for the proper conduct of the examinations for which it is responsible;*
 - (f) *to appoint suitable administrative and other officers for the purpose of the exercise of its functions;*
 - (g) *to appoint such committees as it considers necessary and to delegate thereto power to act on its behalf on matters of management;*
 - (h) *to raise funds by examination fees and such other means as it shall from time to time determine;*
 - (i) *to appoint a bank to facilitate and record its financial business;*
 - (j) *to initiate the formation of local advisory committees.*

Duties of the Board

- 4 *The Board shall:*
 - (a) *ensure that the examinations for which it is responsible are suitable for the candidates who present themselves for such examinations;*
 - (b) *ensure that the standards of such examinations are reasonably comparable to 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 examination 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;

(f) admit candidates to its examinations only in accordance with the policy adopted by the Secondary School Examinations Council as amended by that Council from time to time.

Council

5 *The Board shall be governed by a Council which shall have the functions and duties described in paragraphs 3 and 4. The Council shall consist of the following voting members:*

(a) a Chairman to be appointed by the vote of other members of the Council but not necessarily to be appointed from amongst the representative members;

(b) twenty teachers serving in the schools concerned with the examinations of the Board appointed on the nomination of the teachers' associations as follows:

National Union of Teachers 8

Association of Teachers in Technical Institutions 2

Incorporated Association of Assistant Masters 1

Incorporated Association of Assistant Mistresses 1

Incorporated Association of Headmasters 1

Incorporated Association of Headmistresses 1

National Association of School Masters 3

National Association of Head Teachers 3

(c) six members nominated by the Examinations Committee from the representatives of the subject panels appointed to the Examinations Committee under paragraph 13(b) of the constitution;

(d) two teachers serving in schools concerned with the examinations of the Board nominated by each Local Education Authority in the region;

(e) one representative nominated by each Local Education Authority in the region;

(f) one representative of the School of Education in the region;

(g) two teacher representatives of institutions of further education in the region;

(h) six representatives of industry and commerce in the region;

(i) not more than six members to be co-opted by the Council.

Provided that a majority of the members of the Council shall always be

teachers serving in schools concerned with the examinations of the Board.

Assessors

- 6 *The following assessors shall be entitled to attend meetings of the Council but not to vote:*
- (a) one representative appointed by another Regional Examinations Board at the invitation of the Council;*
 - (b) one of HM Inspectors of Schools to be appointed by the Ministry of Education;*
 - (c) one local education authority inspector or adviser to be appointed by the Council;*
 - (d) one representative of the Youth Employment Service to be appointed by the Council;*
 - (e) two officers of the Ministry of Education and the Secondary School Examinations Council to be appointed by the Minister or the Secondary School Examinations Council from time to time.*

Tenure of office

- 7 *The term of office of honorary officers and members of the Council and its Committees and Subject Panels hereinafter referred to shall be three years, and one third (or as near as may be) of the members shall retire on the 31st day of August in every year except that the tenure of office of the members first appointed may be extended for one or two years. A retiring member may be re-appointed either as representative or as a co-opted member.*

Honorary Treasurer

- 8 *The Council shall elect an Honorary Treasurer.*

Appointment and remuneration of officers and servants

- 9 *(a) 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.*
- (b) 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.*
- (c) The Secretary shall be employed full time on the duties attached to the post.*
- (d) Unless specifically approved by the Secondary School Examinations Council persons, other than teachers, who are employed by local education authorities within the region of the Board shall not be employed by the Board if they are to be wholly or mainly concerned with the administration of the school examinations in the area of the authorities by which they are employed.*

Committees and panels

- 10 *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.

Meetings of Council

- 11 (a) *the Council shall meet at least once in each year.*
(b) *the Committee and Panels, shall, subject to any directions of the Council, meet at such times as they think fit.*

Functions of Examinations Committee

- 12 *The Examinations Committee shall:*
- (a) *make arrangements for the conduct of the examinations;*
 - (b) *appoint moderators, chief examiners, examiners and, if thought desirable, revisers after considering the advice of the Subject Panels;*
 - (c) *approve arrangements for the adoption of syllabuses submitted by the Subject Panels or otherwise;*
 - (d) *ensure maintenance of standards appropriate to the subjects and to the candidates participating in the examinations;*
 - (e) *receive and carefully and fully consider all representations on matters concerned with the examinations from schools and candidates participating and other persons and bodies affected or concerned;*
 - (f) *receive and carefully and fully consider all appeals against decisions of Subject Panels, moderators, chief examiners, assessors and examiners.*

Membership of Examinations Committee

- 13 *The Examinations Committee shall consist of voting members as follows:*
- (a) *a Chairman to be appointed by the Council but not necessarily to be appointed from amongst representative members of the Council;*
 - (b) *eighteen serving teachers including one from each Local Education Authority appointed by the Council of whom at least twelve shall be members of the Subject Panels;*
 - (c) *two Chief Education Officers from the region appointed by the Council;*
 - (d) *one representative of the School of Education in the region;*
 - (e) *two representatives of further education in the region appointed by the Council;*
 - (f) *two representatives of industry and commerce;*
 - (g) *not more than nine members co-opted by the Committee to include representatives of the Subject Associations who are also teachers of the subject.*

Provided that a majority of the members of the Committee shall always be teachers serving in schools concerned with the examinations of the Board; and provided also that at least three members of the Committee shall be selected from those members of the Council who are appointed on the nomination of the teachers' associations.

- 14 *The following assessors shall be entitled to attend meetings of the Committee but not to vote:*
- (a) *one representative appointed by another Regional Examinations*

Board at the invitation of the Council;

(b) one of HM Inspectors of Schools to be appointed by the Minister of Education.

(c) such advisers as the Committee itself shall decide.

Functions of Finance and General Purposes Committee

15 *The Finance and General Purposes Committee shall:*

(a) determine the remuneration and conditions of service of the officers 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) determine the fees to be charged to candidates, schools and groups of schools taking or participating in the examinations of the Board;

(c) advise the Council on all other matters involving the income and expenditure of the Board.

Membership of Finance and General Purposes Committee

16 *The Finance and General Purposes Committee shall consist of voting members, as follows:*

(a) the Chairman and the Honorary Treasurer of the Council;

(b) two representatives of each local education authority in the region including those appointed under paragraph 5(e) of the Constitution;

(c) four other members of the Council, all of whom shall be serving teachers.

17 *A non-voting assessor appointed by the Minister of Education shall be entitled to attend meetings of the Finance and General Purposes Committee.*

Subject Panels

18 *The Examinations Committee shall appoint a Subject Panel for each subject examined except that the Committee may, if they think fit, create panels to advise them on any combination of subjects.*

Functions of Subject Panels

19 *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 supervise the work of the moderators, chief examiners and examiners;

(d) to arrange conferences with teachers of the subject from the schools participating in the examinations;

(e) to receive and fully and carefully to consider all representations concerning the work of the examiners and others on the examinations syllabuses, papers, marking schemes, the marking of scripts and the

preparation of mark lists.

Membership of Subject Panels

20 *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, or an assessor, or a reviser;

(b) not more than fifteen teachers of the subject serving in the participating schools to be appointed by the Examinations Committee from nominations submitted by participating schools, provided that at least one shall come from the area of each local education authority in which a school or groups of schools offers the subject in the examination;

(c) such non-voting members as the Examinations Committee may appoint, in order to provide expert knowledge or experience in the subject or in examination matters;

(d) such non-voting members as the Panel may co-opt.

Examinations

21 *The external examinations of the Board shall be based upon syllabuses approved by the Subject Panels.*

22 *The Subject Panels shall take into account the views of the schools participating in the external examinations on the preparation of syllabuses and examination papers.*

23 *The Board on application shall arrange for an individual school or a group of schools acting in concert to submit and if approved, operate schemes under which examination syllabuses, examination papers, marking schemes, course work assessment and mark lists are prepared and the examinations 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.*

24 *The Board shall ensure that the standards of the examinations conducted under paragraph 23 shall be reasonably comparable with the other examinations for which it is responsible but this duty shall not be interpreted as requiring uniformity of content or method of examining as between the Board's syllabuses and papers and those prepared by individual schools or groups of schools.*

Certificates

25 *The Board shall issue to successful candidates certificates in a form to be approved by the Secondary School Examinations Council.*

26 *The 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 on behalf of the Minister of Education and shall be taken to represent the Board's responsibility for the arrangements for the maintenance of standards and the administration of the examinations.*

- 27 *The Board shall not introduce grades of marks for successful or unsuccessful candidates except with the approval of the Secondary School Examinations Council.*

Right of review by Secondary School Examinations Council and Minister of Education

- 28 *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, HM Inspectors, and representatives of the Secondary School Examinations Council authorised for that purpose.*
- 29 *On appeal from a school, group of schools, a candidate or any other interested body or person, officers of the Ministry of Education or of the Secondary School Examinations Council may inspect or investigate the papers and activities of the Board.*

Amendment of Constitution

- 30 *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, not less than two months notice in writing having been given to each member of the Council.*

Recognition by Minister of Education

- 31 *The Board shall not offer any examinations unless recognised by the Minister of Education, who may attach to such recognition conditions relating to the following matters:*
- the definition of the scope of CSE 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 Board);*
 - 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, withhold or withdraw recognition, and shall in particular afford the Board an opportunity of commenting on any conditions which it is proposed to attach to such recognition before they are made binding.

General power of the Council to make regulations

- 32 *Subject to the terms of this constitution the Council shall have power to make regulations governing the conduct of the business of the Board and proceedings at meetings of the Council and any Committees or Panels thereof.*

ANNEX

Conditions of Recognition

Provisional recognition in respect of examinations to be conducted in the school years 1964-65, 1965-66 and 1966-67 was granted by the Minister of Education in February 1964 subject to the Board's acceptance of the following conditions:

1 Definition of the scope of the CSE system

(i) The scope of the CSE system of examinations shall be determined by the Secondary School Examinations Council who will, from time to time, issue guidance on the range of performance, which the examinations should be designed to test.

(ii) The examinations will be offered on a single subject basis.

2 Definition of the standards of the examinations

The standards of the examinations shall be determined by the Secondary School Examinations Council who will, from time to time, issue appropriate guidance to the examining boards.

3 Presentation of results

(i) The manner in which performances are described, whether for private communication to the candidate or his school, or for public use on a Certificate of Secondary Education, shall be determined by the Secondary School Examinations Council.

(ii) The form of the Certificate of Secondary Education, and of any other documents used for describing and communicating performances in the examinations, shall be determined by the Secondary School Examinations Council.

4 General rules for the admission 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, owing to 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 17 years of age on the 1 September following the summer term in which the examination is taken.

(iv) If local conditions suggest that candidates not falling within the above categories should be entered for the examinations, the Regional Examining Board will draw up regulations governing the admission of

these candidates, and these regulations shall be approved by the Secondary School Examinations Council before they are adopted by the Regional Examining Board.

5 Constitutional arrangements

(i) The constitution of the Regional Examining Board and any amendment to it will be subject to the approval of the Minister of Education acting on the advice of the Secondary School Examinations Council.

(ii) The Regional Examining Board will publish its constitution, with a copy of these conditions of recognition as an annex, in its first annual report or regulations; and any approved amendments shall be similarly published at the first available opportunity.

(iii) The Regional Examining Board will be responsible for the Certificate of Secondary Education examination in its region, as defined in the Minister's letter of recognition, and will not offer or undertake such examinations in the area of another board without the prior approval of the Secondary School Examinations Council.

6 National statistics and information

The Regional Examining Board shall maintain such records as the Minister of Education, acting on the advice of the Secondary School Examinations Council, may require, and will provide the Minister and the Council with such information as they may from time to time request.

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APPENDIX II

Membership of the Board

(31 May 1965)

COUNCIL

Chairman: *Mr J K Elliot Chief Education Officer Manchester*

Vice-Chairman: *Mr R Wells Greenhill Grammar School Oldham*

Teachers serving in schools in the Board's area nominated by teachers' organisations:

<i>Dr F D Bacon</i>	<i>Salford Technical College</i>
<i>Mr E A Bell</i>	<i>Hayward Grammar School Bolton</i>
<i>Mr R Byrne</i>	<i>Newall Green Secondary School Manchester</i>
<i>Miss J M Cawley</i>	<i>Whalley Range Grammar School for Girls Manchester</i>
<i>Mr F W Cooper</i>	<i>Cromwell Secondary School Salford</i>
<i>Mr P Crook</i>	<i>Blessed John Southworth R.C. Secondary School Preston</i>
<i>Mr G L Humphrey</i>	<i>Whitecroft County Secondary School Bolton</i>
<i>Miss M P Humphreys</i>	<i>Clarendon Secondary Modern School Salford</i>
<i>Mr E P Iball</i>	<i>Sharston County Secondary School Manchester</i>
<i>Mr H Jobson</i>	<i>Castle Hill Secondary Boys' School Bolton</i>
<i>Mrs M Krzysztofowicz</i>	<i>Rochdale Grammar School for Girls</i>
<i>Mr E G Noble</i>	<i>Ardwick Technical High School Manchester</i>
<i>Mr J Schofield</i>	<i>Hollins Secondary Modern School Oldham</i>
<i>Mr G E Simcox</i>	<i>John Dalton College of Technology Manchester</i>
<i>Mr J Smith</i>	<i>Blessed John Southworth R.C. Secondary School Preston</i>
<i>Mr J S Stacey</i>	<i>Redbrook Secondary School Rochdale</i>
<i>Mr H Stott</i>	<i>Breeze Hill Secondary School Oldham</i>
<i>Mr P Threlfall</i>	<i>Whitecroft County Secondary School Bolton</i>
<i>Mr V I Tomlinson</i>	<i>Hope Hall Secondary School Salford</i>
<i>Mr R A L Whitaker</i>	<i>Salford Grammar School</i>

Members to be nominated by Examinations Committee

(Six vacancies)

Teachers nominated by local education authorities

<i>Bolton</i>	<i>Mr D W Best</i>	<i>White Bank County Secondary School</i>
	<i>Miss B B Roe</i>	<i>Brightmet County Secondary School</i>
<i>Manchester</i>	<i>Mr D G Jones</i>	<i>Baguley Hall Secondary School</i>
	<i>Mr E McDonnell</i>	<i>Barlow Hall Secondary School</i>
<i>Oldham</i>	<i>Mr R Wells</i>	<i>Greenhill Grammar School</i>
	<i>Mr H Whittaker</i>	<i>Derker Secondary Modern School</i>
<i>Preston</i>	<i>Mr H Sanderson</i>	<i>Ashton on Ribble County Secondary School</i>
	<i>Rev R Wren</i>	<i>Catholic College for Boys</i>

<i>Rochdale</i>	<i>Mr G C Hedges</i>	<i>Rochdale Grammar School for Boys</i>
	<i>Miss M Ripley</i>	<i>Rochdale Grammar School for Girls</i>
<i>Salford</i>	<i>Miss J M Bewick</i>	<i>Cromwell Secondary School</i>
	<i>Mr R Edmondson</i>	<i>St. Lawrence R.C. Secondary School</i>

Representatives of local education authorities

<i>Bolton</i>	<i>Mr W T Selley</i>	<i>Chief Education Officer</i>
<i>Manchester</i>	<i>Councillor N Morris</i>	<i>Chairman of the Secondary Education Sub-committee</i>
<i>Oldham</i>	<i>Mr M Harrison</i>	<i>Director of Education</i>
<i>Preston</i>	<i>Mr W R Tuson</i>	<i>Chief Education Officer</i>
<i>Rochdale</i>	<i>Alderman C Crowder</i>	<i>Chairman of the Finance Committee</i>
<i>Salford</i>	<i>Mr F A J Rivett</i>	<i>Director of Education</i>

Representative of Manchester University School of Education

Professor S Wiseman

Teacher representatives of institutes of further education

<i>Mr M D Gill</i>	<i>Dept. of Science and Food Technology Salford Technical College</i>
<i>Mr F Smith</i>	<i>Openshaw Technical College</i>

Representatives of industry and commerce

<i>Mr K Abbot</i>	<i>Divisional Organiser A.E.U. Bolton</i>
<i>Mr J Collier</i>	<i>Branch Secretary N.A.T.S.O.P.A. Manchester</i>
<i>Mr B Dawkins</i>	<i>Education Manager, A.E.I. Ltd Manchester</i>
<i>Miss M E Oliver</i>	<i>Staff Controller Owen Owen Ltd. Preston</i>
<i>Mr A Spate</i>	<i>Member of E.T.U.</i>

Co-opted members

<i>Mr A H Body</i>	<i>Principal of Didsbury Training College Manchester</i>
<i>Mr J K Elliot</i>	<i>Chief Education Officer Manchester</i>
<i>Mr J E Fordham</i>	<i>Chief Education Officer Rochdale</i>
<i>Miss M Hill</i>	<i>Regional Nursing Officer Manchester Regional Hospital Board</i>

Assessors

<i>Mr R Hummer</i>	<i>Youth Employment Officer Rochdale</i>
<i>Mr P Lord</i>	<i>Assessor for N.W.S.S. Examinations Board</i>
<i>Mr T H Reynolds</i>	<i>Chief Inspector of Schools Manchester</i>
<i>Mr W M White</i>	<i>H.M.I.</i>

Two assessors appointed by the Department of Education and Science and the Schools Council

Honorary Treasurer

<i>Mr H R Page</i>	<i>City Treasurer Manchester Corporation</i>
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EXAMINATIONS COMMITTEE

Chairman: *Mr E P Iball Sharston County Secondary School Manchester*

Vice-Chairman: *Mr V I Tomlinson Hope Hall Secondary School Salford*

Serving teachers appointed by Council

Mr D W Best White Bank County Secondary School Bolton
Miss J M Bewick Cromwell Secondary School Salford
Miss J S Brown Sharston County Secondary School Manchester
Mr R Byrne Newall Green Secondary School Manchester
Mr F W Cooper Cromwell Secondary School Salford
Mr P Crook Blessed John Southworth R.C. Secondary School Preston

Mr G C Hedges Rochdale Grammar School for Boys
Mr G L Humphrey Whitecroft County Secondary School Bolton
Miss M P Humphreys Clarendon Secondary Modern School Salford
Mr D G Jones Baguley Hall Secondary School Manchester
Mrs M Krzysztofowicz Rochdale Grammar School for Girls
Mr E McDonnell Barlow Hall Secondary School Manchester
Mr H Sanderson Ashton on Ribble County Secondary School Preston
Mr J Schofield Hollins Secondary Modern School Oldham
Mr J S Stacey Redbrook Secondary School Rochdale
Mr P Threlfall Whitecroft County Secondary School Bolton
Mr V I Tomlinson Hope Hall Secondary School Salford
Mr R Wells Greenhill Grammar School Oldham

Chief Education Officers appointed by Council

Mr J K Elliot Chief Education Officer Manchester
Mr W T Selley Chief Education Officer Bolton

Representative of Manchester University School of Education

Professor S Wiseman

Representatives of Further Education appointed by the Council

Mr D L Evans Rochdale College
Mr J R Fullard Openshaw Technical College Manchester

Members co-opted by the Committee including representatives of Subject Associations

Mrs M Fergusson Chorlton Park Secondary School Manchester
Mr H Jobson Castle Hill Secondary Boys' School Bolton
Mr C S Ollieuz St. Pius X R.C. Secondary Boys' School Manchester
Mr T H Reynolds Chief Inspector of Schools Manchester

Assessors

Mr T J Rogers North Western Secondary School Examinations Board
Mr W M White H.M.I.

Two assessors appointed by the Department of Education and Science and the Schools Council

FINANCE AND GENERAL PURPOSES COMMITTEE

Chairman: *Alderman C Crowder Chairman of the Rochdale Finance Committee*

Honorary Treasurer: *Mr H R Page City Treasurer Manchester Corporation*

Representatives of local education authorities

<i>Bolton</i>	<i>Councillor Mrs E M Ryley</i>	<i>Chairman of Education Committee</i>
	<i>Mr W T Selley</i>	<i>Chief Education Officer</i>
<i>Manchester</i>	<i>Mr J K Elliot</i>	<i>Chief Education Officer</i>
	<i>Councillor N Morris</i>	<i>Chairman of the Secondary Education Sub-Committee</i>
<i>Oldham</i>	<i>Mr M Harrison</i>	<i>Director of Education</i>
	<i>Alderman J H Scott</i>	<i>Deputy Chairman of Education Committee</i>
<i>Preston</i>	<i>Mr W R Tuson</i>	<i>Chief Education Officer</i>
	<i>Alderman Mrs M A Wignall</i>	<i>Chairman of Education Committee</i>
<i>Rochdale</i>	<i>Alderman C Crowder</i>	<i>Chairman of Finance Committee</i>
	<i>Mr J E Fordham</i>	<i>Chief Education Officer</i>
<i>Salford</i>	<i>Councillor S Davies</i>	<i>Chairman of Education Committee</i>
	<i>Mr F A J Rivett</i>	<i>Director of Education</i>

Serving teacher members of Council

<i>Miss J M Cawley</i>	<i>Whalley Range Grammar School for Girls Manchester</i>
<i>Mr G L Humphrey</i>	<i>Whitecroft County Secondary School Bolton</i>
<i>Mr J Smith</i>	<i>Blessed John Southworth R.C. Secondary School Preston</i>
<i>Mr H Stott</i>	<i>Breeze Hill Secondary School Oldham</i>

Assessor

Appointed by the Department of Education and Science.



