

## Chapter 6

### GENERAL INSTRUCTIONS

#### 0601 Juniors' Bounds

(a) Bounds within the Establishment are to be carefully delineated to ensure that the ship's company and Juniors are segregated as far as possible.

(b) Patrols, which are never to consist of less than two ratings, are to visit the Juniors' quarters frequently during the night.

(c) Public houses and naval tailors' shops are to be placed out of bounds to Juniors. Tattooing is forbidden for Juniors.

#### 0602 Instructors

(a) The drafting of instructors is covered by B.R. 14 *Drafting Instructions*. Class Instructors are allowed by scale 1 × 20 Juniors. Class Instructors should not be made responsible for the domestic supervision of more than one class.

(b) It is essential that a high standard of instructor is maintained. If an instructor is unsuitable, a report is to be made to the appropriate drafting authority, and a relief is to be requested. Instructors for the New Entry Division should be specially selected in view of the importance of the first impressions which will be gained by newly entered Juniors.

(c) The instructors are to be granted the same seasonal leave as Juniors.

(d) If the Commanding Officer considers that an instructor has shown special ability, he is to insert (in the space for recording 'Wounds Received in Action', etc.) on his Service Certificate before being discharged to pension, a notation that the rating is particularly suitable as a pensioner in Training Establishments.

#### 0603 Tailors and Shoemakers

Tailors and shoemakers are to keep books in which all work done by them for Juniors is recorded. Under no circumstances are they to have any cash transactions with the Juniors.

#### 0604 Barbers

Juniors' hair is to be cut free of charge and the barbers are to have no financial transactions with the Juniors. A book is to be kept, recording all work done for the Juniors.

#### 0605 Seasonal Leave

(a) Juniors are to be granted nine weeks seasonal leave each year. This is to be arranged to work in with the term system and it is to consist of three weeks in the Spring, at Mid-summer and at Christmas.

(b) Juniors who, through idleness, are very backward at instruction, those who have otherwise misconducted themselves and those who are very backward at swimming, may be kept back from leave. This should be resorted to very sparingly.

(c) Care is to be taken that Juniors go to their proper homes for seasonal and weekend leave unless they have written permission from their parents to go elsewhere. Juniors who have no home should be sent to a leave hostel.

**0606 Short Leave**

(a) A make-and-mend is to be given on the day set apart for the celebration of the Queen's Birthday. No other general holidays are to be given without the approval of the Commander-in-Chief.

(b) Leave may be granted on make-and-mends and on Sunday afternoons at the discretion of the Commanding Officer.

(c) Weekend leave may be granted once per term. Badge Juniors may be granted additional weekend leave at the discretion of Commanding Officers. No Junior may be granted weekend leave more than three times in one term.

**0607 Organised Games**

(a) Games playing is an important factor in character development, and is a definite part of a Junior's training. Juniors should be coached in all forms of sport and encouraged to play in as many team games as possible.

(b) Expeditions to encourage teamwork, leadership and initiative are also an important aspect of Juniors' character training. Money for this purpose and for the purchase of equipment is to be allocated from the Expedition Fund.

(c) It is an important part of the duties of all officers and instructors that they encourage and take part in these activities.

**0608 Indoor Recreation**

(a) The Juniors' Library is to be administered by the Senior Instructor Officer and financed by grants from the Juniors' Welfare Fund.

(b) The provision of periodicals and newspapers for the Juniors' Information Rooms, recreation rooms or messes, is to be controlled by the Senior Instructor Officer. Money for this purpose, and for the purchase of indoor games, is to be allocated from the Juniors' Fund.

(c) Juniors' hobbies are to be organised by an officer designated Hobbies Officer under the general supervision of the senior instructor officer. The hobbies fund is to be financed by the Juniors' welfare fund and audited at the usual intervals.

**0609 Change of Branch of Juniors (U)**

The Commanding Officer H.M.S. *Ganges* is authorised to approve transfers between branches in accordance with current Ministry of Defence directives.

**0610 Medical**

(a) (i) In the event of isolated cases of minor infectious or contagious disease, no special steps need be taken beyond dealing with the patient and disinfection of his kit and bedding.

(ii) Should two or more cases occur within the incubation period, quarantine measures advised by the Medical Officer are to be taken.

(b) Whenever a Junior is sent to hospital or to sick quarters with a serious illness or injury, his next-of-kin is to be informed by the Medical Officer.

(c) All Juniors are to be examined immediately after they return from leave and are to be cleared free from any infection.

(d) All officers, men and Juniors, who have been exposed to infectious diseases while on leave, should report direct to the Sick Quarters on return from leave.

(e) Attention is drawn to Q.R. and A.I., Art. 4209 and 4264. All Juniors, on being finally entered, should normally be vaccinated and leave the Training Establishment having been vaccinated and in possession of the International Vaccination Certificate.

(f) Juniors suffering from enuresis, and who are found to have a proved history of this complaint before entry, are not to be invalidated, but are to be discharged as unsuitable in accordance with B.R. 1750A Article 0307(h).

(g) Juniors are to be accommodated on a basis of 60 square feet of dormitory space per Junior, with a minimum of 600 cubic feet per occupant.

#### **0611 Dental**

(a) Priority of treatment is to be given to New Entry Juniors, who are to be rendered dentally fit as soon as possible after their final entry; revisional examination and treatment is to be undertaken to ensure dental fitness on leaving the Training Establishment.

(b) The Dental Officer, by means of lectures and instructional films, is to instruct all new entries in dental hygiene and the necessity for dental treatment.

#### **0612 Duke of Edinburgh's Award Scheme**

All Juniors are to be given an acquaintance lecture on the Duke of Edinburgh's Award Scheme during new entry joining routine. Thereafter facilities are to be made available for them to participate in the scheme in accordance with current Defence Council Instructions.

## Chapter 7

### PUNISHMENTS

The regulations in this chapter are reproduced from regulations made by the Defence Council under statutory powers.

#### 0701 Investigation of Offences

Offences are to be investigated with meticulous regard to *Q.R. and A.I.*, Chapter 19, Section II.

#### 0702 Award of Punishment

It is of the first importance that Juniors should feel that justice is being administered with the utmost care and that punishments are awarded only when thoroughly deserved. It should be borne in mind that an admonition (No. 15) often has the most salutary and lasting effect on a Junior who is not an habitual offender.

#### 0703 Table of Punishments

The provisions of *Q.R. and A.I.* Chapters 19 and 20 are applicable, the following modified table of punishments being substituted for that shown in Art. 1944:—

No.	
1	Imprisonment for a period not exceeding three months.
2	Dismissal from Her Majesty's Service.
3	Detention for a period not exceeding three months.
4A	Disrating of Badge Juniors.
9A	Extra work and drill for a period not exceeding 14 days.
10	Stoppage of leave for a period not exceeding 30 days.
11	Mulcts for improper absence.
11A	Stoppage of pocket money for a maximum period of 30 days.
14	Extra work or drill not exceeding two hours a day for a maximum period of 7 days.
15	Admonition.
18A	Caning.

*Note:*—The position of Caning at the foot of the table does not represent its position in relation to the other punishments which is really between Nos. 3 and 4A.

#### 0704 Disrating of Badge Juniors (No. 4A)

This punishment may be awarded by itself or in conjunction with other punishments. It is obligatory when punishments other than Nos. 10, 11, 11A and 15 are awarded. Juniors disrated may be re-advanced at the discretion of the Commanding Officer.

#### 0705 Extra Work and Drill (No. 9A)

The routine for, and the penalties entailed by, this punishment are to follow those laid down in *Q.R. and A.I.*, Art. 1975. One hour should be given to parade drill during the recreational period. Pocket money is to be reduced and privileges (e.g. cinema) are to be stopped for the duration of the punishment.

**0706 Mulcts for Improper Absence (No. 11)**

Every Junior who is found guilty of absence without leave or improperly leaving his ship is to be awarded mulcts of pay (and stoppage of leave) on the scale laid down in *Q.R. and A.I.*, Art. 1978—1983, subject to the powers of reduction and remission authorised in those Articles. Other punishments authorised in Art. 0703 may be awarded in addition to the mulct if the offence is aggravated or repeated or if it is a sequel to one of improperly leaving the ship or place of duty. Mulcts of pay are to be translated into stoppage of pocket money, in part or in toto, at the discretion of the officer awarding the punishment.

**0707 Stoppage of Pocket Money (No. 11A)**

The maximum period is thirty days. Juniors awarded Stoppage of Pocket Money are to be paid the following amounts: Juniors 1st Class 20/-; Juniors 2nd Class 10/-. This is to enable Juniors to make essential purchases. Unless the stoppage represents mulcts of pay for improper absence the pocket money not paid will accrue to the Junior's credit.

**0708 Extra Work or Drill (No. 14)**

The provisions for this punishment are laid down in *Q.R. and A.I.*, Art. 1986. Juniors awarded the punishment are to do extra work and one hour's extra drill daily during the recreation period.

**0709 Caning (No. 18A)**

(a) Caning is restricted to ratings below the age of 18 under training in H.M.S. *Ganges* (and *Fisgard* for Artificer Apprentices under training).

(b) The Commanding Officer has discretion regarding the particular offences for which caning is awarded. It should be restricted to the more serious offences and, in particular, it should be regarded as an appropriate punishment for bullying, including first offences of that nature.

(c) The Executive Officer is not to award caning in the absence of the Commanding Officer, unless he has assumed the latter's powers of punishment as provided in *Q.R. and A.I.*, Art. 0135, and unless the punishment would be delayed for 24 hours or more by the Commanding Officer's absence.

(d) The punishment is to be inflicted with a light or ordinary cane on the breech, No. 8 trousers and pants being worn. The normal minimum number of cuts is six and the maximum of twelve is not to be exceeded. The offender is to stand and bend down to grasp a chair or other firm object: he may be secured only if he refuses the punishment.

**0710 Suspension of Punishments on Sundays**

Punishments Nos. 9A and 14 are not to be carried out on Sundays but that day is to count as part of the sentence.

**0711 Delegation of Authority to Award Punishments**

The Commanding Officer may delegate by written authority the power to award the following punishments:—

(a) To the Executive Officer, whether a Commander or a Lieutenant-Commander:—

No.

9A	14 days
10	24 days
11	For a first offence of leavebreaking up to 36 hours.
11A	30 days.
14	7 days.
15	

(b) To Divisional Officers, whether Lieutenant-Commanders or Lieutenants:—

No.	} 1 day	} for offences connected with the division.
14		
15		

#### 0712 Punishment Records

(a) Punishments awarded by Divisional Officers are to be recorded in special books kept for the purpose. These books are to be examined by the Commanding Officer weekly and are to be produced at inspections and visits by the Commander-in-Chief.

(b) All other punishments are to be recorded on Form S.241 (Report of Offender) using the procedure laid down in *Q.R. and A.I.*, Chapter 20, and in the instructions printed on the pads of Form S.241.

(c) Details of the offences at (b) are also to be recorded on the 'Juniors' Conduct Cards'.

(d) Form T.S.84 (Punishment Return) is to be forwarded, together with Forms S.241 enclosed in Form S.240 (Return of Reports of Offenders) to the Commander-in-Chief at the end of each pay accounting period.

#### 0713 Naval Penalties

The provisions of *Q.R. and A.I.*, Art. 2044 and of Section 129(2) of the *Naval Discipline Act 1957* apply.

## Chapter 8

### DRAFTING AND DISCHARGE

#### 0801 Application by Juniors for Discharge, Free or by Purchase

(a) *Q.R. and A.I.*, Art. 0901. Junior ratings are not eligible for ordinary (non-compassionate) discharge by purchase. They may, however, apply for discharge by purchase on compassionate grounds under the general rules applicable to adult ratings (*Q.R. and A.I.*, Art. 0862 and 0863 as amplified by current instructions). The term 'compassionate grounds' may be interpreted more broadly than for the adult rating, and in particular may be extended to the Junior who is clearly unhappy in the career he has chosen, or which has been chosen for him, and is unlikely to settle down. Applications on Form T.S. 62 accompanied by all relevant correspondence and, where appropriate, welfare and medical reports, should be forwarded to the Commander-in-Chief (the Commandant-General Royal Marines for Junior Royal Marine Ranks), who has authority to approve those which he considers justified. Purchase money at the appropriate rate is properly payable, but where it cannot be raised the Commander-in-Chief has discretion to remit one quarter, one half, three quarters, or in extreme cases, the whole, of the payment. In forwarding applications to the Commanders-in-Chief, appropriate recommendations regarding purchase money should therefore be made.

(b) Pending the decision on an application for discharge, the Junior is not to be:—

- (i) advanced in rating,
- (ii) considered available for draft,
- (iii) kitted up with additional clothing,
- (iv) paid weekly pocket money or given any advance of pay if his balance at the time is insufficient to meet the cost of the journey to his home.

#### 0802 Application for Discharge S.N.L.R. or Unsuitable

If it is considered undesirable, on other than medical grounds, to retain a Junior in the Service, consideration should be given to his discharge, either S.N.L.R. or 'unsuitable'. If it is proposed to discharge him S.N.L.R. application is to be made to the Commander-in-Chief. This application is to indicate where the Junior was recruited and is to include details of his character. Commanding Officers of Training Establishments have authority to discharge Juniors as unsuitable without reference to higher authority (*Q.R. and A.I.*, Art. 0867). Before doing so, they should consider whether the Junior might prove suitable for another branch of the Service.

#### 0803 Withdrawal and Disposal of Kit on Discharge

The kits of Juniors on discharge are to be dealt with in accordance with B.R. 93, *Victualling Manual*, Article 1076 para. 1(a). Juniors may travel home in uniform. They may be allowed to retain one suit, one white front and one collar which are required to be returned by post, an official paid parcel label being provided for this purpose.

**0804 Civilian Clothing Benefits on Discharge**

Juniors on discharge are eligible for Civilian Clothing Benefits under the conditions of *Q.R. and A.I.*, Art. 4956.

**0805 Further Training of Juniors on leaving Training Establishments**

(a) On completion of their course in the Juniors' Training Establishment, Juniors are drafted as follows:—

- (i) Junior Radio Operators to *H.M.S. Mercury*.
- (ii) Junior Seamen (R.P.) and (U.C.) to the appropriate Specialist School to complete their Basic S.Q. training.
- (iii) Technical Juniors to the appropriate Part II Establishment to complete their Part II training.
- (iv) Cook and Stores Juniors to *H.M.S. Pembroke* to complete their Part II training.
- (v) J.M.A.s to Royal Naval Hospital, Haslar to complete their Part II Training.

(b) Junior Seamen (S.G.), J.S. (U.W.) *ex-Ganges*, and Junior Engineering Mechanics will complete their Part II training at the Juniors' Training Establishment and are available for draft to sea on completion of their course.

**0806 Welfare Authorities**

Juniors are to choose their Welfare Authority on joining the Training Establishment. This is to be inserted in pencil on their Central Index Card (B.46).

**0807 Completion of Central Index Cards**

Central Index Cards of all General Service Juniors are to be completed on joining the Training Establishments. These cards are to be forwarded to the Commodore Naval Drafting or Part II Training Establishments as appropriate before draft.

**0808 Drafting of Juniors**

(a) Form T.S.O. 18 is to be rendered fortnightly to the Commodore Naval Drafting (copy to the Part II Technical and Specialist schools concerned, and to D.G.N.T.), giving details of Juniors available for draft during the next three months. A rough forecast for a further three months is to be made at the same time.

(b) Nominal lists of drafts are to be sent to the ship or establishment concerned, and to the Commodore Naval Drafting.

(c) Prior to leaving the Establishment Juniors are to be given an explanatory talk on pay and Form S.50.

(d) The character and efficiency of all Juniors are to be assessed on their Service Certificates before they leave the Training Establishment.

**0809 Escorts for Drafts**

(a) The following escorts are to be provided when Juniors are drafted:—

- (i) Drafts of less than 25 Nil
- (ii) Drafts of 25 to 49 1 C.P.O. or P.O.
- (iii) Drafts of 50 to 99 2 C.P.O.s or P.O.s
- (iv) Drafts of 100 or over 1 Officer and 1 C.P.O. or P.O. for every 50 Juniors.



(b) When Juniors are sent on draft without escort they are always to be given written route instructions and are to be supervised as far as the railway station. They are to be met on arrival at their destination, the receiving ship being informed of their estimated time of arrival.

**0810 History Sheets**

History Sheets are to be originated for all Juniors prior to draft.

**0811 Form S.441 (Part One)**

Form S.441 Part One (Seamanship History Sheet) is to be originated for all Junior Seamen prior to draft.

## Appendix 1

### PRIZES

#### 1 Instructional Prizes

Prizes may be awarded in each class for school and such other subjects as the Commanding Officer directs. The cost will be met by a grant from a Ministry of Defence Fund, administered by the Director of Naval Education Service.

There is also a prize for religious instruction.

#### 2 Accelerated-Advancement-on-Entry Prizes

(a) Prizes will be awarded annually to the best Juniors who are successful in the Accelerated-Advancement-on-Entry Examination, as follows:—

- (i) Royal Hospital School. Three prizes of value £3, £2, £1 respectively.
- (ii) *Indefatigable* and National Sea Training School. Two prizes of value £3 and £1 respectively.
- (iii) *Arethusa*. Two prizes of value £3 and £1 respectively.
- (iv) *Mercury* and Parkstone Sea Training School. Two prizes of £3 and £1 respectively.

(b) All worked papers of the A.A. on Entry School examination are to be kept. At the end of the year each establishment is to select the three best Juniors from the Royal Hospital School, and the two best Juniors from each group of Nautical Training Schools as above, and forward their worked papers to the Director of Naval Education Service, for consideration of the annual awards.

(c) First prize in this competition should consist of suitable books or some article of permanent value selected by the winner. The other prizes are to consist of books on naval subjects.

#### 3 The Royal Society of St. George's Prizes

These prizes will be awarded once each term to the Juniors in each Training Establishment who are considered by their Commanding Officer to have made the best all round progress in their training, the method of selection being left to his discretion. The number and value of prizes to be awarded at each establishment will be notified by the Ministry of Defence. They are to consist of books on naval history.

#### 4 Buckler Award

(a) Fourteen awards of £2 each from the Buckler Legacy are presented annually to ex-*Arethusa* Juniors who enter the Royal Navy between the ages of 15 and 16.

(b) This legacy is to be administered by H.M.S. *Ganges*.

## Appendix 2

### BADGES WORN BY JUNIORS

#### A. BADGES WORN UNDER TRAINING

##### 1 Badge Juniors

		VOCAB. NO.	
(a) Junior Instructor	Small anchor, small crown above, miniature good conduct stripe below	Gold Red Printed Blue Embroidered Blue	
		31423 32423 33423 30423	
	(b) Petty Officer Junior	Small crown with miniature good conduct stripe below	Gold Red Printed Blue Embroidered Blue
			31424 32424 33424 30424
(c) Leading Junior		Miniature good conduct stripe	Gold Red Printed Blue Fabric Blue
			31428 32428 33428 30428

These badges are to be worn on the left arm with the point of the miniature good conduct stripe 5 inches below the shoulder seam.

##### 2 First Class Junior

Star	Gold	31417	} To be worn on the right arm, mid-way between point of shoulder and point of elbow.
	Red	32417	
	Printed Blue	33417	
	Embroidered Blue	30417	

##### 3 Junior Buglers

(a) Bugle	Gold	31411	} To be worn on the right arm, 1½ inches above the cuff.
	Red	32411	
	Printed Blue	33411	
	Embroidered Blue	30411	
(b) Silver Bugler is to wear a small crown above the bugle:—			
Small crown	Gold	31415	
	Red	32415	
	Printed Blue	33415	
	Embroidered Blue	30415	

##### 4 Junior Drummers

(a) Drum	Gold	31926	} To be worn on the right arm, 1½ inches above the cuff.
	Yellow on Blue	35926	
(b) Drum Major is to wear a small crown above the drum—see 3(b).			

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**5 Junior Coxswain**

Eight-spoked wheel	Gold	31429	} To be worn on the right arm, 1½ inches above the cuff.
	Red	32429	
	Printed Blue	33429	
	Embroidered Blue	30429	

**6 Junior Marksman**

Rifle	Gold	31427	} To be worn on the right arm, 1½ inches above the cuff.
	Red	32427	
	Printed Blue	33427	
	Embroidered Blue	30427	

**B. BADGES WORN ON COMPLETION OF MAIN COURSE**

**7 Communication Juniors**

Junior Radio Operator:			
	Gold	31153	
	Red	32153	
	Printed Blue	33153	
	Embroidered Blue	30153	

**8 Junior Naval Air Mechanics and Junior Naval Airmen**

Naval Airman	Gold	31174
	Red	32174
	Printed Blue	33174
	Embroidered Blue	30174

**9 Junior Engineering Mechanics**

Engineering Mechanic 2nd Class			
	Gold	31164	
	Red	32164	
	Printed Blue	33164	
	Embroidered Blue	30164	

**10 Junior Electrical Mechanics**

Electrical Mechanic 2nd Class			
	Gold	31257	
	Red	32257	
	Printed Blue	33257	
	Embroidered Blue	30257	

**11 Junior Assistant Cooks**

Cook (S)	Gold	31299
	Red	32299
	Printed Blue	33299
	Embroidered Blue	30299

BADGES WORN BY JUNIORS

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**12 Junior Stores Accountants**

Stores Accountant	Gold	31295
	Red	32295
	Printed Blue	33295
	Embroidered Blue	30295

**13 Junior Seamen**

T.A.S. (U.C.)	Gold	31111
	Red	32111
	Blue Printed	33111
	Blue Embroidered	30111

**14 Junior Seamen**

T.A.S. (U.W.)	Gold	31110
	Red	32110
	Blue Printed	33110
	Blue Embroidered	30110

**15 Junior Seamen**

R.P.	Gold	31058
	Red	32058
	Blue Printed	33058
	Blue Embroidered	30058

**16 Junior Seamen**

S.G.	Gold	31053
	Red	32053
	Blue Printed	33053
	Blue Embroidered	30053

**17 J.M.A.s.**

	Gold	31421
	Red	32421
	Blue Printed	33421
	Blue Embroidered	30421

These badges are to be worn on the right arm, midway between point of shoulder and point of elbow.

## Appendix 3

## RETURNS TO BE RENDERED BY THE JUNIORS' TRAINING ESTABLISHMENT

No. OF FORM	WHEN DUE	DESCRIPTION	FROM	To	REMARKS
T.S. 74	Weekly	Return of juniors borne and classes under training	Training Establishments	D.G.N.T. D.G.N.M. (N.M. STATS.)	To be rendered each Monday.
T.S.O. 18	Fortnightly	Number of juniors becoming available in ensuing six months	Training Establishments	C.N.D. Technical Schools S.Q. Schools D.G.N.T.	See Art. 0808
T.S. 84	Quarterly	Extract of punishments awarded to juniors.	Training Establishments	C-in-C.	See Art. 0712(d)
M.S.	Yearly	List of juniors entered from N.T.Ss. for whom payment of A.A. on entry gratuity has been authorised.	Training Establishments	P.D.A. (N.) D.G.N.T. D.G.N.R.	
S. 1310	Four monthly	Stationery required for use in school	Training Establishments	Keeper of Stationery and Printing (Naval)	
M.S.	Yearly	Authority for payment of Capitation Grants and Higher A.A. on Entry Gratuity to N.T.Ss.	D.G.N.T.	Supply Officers H.M.S. <i>Ganges</i> H.M.S. <i>St. Vincent</i>	1st April
B. 243	Five weekly	Report of number of juniors entered	Training Establishments	D.G.N.R.	
M.S.	As occasion arises	Notice of juniors being sent to hospital	Training Establishments	Next of Kin or Guardian	In all cases of serious illness or injury
T.S. 113	As occasion arises	Report on candidates entered from N.T.Ss. examined for A.A. on Entry Gratuity	Training Establishments	N.T.Ss. concerned	Immediately after Examination
M.S.	Four monthly (every term)	Report of juniors discharged	Training Establishments	S.P. (N.) D.G.N.T. D.G.N.R. D.G.N.M. (N.M. STATS.)	
M.S.	Quarterly	Quarterly Training Return	Training Establishments	D.G.N.M. (N.M. STATS.)	D.C.I. (R.N.) 929/64

## Appendix 4

# ACCELERATED-ADVANCEMENT-ON-ENTRY EXAMINATION

### A. SCHOOL

- 1 There will be three papers: English,  
Mathematics,  
General, i.e., History, Geography, Everyday  
Science.

The maximum marks for each paper will be 100, and the time allowed two hours.

Examination papers to be set and marked by H.M.S. *Ganges*.

### 2 English

The object of the paper is to test the candidate's ability to write English correctly.

The paper will be divided into two parts of equal length.

#### PART I (30–40 per cent of the marks)

A choice will be given of subjects for continuous composition; some subjects will be general, others on material provided in the paper itself. Account will be taken of arrangement, subject matter, general expression and command of English.

#### PART II

A prose passage of about 300 words will be given, and a number of questions (without choice) will be set concerning it. These will include: tests of comprehension of the whole passage; summarising the whole or part; explanations of individual words, explanations or paraphrasing of particular words or phrases.

### 3 Mathematics

The paper will consist of 10 questions, no choice being given.

#### SYLLABUS

Fractions and decimals, weights and measures; the metric system.

Averages; ratio and proportion; percentage.

Simple interest; profit and loss.

Mensuration of triangle, rectangle, circle, rectangular solid, cylinder, pyramid, cone, sphere (formulae need not be memorised).

Square root.

Simple formulae and substitution in them; algebraic symbols and their manipulation; simple use of brackets. Simple linear equations in one unknown.

Simple graphs and statistics; use of smooth graph to find intermediate, maximum and minimum values.

Drawing measurement of lines and angles.

Arithmetical examples of Pythagoras' Theorem.

Use of logarithms (Note.—No question set will involve finding roots of numbers less than 1, i.e., negative fractional indices are excluded).

#### 4 General Paper

This paper will consist of three sections of equal length on geography, history and elementary science. A candidate will be able to obtain full marks by answering questions taken, if he so desires, from only two sections of the paper.

##### GEOGRAPHY

This paper, which will include a 'test map' will be set on the following syllabus:—

The geography of the British Isles in some detail, and the physical and political geography (in outline) of the countries of the British Commonwealth with special reference to climate, people, exports and strategic importance. The main trade routes. Elementary physical geography of a descriptive character; the simple facts of rainfall and temperature.

##### HISTORY

Questions will be set on the following syllabus:—

British history from 1739 to the present, with particular emphasis on great movements and the sequence of cause and effect; thus stories of critical events, heroes and great sovereigns will leave a permanent impression and fit into a coherent framework. An outline of naval history.

##### ELEMENTARY SCIENCE

Questions will be set on elementary science with stress laid on its applications to everyday life.

##### *Syllabus*

Fundamental properties of the three states of matter. Measurements of length treated simply (e.g., use of callipers but not of vernier or screw gauge). Measurements of area (including use of squared paper). Measurements of volume (including measurements of volume by displacement). Weighing. Density and specific gravity and its determination by direct measurement of weight and volume. Pressure in liquids; water supply, hydraulic press and other simple appliances. Pressure of the air. Barometers. Bicycle pump, lift pump, force pump. Chemistry of burning. Main components of the air. Oxygen treated simply. Operation of bunsen burner and comparison with that of carburettor. Composition of water. Hydrogen treated simply. Carbon combustion of carbon, carbonates. Coal, coke and coal gas (very simple treatment). Qualitative (only) treatment of the thermal expansion of solids, liquids and gases. Applications in general life. Thermometers. Centigrade and Fahrenheit scales. Change of state (including first ideas of latent heat) qualitative only. Conduction, convection and radiation treated very simply, with examples.



**B. TECHNICAL**

**5 Seamanship**

To know the compass thoroughly in points and degrees. To know the marks on the lead line. To be able to pull an oar. To have a fair knowledge of the signal flags. To have a fair knowledge of boats, boats' sails, names of ropes, parts of the sail and orders for working a boat. To understand the securing and slipping of a sea-boat and to know its contents. Bends, hitches, knots and splices as laid down in the Basic Seamanship Syllabus. To be able to take the wheel and carry out simple steering orders.

**6 Squad Drill**

The position of 'attention' and 'stand at ease'. The turnings. Formation of squad in single rank. Dismissing a squad. The salute. 'On' and 'off' caps. Marching and turning on the march. Formation of squad in three ranks. Numbering, dressing, forming single rank from 'threes' and vice versa. Forming right and left. Diagonal marching. Wheeling, forming squad to the right and left in threes. Opening and closing a squad.

**7 Swimming**

To be able to pass the provisional swimming test.  
(Failure in P.S.T. constitutes failure in one technical subject. See Art. 0211(c).

**C. RESULTS**

		<i>Maximum</i>	<i>Required to Pass</i>
8	SCHOOL		
	English	100	} 180
	Mathematics	100	
	General	100	
	} 300 and		
	TECHNICAL		
	Seamanship	100	50
	Squad Drill	100	50
	Swimming	Pass P.S.T.	Pass

*Required to Pass*

60 per cent overall mark plus a pass in Swimming, to include also at least 60 per cent in the aggregate of the 3 school subjects and 50 per cent in each technical subject.

*Note:* See Art. 0211(c) for reduced gratuities.

## Appendix 5

### ACADEMIC SYLLABUSES AND EXAMINATIONS

#### PRELIMINARY COURSE SCHOOL SYLLABUSES (15 hours)

1. The school instruction of New Entries is planned on the basis that for all Juniors it will be a revision only of material covered at their previous schools. This revision is deemed necessary to enable them to produce a fair and accurate result in the NAMET Classification Test in Mathematics and English, held during the Preliminary Course.
2. For certain specially selected and recommended Juniors, the A.C. on Entry Test is to be held as convenient during the Preliminary Course.
3. **Arithmetic** ( $7\frac{1}{2}$  hours)
  - Addition, subtraction, multiplication and division of numbers, money, weights, distances, etc.
  - Conversion of money, weights, etc.
  - Vulgar and decimal fractions, addition, subtraction, multiplication and division.
  - Conversion of vulgar fractions to decimals and vice versa.
  - Averages.
  - Proportion (unitary method).
  - Percentages.
  - Simple mensuration.
4. **English** (2 hours)
  - Spelling.
  - Construction of sentences and paragraphs.
  - Plurals. Words of similar meaning and opposite meaning.
  - Reading and understanding simple passages of good English.
  - Rewriting in Juniors' own words.
5. **Tests** ( $3\frac{1}{2}$  hours)
  - NAMET Test in Arithmetic and English. A.C. on Entry Test where applicable.
6. **Lectures** (2 hours)

An introduction to the school programme in the Juniors' Training Establishment and an outline of the advantages to be gained from satisfactory educational progress whilst in the Royal Navy. Some of this time should also be devoted to national or international affairs of topical interest.

JUNIORS' TRAINING INSTRUCTIONS

MAIN COURSE SCHOOL SYLLABUSES (310 hours)

7. Each period is of one hour's duration, allocated as follows:

	G.C. JUNIORS	A.C. JUNIORS
English .. .. .	40	55
Mathematics .. .. .	40	60
Mechanics .. .. .	50	40
General Science .. .. .	30	30
Magnetism and Electricity .. .. .	50	40
Navigation .. .. .	40	30
Naval Studies .. .. .	40	35
Woodwork or Metalwork .. .. .	20	20

Note: The presentation of the various syllabuses will vary in method and depth of treatment with the capability of the classes concerned. For example a weaker G.C. class will receive much more visual and basic treatment than a better A.C. class.

8. English

This syllabus is designed to cover the requirements of NAMET for G.C. Juniors, and of C.S.E. for A.C. Juniors.

G.C. Juniors—40 Periods

A.C. Juniors—55 Periods

SECTION A—VOCABULARY AND GRAMMAR

- (i) *Spelling*
  - (a) use of dictionary
  - (b) common abbreviations, by initials and shortening
  - (c) like-sounding words of different spelling
- (ii) *Word Meanings*
  - (a) extension of vocabulary
  - (b) replacement of a phrase by a single word
  - (c) words of opposite, and of similar meaning
  - (d) prefix and suffix
  - (e) onomatopoeia
- (iii) *Idioms*
  - (a) expressions in common use
  - (b) proverbs
- (iv) *Plural and Gender*
  - (a) singular and plural forms
  - (b) masculine and feminine equivalents
- (v) *Parts of Speech*
  - (a) explanation of noun, pronoun, adjective, verb, adverb
  - (b) corresponding parts of speech of a word
  - (c) proper and common nouns
  - (d) use of correct preposition
  - (e) comparison of adjectives
- (vi) *Punctuation*
  - (a) explanation of marks used
  - (b) punctuation of sentences
- (vii) *Grammatical Errors* (a) explanation of common grammatical errors

SECTION B—COMPREHENSION

- (viii) *Comprehension*—the ability to understand simple prose passages and to answer questions on them.

SECTION C—SELF EXPRESSION

- (ix) *Sentence Construction*
- (x) *Paragraph Construction*

- (xi) *Planning of Prose Passages*
- (xii) *Writing of Descriptions*
- (xiii) *Writing of Reports*—formal and informal—e.g. accidents; sports events
- (xiv) *Letter Writing*—business and personal
- (xv) *Message Taking*—e.g. telephone messages
- (xvi) *Advertisements*
- (xvii) *Writing of Descriptions*

## FOR A.C. JUNIORS ONLY

SECTION A *Direct and Indirect Speech*: explanation and exercisesSECTION B *Comprehension*: more difficult exercisesSECTION C *Essay Writing*: essays of both descriptive and argumentative type, up to about 400 words

SET BOOKS—study of set books, with particular reference to the plot and characters.

## 9. Mathematics

## A. G.C. CLASSES—40 PERIODS

(i) *Revision*

Tables, numbers, weights, distances etc. Long multiplication and division

(ii) *Fractions*

Vulgar fractions, decimals, percentages. Conversion of fractions to decimals and percentages and vice versa.

Profit and loss per cent.

Ratio, proportion and averages.

(iii) *Mensuration*

Areas and perimeters of rectangles triangles and circles. Surface area and volume of blocks and cylinders.

(iv) *Speed*

Time and distance conversion, average speed and transposing formulae

(v) *Graphs*

Use of squared paper, plotting related quantities

(vi) *Metric System*

Applied to length, weight, capacity and money

(vii) *Pay Accounts*

Balancing of a simple pay account

## B. A.C. CLASSES—60 PERIODS

(i) *Arithmetic*

(A knowledge of normal simple arithmetical operations will be assumed.)

Sample introduction to Pay Accounts, P.A.Y.E., N.H.I., etc.

(ii) *Logarithms*

Simple explanation of indices, rule of indices. Logarithms as indices.

Use of Logarithms to the base 10, including powers and roots. Positive and Negative characteristics.

## JUNIORS' TRAINING INSTRUCTIONS

### (iii) *Mensuration*

Area and perimeter of rectangle, triangle, parallelogram.  
Circumference and area of circle.  
Surface area and volume of rectangular solids, cylinder and sphere.

### (iv) *Graphs*

Plotting of statistics and related quantities. Maxima, minima, rate of change.

### (v) *Algebra*

Algebraic symbols, terms, expressions, addition, subtraction, multiplication, division, brackets, simplification, symbolic expression. Simple equations in one unknown, up to equations involving fractions and brackets. Transposition of formulae. Problems involving simple equations.

### (vi) *Geometrical Drawing*

Bisection of lines and angles.  
Construction of perpendiculars.

### (vii) *Pythagoras*

Theorem and its application.  
Use of square and square root tables.

### (viii) *Trigonometry*

Using  $30^\circ$ ,  $60^\circ$ ,  $90^\circ$ , and  $45^\circ$ ,  $90^\circ$  triangles, show that ratio between two given sides is a constant for a given angle.  
Definitions and meanings of sine, cosine and tangent for angles up to  $90^\circ$ .  
Use of natural and logarithmic tables of sin, cos and tan.  
Trigonometrical solution of right angled triangles.

### (ix) *Computers*

What a computer is. Explanation using block diagrams.  
Yes/No flow patterns.  
Simple binary arithmetic.

NOTE: (i) and (ii) to be completed by the Intermediate examination.

## 10. **Mechanics**

### A. G.C. CLASSES—50 PERIODS

#### THEORY

#### (i) *Force*

Types of forces and their measurement.  
Springs—proportional extension of a spring—spring balance.  
Resultant of two forces acting from a point.  
Parallelogram of forces.  
Resolution of forces into two components at right angles—components of a force.

#### (ii) *Velocity*

Speed—uniform speed-average speed.  
Velocity.  
Resultant of two velocities.  
Components of a velocity.

(iii) *Purchases and Tackles*

Turning effect of a force—moment.

Principle of moments.

Levers—three orders of lever with examples of each.

Mechanical Advantage—Velocity Ratio—limiting friction—Efficiency.

Examples using double whip only (mention luff, twofold, threefold).

M.A., V.R., Efficiency using wheel and axle windlass (mention capstan).

(iv) *Centre of Gravity*

Meaning and simple determination for thin sheets of various shape.

Three states of equilibrium—effect of position of centre of gravity on stability.

## PRACTICAL

- (i) *Force*—meaning and measurement—springs—extension of a spring.
- (ii) Parallelogram of forces.
- (iii) Moments.
- (iv) Principle of moments—levers.
- (v) Mechanical Advantage, Velocity Ratio and Efficiency applied to a double whip.
- (vi) M.A., V.R., Efficiency as applied to a wheel and axle windlass.
- (vii) Centre of Gravity of thin sheets of hardboard, plastic etc.—stability.

## B. A.C. JUNIORS—40 PERIODS

## THEORY

(i) *Force*

\*Types of forces—measurement of forces—mass weight—force as a vector.

\*Springs—proportional extension of a spring—Hookes Law—spring balances.

Resultant and Equilibrant of two forces acting at an angle from a point. Parallelogram of forces.

Rectangular components of a force—applications to practical situations including sailing and aerofoil sections.

Reactions at the supports of a beam supported at two points.

(ii) *Velocity*

\*Speed—average speed—velocity—uniform velocity—velocity as a vector.

Resultant of two velocities—Parallelogram of velocities.

Components of a velocity (aircraft in flight, ships, etc.).

(iii) *Purchases and Tackles*

\*Turning effect of a force—moment—Principle of Moments.

Levers—orders and examples of each order.

\*Machines—work done—limiting friction.

Mechanical Advantage—Velocity Ratio—Efficiency—the 'perfect' machine.

Examples using single and double whip only (mention luff, twofold and threefold purchases).

M.A., V.R., Efficiency and Principle of Moments applied to wheel and axle windlass and capstan.

## JUNIORS' TRAINING INSTRUCTIONS

### (iv) *Centre of Gravity*

Definition—determination in simple cases of laminas and three dimensional objects—'uniform bodies'.

Effects of the position of C. of G.—equilibrium of bodies—stability—vertical forces acting on a ship.

\*To be completed by the Intermediate examination.

### PRACTICAL

\*(i) Force—measurement of forces—springs—Hookes Law experiment.

(ii) Parallelogram of Forces—resolution of forces.

\*(iii) Moments—Principles of Moments—Levers.

(iv) Reaction at supports.

\*(v) Mechanical Advantage, Velocity Ratio and Efficiency of double whip (mention luff, twofold and threefold).

\*(vi) M.A., V.R., Efficiency—wheel and axle, windlass and capstan.

\*(vii) Centre of Gravity—of lamina—of various regular blocks—stability—of bus ship.

\*To be completed by the Intermediate examination.

## 11. General Science

### G.C. AND A.C. CLASSES—30 PERIODS

#### (i) *Matter*

Atoms, molecules, Protons, Neutrons, Electrons.

Simple atomic energy, Fission, Fusion.

(Atomic power station, Bomb).

#### (ii) *Heat*

Three states of matter.

Form of energy. Difference between heat and temperature.

Conduction, convection, radiation.

Expansion of solids, liquids and gases with applications.

Shrunk fitting, domestic hot water system. Ventilation and heating.

Making a centigrade thermometer.

#### (iii) *Sound*

Vibration, frequency, pitch, amplitude.

Passage of sound wave through air and water.

Speed of sound in air and water, historic and modern methods.

Ultrasonics, sonar and echo sounder.

#### (iv) *General Interest*

Internal combustion engine.

Turbine.

How a T.V. works.

### ADDITIONAL FOR A.C. CLASSES ONLY

#### *Light*

Formation of shadows.

Laws of reflection.

Plane mirrors at  $45^\circ$ .

Periscope, Deck landing mirror.

Lenses, focal length.

Images by convex and concave lenses.

Magnifying glass.

Telescope and binoculars.

## 12. Magnetism and Electricity

## A. G.C. CLASSES—50 PERIODS

Simple molecular and atomic theory.  
 Electric current, conductors and insulators.  
 Source of energy, simple cell, dry cell, inert cell.  
 Cells in series and in parallel, batteries.  
 Effects of an electric current (briefly). Fuses.  
 Current, EMF, resistance. Resistor. Units, amp, volt, ohm.  
 Electric circuit. Ohm's Law.  
 Circuit symbols, resistor, lamp, fuse, switch, coil, ammeter voltmeter.  
 P.D. (briefly).  
 Connection ammeter and voltmeter in circuit.  
 Units, mega-, kilo-, milli-, micro-.  
 Resistances in series and in parallel.  
 Earth return.  
 Power and energy. Watt.  
 Magnetism. Natural and artificial magnets. Law of attraction and repulsion.  
 Magnetic field.  
 Simple molecular theory. Induction. Screening.  
 Keepers. Demagnetisation.  
 Magnetic effect of a current (a) in a straight conductor. Corkscrew rule.  
 (b) in a solenoid. Clockface rule.  
 Temporary and permanent magnets.  
 Terrestrial magnetism. Ship's magnetism. Effect on magnetic compass.  
 Degaussing.  
 Principle of DC Motor.  
 Principle of DC Generator.  
 Chemical effect of a current. Electroplating.  
 Secondary cell (lead-acid) (briefly). Capacity of secondary cells.  
 Photoelectric cell.

## B. A.C. CLASSES—40 PERIODS

Simple molecular and atomic theory.  
 Conductors and insulators. Current electricity.  
 Cells in series and in parallel. Simple circuit.  
 EMF, PD, current, resistance.  
 Ohm's Law.  
 Resistance in series and in parallel.  
 Internal resistance.  
 Heating effect of a current. Fuses.  
 Primary cells. Secondary cells.  
 Chemical effect of a current. Electroplating. Photoelectric cell.  
 Power and Energy.  
 Magnetic materials. Laws of magnetism.  
 Molecular theory.  
 Magnetic induction. Magnetic fields.  
 Terrestrial magnetism. Ship's magnetism. Degaussing.  
 Magnetic effect of a current in a straight conductor. Corkscrew rule.  
 Magnetic field associated with current-carrying loop and solenoid, air-cored. Effect of soft iron core.  
 Electromagnet. Electric bell. Relay.  
 Moving coil instrument. Use of ammeter, voltmeter, AVO.  
 Electromagnetic induction. Right-hand rule.



## JUNIORS' TRAINING INSTRUCTIONS

DC generator (briefly).

Effect of current-carrying conductor in a magnetic field. Left-hand rule.

DC motor (briefly).

### 13. Navigation

G.C. JUNIORS—40 PERIODS

A.C. JUNIORS—30 PERIODS

- (i) Laying off positions, measurement of distance, course and bearing on a Mercator Chart.
- (ii) Speed, distance and time problems to determine D.R. and E.T.A.
- (iii) Simple fixes, transit lines and uses.
- (iv) Courses to make rendezvous and to pass at a given distance from a specified point, with associated problems.
- (v) See below.
- (vi) Relative bearings and conversion of bearings.
- (vii) Basic Chart symbols and abbreviations.
- (viii) The Uniform Buoyage System and an introduction to Lights.
- (ix) Time Zone Convention with simple examples.
- (x) A.C. CLASSES ONLY

Effects of Tidal Streams and Currents. Estimated Positions. Set Rate and Drift, Simple Vector Triangle to determine Course to steer to allow for effect of Tidal Streams etc. (This only to be mentioned with G.C. Classes).

### 14. Naval Studies

G.C. JUNIORS—40 PERIODS

A.C. JUNIORS—35 PERIODS

#### NAVAL HISTORY

(a) 1789–1805

- (i) The French Revolution.
- (ii) The Rise of Napoleon.
- (iii) The Napoleonic Wars, featuring: Battles of St. Vincent, The Nile, Copenhagen, Trafalgar.

(b) *The Navy in the Nineteenth Century*

- (i) Pax Britannica.
- (ii) The expansion of the Empire.
- (iii) Changes in ship construction.
- (iv) Changes in weapons.
- (v) Changes in tactics.
- (vi) The new ratings and officers.

(c) *The First German Challenge*

- (i) Reasons for the First World War: The naval armaments race.
- (ii) The outbreak of war and the disposition of forces.
- (iii) The naval campaign featuring: the *Emded*; the Battles of Heligoland; Coronel; Falkland Isles; Dogger Bank; Jutland.
- (iv) Keeping the trade routes open: the U-boat blockade; the Zeebrugge raid; the convoy system; the surrender of the German navy.
- (v) The introduction of the United States into a world of conflict and its effect.
- (vi) The Red Revolution and the emergence of communism in Russia.

- (d) *Europe between 1918–1939*
- (i) The effect of the First World War on the nations of Europe.
  - (ii) The rise of the Nazi party in Germany and its leader.
  - (iii) The emergence of Stalin as the communist leader.
  - (iv) The changing position of Britain in these 21 years, in Europe and her Empire.
- (e) *The Navy between 1918–1939*
- (i) The effect of a post-war economy on the Navy.
  - (ii) The Naval treaties of Washington and London.
  - (iii) The emergence of an air arm for the Fleet.
  - (iv) The preparedness of the Navy for the Second World War in 1939.
- (f) *The Second German Challenge*
- (i) The preparedness of the German nation for war.
  - (ii) The reasons for war.
  - (iii) The declaration of war and its more immediate results.
  - (iv) The position of the U.S.A., U.S.S.R., at the opening of hostilities.
- (g) *The Royal Navy and the Second World War*
- (i) The changing role from fleet actions to trade protection.
  - (ii) The German attempts to blockade this country: magnetic mines; U-boats; surface raiders and their ultimate fate.
  - (iii) Pearl Harbour and its results: destruction of the American Pacific Fleet, and the introduction of the United States into the war.
  - (iv) The Naval Theatres of War.
    1. The North Sea and English Channel.
    2. The North Atlantic.
    3. The Mediterranean.
    4. The Far East.
    5. The Normandy Landings.
- (h) *The Last Stages of the War*
- (i) Use of rockets by Germans.
  - (ii) The Atomic Bomb.
- (i) *The Cost of the War*
- (i) Position in Europe.
  - (ii) The emergence of the two Super Powers.
  - (iii) The threat of Atomic warfare and the arms race (contrasted with naval armaments race 1906–1914).
- (j) *The Communist Challenge in:*
- Europe; extension of frontiers.  
 Middle East; encouragement and growth of Arab Nationalism (Suez).  
 Expansion of China after the Chinese Revolution (The Yangtze Incident).  
 The Emergence of Indonesia and its threat to our far Eastern Commonwealth members.
- (k) *The Navy Today*
- Its changing role; its changing weapons; its usefulness.

## JUNIORS' TRAINING INSTRUCTIONS

### METEOROLOGY

- (i) The Atmosphere. Pressure. Barometers.
- (ii) Temperature. Water Vapour. Clouds. Precipitation.
- (iii) Air Masses. Land and sea breezes (Westerlies; trades; monsoons).
- (iv) Isobars. Cold and warm fronts.
- (v) Anti-cyclones. Depressions.
- (vi) Anti-cyclones. Depressions (Film).
- (vii) Daily weather maps and forecasts.
- (viii) } Revision.
- (ix) }

### WORLD AFFAIRS SECTION

- (i) World Population—a serious problem. Growth and distribution.
- (ii) Spread of Communism in Europe and Asia  
(cf. section *k* of History syllabus).
- (iii) Growth of the two Super Powers—U.S.A. and U.S.S.R. Power blocs  
(cf. section *j* of History syllabus).
- (iv) Position of the United Kingdom in World Affairs. U.K. and Commonwealth trade.

### MAP READING

- (i) Scale 1 inch to 1 mile  
Square References, 6-figure grid references.  
Various Norths.
- (ii) Conventional Symbols—Grid Reference Practice.
- (ii) Contours—Rise and fall of land.  
Very simple idea of intervisibility.  
Very simple sections.

## 15. Handicrafts

A.C. AND G.C. JUNIORS—10 TWO-HOURLY PERIODS

### A. WOODWORK

#### *Aim*

- (a) To develop hand and eye co-ordination through the use of common tools and the application of common processes on various hard and soft woods.
- (b) To give an appreciation of the capabilities and limitations of these tools and processes.

#### *Processes*

Recognition of some of the common joinery timbers, e.g. oak, mahogany, beech, etc. Preparation of timber—face side and face edge using jack plane. Marking out timber to size. Setting out and cutting various joints, e.g. mortice and tenon, dovetail, housing, lap etc. Use of marking tools. Cleaning up and use of a smoothing plane. Finishing processes—sand papering, staining, polishing, painting. Glues and their uses—animal and synthetic. Basic wood turning.

*Jobs*

All Juniors should cover the majority of the above processes and listed below are a number of jobs on which they can be practised.

Boxes of various types using different corner joints and arrangements, for tops and bottoms. Stools—with either seagrass or solid tops. Table lamps of various designs. Toys. Simple carcass constructions. Fruit bowl and other turned items.

Instructors are to use their own discretion as to the precise series of jobs done by each individual relating it to the assessed ability of the Juniors.

**B. METALWORK***Aims*

- (a) To develop hand and eye co-ordination through the use of common tools on simple metalwork processes.
- (b) To give an appreciation of the capabilities and limitations of these tools and processes on various common metals.

*Contents Processes*

Marking out leading to the development of simple curved shapes.

Cutting out and shaping.

Soft, hard and silver soldering.

Filing.

Use of taps and dies.

Riveting light plate.

Various forging.

Beaten copper work.

Assembling.

Lathe work and drilling.

Finishing and polishing.

*Jobs*

Some jobs which can be attempted are listed below.

**NON-FERROUS WORK**

*Copper* Napkin ring, Ash tray, Gong, Small jug.

*Brass* Tongs, Twisted poker, Toasting fork, Name plate.

**FERROUS WORK**

Various garden tools, Small 'G' cramp, Bent strip work.

All Juniors should cover as wide a range of processes as possible but Instructors are to use their own discretion as to the precise jobs done by each individual, relating them to the assessed ability of the Junior.

## JUNIORS' TRAINING INSTRUCTIONS

### EXAMINATION PROGRAMME AND ALLOCATION OF MARKS

16. SUBJECT (ALL JUNIORS)	DURATION	MAXIMUM MARKS
1. English	1 hour 45 mins.	100
2. Mathematics	1 hour 45 mins.	100
3. Mechanics	1 hour 15 mins.	70
4. General Science	45 mins.	50
5. Magnetism and Electricity	1 hour	60
6. Navigation	1 hour	60
7. Naval Studies	1 hour	60
<b>TOTALS</b>		<b>8 hours 30 mins.</b>
		<b>500</b>

NOTE: The G.C. Examination is divided into two parts.

Part I. Subjects 1 and 2 are taken on Ministry of Defence set NAMET papers. The marks allocated towards the final mark are mean grade marks.

Part II. Subjects 3 to 7 examinations are set locally.

The A.C. examination papers are set by a Ministry of Defence panel and marked externally.

#### 17. Qualifying Standard

*G.C. Juniors.* A G.C. Junior must achieve:

- (a) NAMET grades 7/7 as a minimum on Part I.
- (b) 40 per cent average of the marks in Part II in order to complete the *Ganges* school course satisfactorily.

*A.C. Juniors* must achieve an average of 40 per cent overall to pass out as an A.C. Junior.