

SCHEDULE B.

<i>No. and year of Ordinance.</i>	<i>Short Title.</i>	<i>Extent of Repeal.</i>
No. 3 of 1900.	The Widows' and Orphans' Pension Fund Ordinance, 1900.	Sections 36, 37 and 38.
No. 12 of 1902.	The Widows' and Orphans' Pension Fund Amendment Ordinance, 1902.	The Whole.
No. 40 of 1902.	The Widows' and Orphans' Pension Fund Further Amendment Ordinance, 1902.	The Whole.

No. 893.

REPORT BY THE EXAMINERS OF QUEEN'S COLLEGE.

*Laid before the Legislative Council by Command of
His Excellency the Governor.*

EDUCATION DEPARTMENT,
HONGKONG, 20th August, 1906.

We visited and inspected the College in July and the first few days of August.

DISCIPLINE AND ORGANIZATION.

Discipline is very good. The only important criticism we have to make, is that the boys in many of the Divisions are somewhat slothful. This is especially true of their attitude when questioned orally; and some of the higher Divisions are the worst offenders. In one Division boys previously mute found their tongues when they discovered that they would be kept standing till they did so. The great numbers at the College, with the lack of sufficient accommodation, have led to economies of space which are very prejudicial to good teaching. The congregation of several Divisions in the Big Hall was commented on in last year's Report. In the other rooms the boys are arranged in solid squares, a formation calculated to save all but the outside rank and file from sudden or casual inspection.

2. The following mistakes were noticed in the teaching of some of the Chinese Masters. When they take boys out in front of their Divisions, they are not always careful to see that all of them are in sight; they do not make enough use of the blackboard; they give geography lessons without using a map.

SANITATION.

3. There is no provision for the proper ventilation of the Class rooms, when the weather is too cold to admit of the opening of many windows. Only one room has a fire place.

4. Single or dual desks adaptable to the stature of the pupils are used in all well equipped schools.

5. Many of the rooms are badly lighted, both as to the quantity of the light and its direction.

6. Many of the rooms are over-crowded.

APPARATUS.

7. After the unsatisfactory nature of the desks, the most obvious deficiency is the lack of wall maps and pictures. Maps are kept in a separate room, and have to be sent for when required. This may prove a saving of wear and tear; but it is a false economy from an educational point of view.

ENGLISH.

8. *Colloquial*.—In the Preparatory School, Class VII and VI E, the teaching of Colloquial English continues to be very satisfactory. The Normal Class is doing good work, and the Pupil Teachers are entering into the spirit of teaching the subject by scientific methods. Unfortunately it does not seem possible to retain their services as Pupil Teachers for the full term of three years. Could this be managed, it would have, we feel sure, a great and beneficial effect on their careers as teachers. They have still much to learn, not only as regards method, but also of the English language; and their pronunciation is far from perfect.

9. The great majority of the boys who enter the College have previously studied in private schools, whether in Hongkong or Canton, where old-fashioned methods of instruction are practised, and an incorrect pronunciation acquired. It is doubtful whether the knowledge that such pupils bring with them is any compensation for the mistakes they have to unlearn. However this may be, it is clear that they now acquire quickly an ability to speak English, while the use of Chinese as a medium of explanation seems to have been almost entirely discarded, except as a very last resort.

10. Where all did well, the Pupil Teacher of VI E deserves notice for the clever way in which he illustrates his meaning by sketches on the blackboard.

11. The main fault we noticed, though it was less conspicuous in the Preparatory School than in the higher Classes, was that the boys do not answer loudly enough. The speaker addresses the master, who strains his ear to catch the reply above the little noises of the Class and the buzzing of the fans, and then repeats it for the benefit of the Class; who ought on the contrary to have been themselves with ears attentive for the answer, and quick to notice where it was wrong. Thus, all would be kept alert, and the teachers be spared unnecessary fatigue.

12. Except IV A, and as regards the teaching of Hygiene, Classes VI, V and IV are under Chinese Masters. In VI D some little slackness was noticeable. There does not seem to be any method ruling the teaching of Colloquial by means of wall pictures. The only two we were shewn were one of a farmyard which, like that other one of a railway station adversely criticised last year, was full of detail that was much too small to be distinguishable from the back seats, and the other was a picture of a squirrel. Why a squirrel? To teach successfully from wall pictures, a graduated series should be used. At the same time it must be admitted that the illustrations in the Readers seem to fulfil all practical needs. VI C was much stronger; the Master, whose work as a Pupil Teacher was favourably mentioned in the Report for last year, makes his boys speak up, and gives them a good vocabulary. Division A and the top boys of B did well; but there are many boys at the bottom of the latter, who seem to regard the examination as something beyond their range, and unless addressed personally, dissociate themselves from it altogether. This inability to cultivate the attention of an entire Division is a weak point in the teaching of many of the Chinese Masters. In this Class we heard a few, but only a few, orders given in Chinese.

13. The four Divisions of Class V are all making fair progress. D was noticeable for the smart way in which orders were given in English. In B, the articulation of the boys is very distinct.

14. In Class IV, C was rather weak: A and B did very well.

15. In the Upper School, the boys with few exceptions were well able to answer when asked ordinary questions, though some of them would only do so under a good deal of pressure. It however remains to make them talk correct English. Their grammar is on the whole very weak: in fact, though they would probably be surprised and disgusted to hear it said, they use a sort of "pidgin" English, which has marked features of its own. Of these, the commonest are the discarding of inflections and the omission of auxiliary verbs. Thus, "I asked him where he was coming from, and he said he had been for a walk", would be put in some such way as this: "I asked him, Where you coming from? He say, I been for a walk".

16. *Reading* was good and fairly fluent in the four Divisions of Class VII. The boys shewed themselves quite ready to answer questions on the lesson. Those in A were very alert and attentive.

17. In Class VI, reading was also very fair; meanings of words and phrases were fairly well given. In B, which appeared to be the weakest in this subject, the boys shewed less inclination to exert themselves, and were somewhat listless and inattentive.

18. A few boys in Class V read very well indeed, and the average was fair. Questions on the meanings of words elicited ready answers, but the boys were disinclined to speak out. V A read rather better than the other Divisions. The Master of V C is not a good English scholar; his grammar is faulty.

19. Of Class IV, Division C appeared to possess a somewhat limited vocabulary; and the answering was confined to a few boys. On the other hand, the teacher gave without preparation a reading lesson that was quite good.

20. The reading in III A and B was good and fluent, and the boys exhibited no disinclination to reply, when questioned. III C did not do so well, the answering being slow and uncertain.

21. In both Divisions of Class II the reading was not so good as in the lower Classes.

22. Reading was very fair in Class I, and the boys were well acquainted with the meaning of words, prefixes and affixes, and readily answered questions put to them. But in B, the boys were less inclined to exert themselves.

23. *Composition.*—A somewhat severe test was given to Class VI, Divisions A to D, as we wished to see exactly what the ex-Pupil Teachers of last year have made of their pupils when left to their own devices. A short story was read out twice, and was then written out from memory. This exercise has not been given below Class V hitherto. As in Colloquial, Division D was here also much the weakest, and C again was far the best. No paper in the latter was marked lower than 40 per cent., and two-thirds were considered to be over 65 per cent. The time during which the writers of these papers have been studying English has been one year at the College, and 1½ years at outside schools, which figures correspond closely with the theoretic demand of their position in the College.

24. Class V were required to write a short letter on a simple subject. They had evidently been practised in doing so. Division D did fairly, C and B were good, and A earned the highly satisfactory mark of very good.

25. Class IV A was marked as good, and the other Divisions as fair. Much of the work was untidy; margins should always be used. In some cases the handwriting was poor. Full stops were frequently used for commas in B.

26. Class III, the lowest in the Upper School, was marked more severely than has hitherto been done. This at any rate partly accounts for the fact that the average mark given to the three Divisions is only 54 per cent. as compared with 68 per cent. last year. It is however not too much to expect that the grosser forms of grammatical mistakes should not be held venial in boys of the Upper School, who have been devoting hours daily to English for 5 or 6 years. Division A was much the strongest of the three.

27. Class II A did considerably better than last year, and their work must on the whole be considered fair, although there is a lamentable falling off at the bottom of the Division. Division B did very badly. More than half the pupils obtained no marks. On analysing the paper, taken at random, of one of these failures, we find that in 150 words 3 common ones are mis-spelled; there are 4 sentences which are quite unintelligible, and 4 gross grammatical blunders.

28. Class I A did fairly: a much higher mark would certainly have been earned, but for the unavoidable absence of many of the senior boys. On the whole the work shewn up is correct and idiomatic, and shews that the writers have a good vocabulary and a considerable acquaintance with the language. The best papers of I B were also good; but here again more than half the Division failed to obtain any marks.

29. Outsiders can not be expected to appreciate the distinction between one Division and another. What then will they think, if having engaged a young man who has been a year in the top Class of the senior school of the Colony, they find that he makes in half a page of English such mistakes as these:—"To govered.....is charge with some guiltyand no allowed.....there is no so many thief.....every people wants to stay in this colony and don't mind their own country....."?

30. It was observed that the blackboard was used by few of the Chinese masters during the reading lessons. A judicious scheme of word-building, especially in the Lower School, would considerably improve the spelling; and ten minutes during each lesson could with advantage be devoted to this subject.

31. *Grammar*.—Definitions of the different parts of speech were fairly well known, and the boys readily picked them out in sentences given them by the examiner, in Class VII.

32. In Class VI the answering was very fair and general; but some of the definitions learned were too long, and were not understood by the boys.

33. Questions were fairly well answered by the majority of Class V. Here as in Class VI the definitions were too long, and the boys were inclined to repeat what they had learned in a very mechanical way.

34. Written papers were set to the Classes IV, III, II and I, and a good knowledge of the subject was shewn by nearly every boy examined. Analysis and parsing were good throughout. The best results were obtained in III A, where the average number of marks was over 80 per cent. III C and IV C, the weakest Divisions, were fair. It is interesting to compare these results in the theoretical study of the language with the weakness shewn, when a practical knowledge of grammar is required in conversation or composition.

SHAKESPEARE.

35. Papers on Henry V were set to a few boys in Class I A. On the whole the answers were good: the papers written by several boys were excellent, and long quotations were given correctly. In oral answers I B were somewhat feeble and uncertain.

GEOGRAPHY.

36. The plan of Hongkong was well known by Class VII, the boys having no difficulty in pointing out the principal streets and buildings.

37. Most of the definitions of land and water have been correctly learned by Class VI, but they should be taught by reference to a map.

38. In Class V the outlines of Europe and Asia were fairly well known, though some of the boys were not very ready in pointing out places on the map.

39. Written papers were set to Classes IV, III, II, and I. The results on the whole were disappointing.

40. Class IV A and B have a fair knowledge of the geography of China; in IV C the results were poor, several boys failing to secure quarter marks.

41. Class III A displayed a fair knowledge of the geography of Europe; in B and C the answers were moderate.

42. In Class II both Divisions did moderately.

43. Class IA shewed a fair knowledge of the geography of Europe, and B were poor.

44. Map drawing in the Upper School was very faulty. Very few boys shew any ability to draw the correct outline of a country. Sketch maps of rivers were attempted by very few.

HISTORY.

45. This subject appears to present great difficulty to the majority of the boys, and many of them spent their time in attempting only half the questions set. Several pages of foolscap were devoted to answering questions which required a few lines only, and much matter was introduced which had no bearing on the questions.

46. In Class IA some good work was done, some of the papers being very good. In B, the result was bad. A sketch map illustrating Wellington's Peninsular Campaign was asked for, but was not attempted by a single boy.

47. Class II did moderately.

48. Class III A did fairly well. In Divisions B and C the results were moderate.

49. The History papers were full of mistakes in spelling, composition and grammar.

HYGIENE.

50. Classes I to V were examined in this subject. In the Lower School very easy papers were set. Out of 32 papers written by Class V, 11 obtained 60 per cent. or more of marks, and 7 of these received 80 per cent. or over.

51. In Class IV the paper was less directly answerable from the text book, and the marks earned naturally shew a falling off. The best papers were given 52 per cent., while 9 out of 22 submitted obtained 40 per cent. or more.

52. In the Upper School the results were disappointing. In Classes I, II and III, three papers only obtained 60 per cent. and eleven more obtained 50 to 60 per cent. out of 57 shewn up. A greater understanding of the subject and less reliance on learning by rote might have been hoped for. A proper understanding of even elementary hygiene must however depend on a groundwork of elementary natural science; this is evidently where the teaching fails.

53. It is one thing to teach boys the simplest of sanitary aphorisms, and another to teach hygiene. Any attempt to raise the standard of knowledge in the Upper School will be very much hampered by the fact that the necessary grounding in biology and elementary physics and chemistry has not been first laid. In these circumstances the masters will get little into the heads of their pupils, more than the same aphorisms as are considered sufficient for the Lower School, though they may be expressed in better English when reproduced in examination papers. It is worthy of consideration whether some simple text books could not be read with the Government Manual in Class III, who have been confining themselves to that, although in Classes IV and V they have already studied it for 2 years.

54. The need of illustrating the lessons by simple experiments seems to have been overlooked.

BOOK KEEPING.

55. This subject is taught in Classes I and II only. The paper set to Class II was very easy. Twenty boys were examined, four of whom obtained half marks or over.

56. The journalising was done well; but hazy ideas prevailed as to the real nature of a bank note.

57. In Class I the results were poorer, the paper being more difficult. Only one boy obtained over 50%.

58. The first three questions were poorly done. The usual answer to question I practically was to say that double entry was double entry, its full meaning being not understood. Question II was badly done. The last question was well done; but it was remarkable how many boys decided to enter a subscription to a hospital under a Trade Expenses account.

MATHEMATICS.

59. *Arithmetic*.—The paper set for Class VII seemed too easy. It was at any rate very well done. Curiously, the four Divisions did well in inverse order to their rank.

60. In Class VI the paper was also fairly well done. Ten papers scored 60% or more, one obtaining 100%. Question IV was badly done or not attempted in 15 papers out of 38 examined. Only one boy shewed that he really understood the nature of square and cubic measure apart from knowledge of mere rules.

61. In Class VA, not a single boy answered Question I; but the rest of the paper, involving the application of simple rules, was on the whole well done. Out of 32 boys, five obtained 80% and eight 60%. In Divisions C and D there was a falling off, 10 out of 12 boys getting 40% or under.

62. In Class IV, 26 papers were examined, 10 in A and B, and 6 in C: in none of them was Question I done rightly. There was a considerable difference in the quality of the work in different Divisions. In A, one paper was very good, and three fair; viz., one at 87 and three at 50%. In B one paper obtained 57%. In C the highest marks were 37%. Vulgar fractions were well understood, but errors of working were frequent. Except in IV A, decimals were but poorly understood.

63. One would think it desirable to teach boys to work in decimals before initiating them into the mysteries of vulgar fractions, especially Chinese boys who are accustomed from their earliest days to the abacus, and in a country where a decimal coinage obtains.

64. In Class III the paper was well done. Ten papers were examined in A and B and six in C. Fifteen papers obtained 75% or more, and only six less than 50%.

65. In Class II ten papers were done by each Division. In A five papers scored 70 % or more, and in B three scored 70 % or more, the rest being marked at 50 % or less. One paper in both A and B scored no marks. Question IV was either not done or hopelessly wrong in 14 papers out of 20 examined. In some other cases the sum was worked in £. s. d. instead of dollars. Some allowance was made for this slip, where the method was correct.

66. In Class I also 20 papers were examined, ten from A and ten from B. In Division A five answers to Question I were quite wrong, and six boys failed altogether to understand Question III. In B also five answers to Question I were quite wrong, while seven boys either did not attempt Question III or did it wrongly. The marks obtained were 60 % and over in eight papers. One paper obtained 50 and the rest were 40 and less per cent.

67. On the whole the Upper School work in this subject was fairly well done. Out of sixty-six papers thirty-four obtained 60 % and over.

68. *Algebra*.—This subject has been introduced into the Lower School curriculum during the past twelve months. It is now taught in Class IV. The paper set was a very elementary one, and in IV A the result shewed that the subject was understood. The performance was on the whole very fair, sixty per cent. of the papers obtaining over 60 % of the marks. Question I was not understood: no good attempt was made to explain the expressions. The remaining questions which involved only work by rule were fairly done. With two exceptions, the boys in IV B and C had no idea of the subject.

69. Twenty-six boys were examined in Class III, ten each from A and B and six from C. On the whole the result was good: sixteen papers were marked at 60 % or more, six being at 80 %. But here again it was noticeable that the application of a rule was known before its reason was understood, the explanation being that the introductions to chapters in the text book are not learned: the rule is taught, but not the principle on which it is based. Not a single boy answered question IV.

70. In Class II, ten boys from each Division were examined. Division A produced most of the good papers—seven obtaining 80 % and one 60 %—while B produced one at 80, one at 60, one at 55 and 2 at 50 %. All the rest in both Divisions obtained 40 % or less. One paper in A and one in B did not obtain any marks. Thirteen boys out of the twenty failed in Question III, which required some little thought. On the whole, however, the results were good.

71. The results in Class I were disappointing. Not a single boy could answer the first question, although it would appear that to be able to deduce the formula is as important as to be able to apply the rule. Question III was too much for three boys in each Division. One boy worked the problem correctly, but in £. s. d. instead of dollars. Some allowance was made for this. It evidently did not occur to any of those who were wrong to check their results by reversing the sum—an easy thing to have done.

72. On considering the subject as a whole, it appears that many of the boys have a very fair knowledge of how to work, but comparatively few seem to know why they work by any special rule or formula. When it is remembered how large many of the Divisions are, and what a difference there is between the top and bottom boys, it seems reasonable to suppose that the individual attention necessary for explanations can not be given.

73. *Geometrical Drawing*.—A paper in this subject was set to twenty-six boys in Class IV. It was very simple, and was on the whole fairly well done. Five papers obtained 75 and eight 50 %. The subject as illustrated by the paper does not appear to prove very interesting. Probably the reproduction on paper of the geometrical patterns of which the Chinese are so fond would have excited more interest. Not sufficient care was taken to make measurements accurately, although there was evidently a fair understanding of the subject. Though not as yet introduced to the proposition that any two sides of a triangle are together greater than the third side, a few boys certainly discovered it practically for themselves. This subject appears to be valuable, as preparing the way for the further study of geometry.

74. *Geometry*.—Twenty-five boys were examined in Class III—ten from A and B, and five from C. In Division A one paper obtained 90 %, three 50 % and the rest varied from 23 to 40 %. In B there was a complete collapse. Six papers scored nothing, one 8 and three 10 %. In C one obtained 55 and one 38 %, while the remaining three were marked at 18, 15 and 0 % respectively. Only one boy out of the whole Class did Question II correctly. Several others appeared to be trying to express some idea of it; but their English was so poor that they could get no credit.

75. The paper set to Class II was fairly well done, especially in A, where of ten boys examined one obtained 85, three 80, two 75 and two 56 %. The remaining two were marked at 45 and 35 respectively. In B the results were disappointing, and shewed a great difference between the work of the two Divisions. One paper obtained 50, two 40, six 20 and one 0 %.

76. In Class I, B had a somewhat easier paper than A, though 3 questions were common to both. The results in B were better than in A, where they were not so good as was to be expected.

77. In A five boys were examined, the highest marks—one paper—being 40 %. In B seven boys were examined. One paper obtained 60 % and one 50 %, the rest from 45 to 35 %. In no case was any geometrical reasoning employed in the answering of Question II; but the problem was correctly solved by the application of a rule learned in the Mensuration Class. Marks were taken off for this.

78. *Mensuration*.—The paper set in Class II was very elementary, but the results were not good. Two good papers were sent in, and four moderate ones: the rest were poor. There was a considerable difference between Divisions A and B. The two good papers were from A. Five papers in B were worth no marks. No satisfactory explanation of similar figures was given, very possibly because not having learned a definition, the boys were unable to furnish one from their own reasoning. There is however evidence of some real understanding of the subject.

79. In Class I, five papers from A and thirteen from B were submitted. The best paper was from A, and obtained 55 %. Two papers from B obtained 45, and one 40 %. All the rest were very poor. In answering Question II the only attempts made were to prove that the volume of a sphere equals $\frac{2}{3}$ that of its circumscribing cylinder. This was not what was required, but as the answers shewed some familiarity with the subject, half marks were allowed for a correct answer on these lines. Question III was attempted, though wrongly, by one boy in each Division.

80. *Trigonometry*.—In this subject there are a Senior and a Junior Class. In the latter, ten boys were examined. The paper was quite easy and was well done. Question IV was however too much for all the boys. There is evidently a fair understanding of the very elementary part of the subject, and it appears to be interesting.

81. In the Senior Class only four papers were examined. This probably was not a fair test of the Class as a whole. Only one paper was worth anything, and this obtained 80 % of the marks, being correct in every question but the last, which was not attempted.

CHINESE.

82. The Lower and Preparatory Schools have lessons in the Chinese Written Language for about 2 hours a day; while the entrance examination is based on the assumption of about 3 years' previous study; so that a considerable proficiency may be expected from the pupils, who have again to pass a qualifying examination before they can be admitted to the Upper School. This latter examination is yearly being made harder according to a fixed plan; so that by the beginning of 1908 it will be impossible for a Chinese boy to obtain admission to the Upper School, until he shall have qualified in the subjects of the top (Fifth) Vernacular Class.

83. The Boys are independently classified for Vernacular School; the system of *pari passu* promotions does not appear to be strictly followed.

84. The Vernacular School was tested in reading, both from their Reader and also from unseen passages; in dictation (unseen); and in the translation into literary Chinese of passages written in Colloquial. The Readers were in the main well known. The translation was done fairly or well by all Classes above the lowest, whose weakness in this respect is probably attributable to the unintelligent method in which Chinese are taught their language. It seems a pity that the entrance examination can not be used to encourage the adoption of the modern and intelligent system of instruction followed in the College. Handwriting was good. The unseen dictation was not so satisfactory. Class IV did very well; but Class V, the highest, had an average of 10 mistakes, or about one in every 12 words. As most of them are the substitution of another character for the one dictated, a character of the same sound but bearing a different meaning, it will be understood that this is evidence of a

considerable ignorance of the meaning of a plain passage when heard and not seen. It is probable that unseen dictation should be more practised. Many of the worst compositions were full of colloquial characters. The best papers shewed considerable literary ability. Perhaps the most obvious fault in the better work was the use of Pekingese colloquial characters, *e. g.*, 他 and 們 for the true literary ones. It should be borne in mind that the *feuilletons* in the Chinese newspapers are not the best models for composition.

85. In the Upper School the boys were tested by translation from and into English.

86. In Class III a few very simple sentences were given for translation into English, and were well done; they shewed that the boys had learned that a literal translation is not necessarily the same as a word for word translation. The piece set for translation into Chinese was the simplest form of petition. Not a single boy cast his translation into the recognized form, and in consequence the results read very grotesquely, and regarded as petitions must be considered failures. The writers moreover refer to themselves sometimes in the first and sometimes in the third person, which is confusing. In over 60 % of the papers the title of the Registrar General is either omitted or given incorrectly. "The Sage" is one form; "The General" another.

87. The translation into English in Class II A was very fair, and moderate in II B. The same piece was set to Class I, where the work of A was not good, though it is probable that the boys selected hardly represented the Division. Several did not understand the Chinese, though it contained no difficulties. I B did much better, about 60 per cent. getting the meaning approximately right. The date 太原 floored nearly every one, and the expression 力所能勝者 also proved a stumbling block.

88. The translation into Chinese of Class II was very uneven. Some of it was very good, though even here the stereotyped form of a petition was not known. The second piece set is a literal translation of a well known passage in Mencius. It was set in order to find out if possible how far the boys are familiar with their own Classics. The experiment was a failure, as no boy used the words of the text for his translation, although some of them have certainly such a knowledge of Chinese as would make their ignorance of the context inconceivable. About 40 % of the papers in Classes I and II were very good. Where they failed, the difficulty usually lay in understanding the English; the quotation from Tennyson proved beyond many boys. One in I B, the best, sent in some very neat verses: but he took "swimming vapour" to mean a rivulet. Another took "loiters" as a noun, and translated it by the equivalent of sawyers.

89. It may be said with some confidence that the work done in the Vernacular School is having its effect in the Upper School.

APPENDICES.

90. The Examination Papers and the Classes and Divisions with the names of the Masters are appended.

EDWARD A. IRVING,
Inspector of Schools.

WILFRID W. M. PEARSE.

A. H. GOTT.

Appendix A.

EXAMINATION PAPERS.

Subject.	Class.	No. of paper.
English Composition,.....	I & II.	1
Do.,	III.	2
Do.,	IV.	3
Do.,	V.	4
Do.,	VI.	5
English Grammar,.....	I.	6
Do.,	II.	7
Do.,	III.	8
Shakespeare,	I.	9
Geography,.....	I.	10
Do.,	II.	11
Do.,	III.	12
Do.,	IV.	13
English History,.....	I A.	14
Do.,	I B.	15
Do.,	II.	16
Do.,	III.	17
Hygiene,	I.	18
Do.,	II.	19
Do.,	III.	20
Do.,	IV.	21
Do.,	V.	22
Book-keeping,.....	I.	23
Do.,	II.	24
Arithmetic,	I.	25
Do.,	II.	26
Do.,	III.	27
Do.,	IV.	28
Do.,	V.	29
Do.,	VI.	30
Do.,	VII.	31
Algebra,	I A & B.	32
Do.,	II.	33
Do.,	III.	34
Do.,	IV.	35
Do.,	IV.	36
Geometrical Drawing,	I A & B.	37
Geometry,	II.	38
Do.,	III.	39
Do.,	I.	40
Mensuration,	II.	41
Do.,	Senior.	42
Trigonometry,	Junior.	43
Do.,	I, II & III.	44
English into Chinese,.....	I, II & III.	45
Chinese into English,.....	V.	46
Colloquial into Literary Chinese,.....	IV.	47
Do.,	III.	48
Do.,	II.	49
Do.,	I.	50

No. 1. COMPOSITION.

CLASSES I & II.

Is the spending of money upon luxuries good for trade?

or

Give an account of the way in which a British Crown Colony is governed, illustrating your meaning by reference to the Government of Hongkong.

or

What is the nature of the dispute that has arisen between the Viceroy of the Two Kwongs and the shareholders of the Canton-Hankow Railway.

No. 2. COMPOSITION.

CLASS III.

Compare the Anglo-Chinese Government Schools of the Colony with those at Canton.

or

Describe how a Chinese shop-keeper manages his business.

No. 3. COMPOSITION.

CLASS IV.

Electric fans. Write all you know about them, both their good and bad points.

No. 4. COMPOSITION.

CLASS V.

Write a letter to your father thanking him for the dollar he sent you. Tell him you bought a purse with it; but now you have no money to put in it, and therefore you would like him to send another dollar.

No. 5. REPRODUCTION OF A STORY.

CLASS VI.

There was a house where there were a great many mice. So the master of the house bought a cat and she was so clever that she caught and killed a great many of them. At last the mice met together to see what had better be done. After a great deal of talking a young mouse said "I have thought of a very good plan. Let us tie a bell round pussy's neck, and then we shall always be told of her approach by its ringing." There was loud applause: but when the little mice had done squeaking for joy, a very wise old mouse stood up on his hind legs and said: "That is all very well. But which of you is going to tie the bell on the cat's neck?" They had not thought of that.

No. 6.

ENGLISH GRAMMAR.

CLASS I.

1. Write the plural of :—goose, lady, brother : the singular of :—women pence, nooses ; and the superlative of :—great, heavy, beautiful.
2. How many ways are there of distinguishing Gender ? Give three examples of each way.
3. Give a list of “ Defective Verbs ”. Why are they so called ?
4. Define a sentence, and distinguish between Compound and Complex Sentence.
5. Form sentences in which the Subject is enlarged :—
 - (a.) By an Adjective.
 - (b.) By a Noun in Apposition.
 - (c.) By a Pronoun in the Possessive Case.
 - (d.) By a Prepositional Phrase.
6. Write in three columns the Present Indicative, the Preterite Indicative and the Past Participle of :—
throw, smite, sing, find, shine, dream, sell, lead.
7. What is an Adverbial Clause ? Write sentences containing :—
 - (a.) An Adverbial Clause of Time.
 - (b.) An Adverbial Clause of Place.
 - (c.) An Adverbial Clause of Manner.
8. Analyse :—
Like *phantoms* to the *iron* porch *they* glide,
Where lay the porter in uneasy *sprawl*.
With a huge *empty* flagon by *his* side.
9. Parse the words in *italics* in the last passage.
10. What is an Abstract Noun ? Give abstract nouns formed from :—innocent, long, able, wise ; and give the Adjectives from which :—width, infirmity, nobility and youth, are formed.

No. 7.

ENGLISH GRAMMAR.

CLASS II.

1. What is Case ? How many Cases are there ? “ John struck the ball with Henry’s bat.” Give the cases of the nouns in this sentence, and state your reasons.
2. Give the plural of :—hoof, way, coach ; the singular of :—mice, oxen, flies ; and the possessive singular of :— Charles, slates, men.
3. What is meant by Conjugation ? Conjugate “ do ” in the present indicative, and “ love ” in the preterite indicative.
4. Define Transitive Verb and Intransitive Verb. Give an example of each in a sentence.
5. When is a verb said to be in the Passive Voice ? Change the following sentences from the Active into the Passive Voice.
 - (a.) John struck Henry.
 - (b.) Cats kill mice.
 - (c.) The boy wastes time.
 - (d.) The hound chased the hare.
6. What is a Simple Sentence ? Which parts are necessary to every sentence and why ?
- 7 Analyse :—
The sable *mantle* of the *silent* night
Shut from the world the ever-joyous *light*.
8. Parse the words in *italics* in the above passage.

No. 8. ENGLISH GRAMMAR.

CLASS III.

1. What is inflexion? Name the parts of speech which are inflected.
2. What is a Collective Noun? Write three sentences with a Collective Noun in each.
3. Give the general rule for forming the plural of nouns. Write the singular of :—mice, trees, heroes, oxen, beeches, patches.
4. What is an adjective of quality? Write six numeral adjectives.
5. "The boys play in this small yard." Parse the words in this sentence.
6. When is a verb of the Strong Conjugation and when of the Weak Conjugation? Write in three columns the Indicative Present and Preterite and Past Participle of :—ride, wear, swim, sit, feed, bring.
7. Put a Subject of the proper number before each of the following verbs :—arrive, dances, sings, work, flies, swims.
8. When is an adjective Superlative Degree? Write the degrees of comparison of :—fine, pretty, little, short, lengthy and obedient.

No. 9. SHAKESPEARE.

HENRY V.

1. Say what you can of the date and the sources of the play.
2. What are the meanings of the following words used in the play :—gentles, lazars, advised, quittance, quick, greener.
3. Who spoke the following lines and to whom were they said :—
 - (a.) The sin upon my head, dread Sovereign.
 - (b.) My most redoubted father,
It is most meet we arm us 'gainst the foe.
 - (c.) 'Tis good for men to love their present pains
Upon example.
 - (d.) Hark, how our steeds for present service neigh!
 - (e.) O, give us leave, great King,
To view the field in safety and dispose of their dead bodies.
4. Give a short summary of Act III Scene V of the play.
5. Compare the character of Henry V as shown in the play with that of the Dauphin.
6. Explain the allusions to :—
Gordian Knot; Iceland Dog; Pitchard Pay; At the turning 'o the tide; The feast of Crispian.
7. Who are the following and what are their places in the play :—
Duke of Bedford; Lord Scroop; The Constable of France; Mountjoy; Fluellen and Pistol?
8. Give the substance of Henry's speech before the gates of Harfleur, with quotations, if possible.

No. 10. GEOGRAPHY.

CLASS I. EUROPE.

1. Draw a rough map of France showing the boundaries, seas, capes, mountains and rivers.
2. What are the manufactures of Germany, and where are they carried on?
3. Name the rivers which drain the South East slope of Europe, and one chief town on the banks of each.
4. Where and what are the following :—Ladoga, The Skaw, Skager-Rack, Rosa, Azov, Minch, Corsica, Hecla?
5. Trace the course of the Elbe and Danube.
6. Name the mountain ranges in the South of Europe, and state the countries in which they are situated.
7. Where are the following towns and for what are they noted :—Hamburg, Messina, Archangel, Dresden, Edinburgh, Christiania, St. Etienne, and Barcelona?
8. Give a list of the plains of Europe, and say where they are.
9. Name the boundaries, rivers and lakes of Switzerland, and describe its Government.
10. The temperature of Europe is on the whole mild. Account for this. What influence have the Mediterranean Sea and the Southern Mountains upon the countries in the South of Europe?

No. 11.

GEOGRAPHY.

CLASS II.

ENGLAND AND WALES.

1. Draw a map of the South coast of England, from the mouth of the Thames to the Bristol Channel, showing the capes and inlets.
2. Name the mountain ranges of England and Wales giving the highest peaks.
3. Give the rivers flowing into the Irish Sea, and name any towns that stand on them.
4. What has made England the first manufacturing country in the world? Name its chief minerals.
5. Name six large sea-ports in England, say what they export, and the countries with which they trade.
6. Where are the following manufactures carried on:—Woollen goods, leather, hardware, shipbuilding and chemicals?
7. What do you know of the following towns:—
Sunderland, Halifax, Windsor, Scarborough, Luton and Oxford?
8. From which countries do we import:—Cotton, Sugar, Tea, Gold, Tin, Furs and Indiarubber?
9. Account for the difference in the climate of the East and West of England: how does this affect the agricultural pursuits of the people?
10. Give a list of the Midland Counties with their county towns.

No. 12.

GEOGRAPHY.

CLASS III.

EUROPE.

1. Name the boundaries of Europe. Also give its length, breadth and area.
2. Draw a map of the Baltic Sea, showing the countries surrounding it.
3. Name the islands on the North and West of Europe and give the countries to which they belong.
4. Where are: Ural Mountains, Cape Passaro, Mt. Etna, The Lombardy, Island of Elba, Sea of Marmara and Lake Onega?
5. Give the area and population of Denmark, which are its chief towns?
6. What do you know of:—Bordeaux, Munich, Amsterdam, Brussels, The Hague, Bremen, Nantes, Hammerfest?
7. Name the rivers which flow into the German and Atlantic Oceans, and state the countries through which they flow.
8. What are the agricultural productions of France, which of them are exported to England?

No. 13.

GEOGRAPHY.

CLASS IV.

CHINA.

1. Draw a map of the Chinese Empire, showing the chief mountain ranges and rivers.
2. Give an account of the "Great Wall".
3. Sketch the course of the Hoang-ho and name the chief towns on its banks.
4. Name the six maritime provinces with their capitals. Which of them contain foreign settlements?
5. Name the seas, bays and gulfs of China.
6. Where are the following towns and for what are they noted:—Hankow, Shan-hai-kwan, Pei-tai-ho, Che-foo, Amoy and Kai-fong?
7. Give an account of the Shen-si province.
8. Name the exports of China and the provinces from which they come.

No. 14.

HISTORY.

CLASS IA. GREAT BRITAIN AND IRELAND:
1715-1815.

1. Give a short account of the Rebellion of 1745. What punishment was given to the Highlanders?
2. What were the causes of the American War of Independence? Give the first and last battles with dates, and the final result of the war.
3. Who were:—John Wesley, Suraj-ud-Dowlah, Lord Clive, John Wilkes, Warren Hastings, Lord Nelson?
4. What do you know of the following:—Septennial Act, The Excise Bill, Stamp Act, Act of Union, Catholic Emancipation?
5. Give an account of Napoleon's plans for invading England; how were they defeated?
6. What were the Berlin Decrees, and how did the English Government reply to them?
7. Give an account of the Irish Rebellion of 1798, what measure was the immediate outcome of it?
8. What were the causes of the French Revolution of 1789, what were its effects in Great Britain?
9. Give an account of the agitation for Parliamentary Reform in the reign of George III.
10. What were the causes of the struggle between the French and English in Canada, how did it end?
11. What was the nature of Fox's India Bill? When was the Indian Board of Control established and by whom?
12. Account for the growth of power of the Ministry and the origin of Prime Minister under George I.

No. 15.

HISTORY.

CLASS IB. GREAT BRITAIN AND IRELAND:
1715-1815.

1. What attempts were made by the Stuarts to regain the English Crown? How far were they successful?
2. What do you know of the "South Sea Bubble"?
3. Who was the great minister of George I. By what means did he keep in power for such a long period, and in what lay his chief talent?
4. Give a brief account of the struggle between the French and English in Southern India.
5. What do you know of the following:—
"Jacobites", "Methodists", "United Irishmen", "Armed Neutrality League", "The Luddites".
6. Who were:—The Old Pretender, Montcalm, George Washington, Sir John Moore, The Earl of Chatham.
7. Which three great naval battles gave to England the supremacy of the sea, which she has held ever since? Give a brief description of one of the battles.
8. What was the cause of the Peninsular War? Draw a sketch map showing the principal engagements in which Wellington defeated the French.
9. What were the battles of: Prestonpans, Plassey, Camperdown, Alexandria, Waterloo?
10. Give some account of the state of the Church and Education in the time of George II.

No. 16.

HISTORY.

CLASS II.

JAMES I--WILLIAM III.

1. What was Cromwell's foreign policy during the Commonwealth? How far did it succeed?
2. What was the cause of the rupture between Charles I and his Parliaments? Give the first and last battles of the Civil War with the leaders on each side and results.
3. What do you know of the Gunpowder Plot?
4. Give an account of the war with the Dutch during the reign of Charles II.
5. Who were :—Raleigh, John Hampden, Ironsides, Monmouth, The Old Pretender, John Milton?
6. What do you know of :—Declaration of Breda, Massacre of Glencoe, Ship Money, Hampton Court Conference?
7. Why was James II unpopular? Who succeeded him to the throne, and what claims had he?
8. What are the chief events in the reign of William III?

No. 17.

HISTORY.

CLASS III.

WILLIAM I TO RICHARD III.

1. What caused the Civil War between Mathilda and Stephen? How was a settlement arrived at?
2. Give a short account of Richard I's adventures in the Holy Land.
3. Give an account of the quarrel between Henry II and Thomas à Becket; how did it end?
4. What was the Great Charter? When and where was it signed? What circumstances led to its being drawn up?
5. When was the first House of Commons established? What led to it, and who was chiefly responsible for its being called together?
6. What do you know of: Domesday Book, Black Death, The Lollards?
7. Who was the "Kingmaker"? How did he get his title and how far was it justified?
8. What were the Wars of the Roses? Give the first and last battles. How did the war end?

No. 18.

HYGIENE.

CLASS I.

1. Explain how it is that a domestic building can be properly ventilated by natural means.
2. Why should lead piping never be used for water and how do waters vary in their action on lead pipes?
3. What are the objects aimed at in the laws which compel in Hong-kong the ground surfaces of domestic buildings to be concreted?
4. Why is the intermittent system of water supply very unsatisfactory?
5. Explain what is meant by saying that 0.6 volumes per 1,000 of CO₂ is the permissible limit of impurity in the air of a domestic building.

No. 19.

HYGIENE.

CLASS II.

1. How may the air become contaminated in cities other than by the breathing of animals and the burning of fuel?
2. What is meant by :—
 - (1) A shallow well?
 - (2) A deep well?
 - (3) An Artesian well?
 What circumstances may render the water from the last two undrinkable or dangerous?
3. How are foods classified?

Give examples of each class as ordinarily used by Chinese.
4. What kinds of bedding and night clothes are the best and why?

No. 20. HYGIENE.

CLASS III.

1. Enumerate the different gases in the atmosphere and describe how they vary in their relative proportions.
2. What is the original source of rain?
3. Explain how it is that some races of men are able to live without eating the flesh of animals.
4. What different materials are generally used for making clothing and how may the health of the body be affected by the nature and colour of the materials?

No. 21. HYGIENE.

CLASS IV.

1. Name the different gases of the atmosphere and explain what part they take in respiration and combustion.
2. How many different ways can you think of by which the water supply in Chinese houses in Victoria may be contaminated?
3. What different advantages do we obtain by cooking our food?
4. Mention some diseases which might be acquired by eating contaminated food and say what you would advise to prevent such accidents happening.
5. Why is woollen clothing more healthful than cotton clothing?

No. 22. HYGIENE.

CLASS V.

1. How do animals affect the composition of the atmosphere?
2. How do plants affect the composition of the atmosphere?
3. How much fresh air is required by each adult occupant of a room for one hour?
4. Why are big rivers generally unsafe sources of water supply for drinking purposes—for example the river water at Canton?
5. What would you do to the water from a town well before drinking it? Why would you do so?

No. 23. BOOK-KEEPING.

CLASS I.

1. What is meant by double entry?
2. What are the resemblances and differences between a bill of exchange, a promissory note, a cheque, and a bank note?
3. What is meant by :—
 - (1) Accepting a bill?
 - (2) Days of grace?
 - (3) Discount?
4. Show what entries you would make in your Ledger from the following statements of your day's business :—

	£	s.	d.
(1) Started with Cash in hand,.....	7	3	6
(2) Paid subscription to hospital (by cheque), ...	5	0	0
(3) Paid for stationery (cash),	0	2	6
(4) Bought goods for cash,	3	10	0
(5) Sold goods for cash,.....	10	8	4
(6) Sold goods to T. Smith,	15	0	0
(7) Bought goods from A. Brown,	20	0	0

No. 24.

BOOK-KEEPING.

CLASS II.

1. Rule out a sample page of a Journal, put the proper headings to the columns and explain the uses of the different columns.

2. Journalise the following transactions in your own business :—

		£	s.	d.
January 1st	Cash in hand,	50	0	0
" "	Cash in bank,	1,000	0	0
" 2nd	Bought from A. Smith goods,	40	0	0
" 3rd	Sold goods for cash,	5	3	6
" 5th	Paid A. Smith cash,	38	10	0
" "	Was allowed discount,	1	10	0
" 6th	Bought goods (paid by cheque), ...	30	0	0
" 7th	Sold goods (paid by cheque),	15	10	6

3. Bank notes being only made of paper how is it that they are accepted in payment of accounts just as though they were cash?

4. What is a cheque and why can you not cash a crossed cheque?

No. 25.

ARITHMETIC.

CLASS I.

1. Find to the nearest penny the Amount and Compound Interest of £875 15s. 0d. for 4 years at $4\frac{1}{2}$ per cent.

2. Find the cube root of 34,567.

3. If a man receives $5\frac{1}{2}$ per cent. on the money he invested in 7 per cent. Stock, at what price did he buy?

4. If 3 men can do the same amount of work as 5 boys, how long will 15 men take to do the same piece of work which can be done by 40 boys in 20 days?

5. How many linear yards of matting $27\frac{1}{2}$ inches wide will be required to cover the surface of a floor 24 feet wide and 60 feet long?

No. 26.

ARITHMETIC.

CLASS II.

1. Which is the larger fraction, the sum of $19\frac{1}{3}$ and $7\frac{2}{3}$, or the difference between $24\frac{3}{4}$ and $3\frac{2}{3}$?

2. Find by Practice the cost of 2,107 articles at £2 6s. 4d. each.

3. Find the square root of 7 to four places of decimals.

4. If you bought \$1,000 worth of goods and sold them four months later for \$756 how much money would you have lost assuming that you could have obtained 7.2 per cent. per annum for your money?

5. If 17 men can do a piece of work in 24 days working 10 hours a day, in how many days will 18 men do the work if they work 8 hours each day?

No. 27.

ARITHMETIC.

CLASS III.

1. Find the value of :—

$$\frac{9}{16} \text{ of } £5 \text{ 17s. 0d.} - \frac{2}{7} \text{ of } £8 \text{ 2s. 9d.} + \frac{1}{3} \text{ of } £1 \text{ 7s. 1d.}$$

2. Find the sum of :—

$$.4\dot{1}4, .035\dot{2}, \text{ and } 6.\dot{1}0\dot{1}.$$

3. Find by Practice the cost of 231 articles at £1 6s. 8d. each.

4. What is the missing term in the following proportion 4 : 6 :: 7 : _____?

No. 28.

ARITHMETIC.

CLASS IV.

1. What is meant by a prime number, and what is meant by saying that two numbers are prime to one another?

2. The true year consists of 365 days 5 hours 48 minutes and 46 seconds, but for convenience it is said to consist of 365 days. If there were no leap years how many days, minutes and seconds would this difference amount to in 1600 years?

3. Find the value of:—

$$(1.) \quad 8 - \frac{3}{2 - \frac{7}{4}} + \frac{5}{6 - \frac{5}{2 - \frac{5}{6}}}$$

$$(2.) \quad \left(\frac{1}{2} + \frac{2}{3}\right) \times \left(\frac{3}{4} + \frac{4}{5}\right) + \frac{5}{6} \times \left(\frac{1}{8} + \frac{1}{10}\right) + \frac{1\frac{1}{2}}{2\frac{2}{3}} \div \frac{21\frac{1}{3}}{1\frac{1}{3}}$$

$$(3.) \quad \frac{\frac{3}{11} \text{ of } 25 \cdot 15}{\frac{4}{11} \text{ of } 4}$$

4. Express as a decimal fraction:—

$$1 \frac{14}{25 \cdot 6} + 7 \frac{6}{6 \cdot 4} + 4 \frac{9}{12 \cdot 5}$$

No. 29.

ARITHMETIC.

CLASS V.

1. What is meant by a concrete number and what by an abstract number?

2. If a bucket holds 25 pints of water, how many bucketfuls are required to fill a tank of 1,200 gallons capacity?

3. Find the G.C.M. of 182,776 and 549,065.

4. Find the L.C.M. of 364, 2,520 and 5,265.

5. Find the value of:—

$$\frac{\frac{17}{9} \text{ of } \frac{27}{64}}{\frac{11}{12} \text{ of } 9\frac{9}{16}} \div \frac{4\frac{4}{7} \times \frac{21}{160}}{2\frac{5}{6} \times \frac{15}{34}}$$

No. 30.

ARITHMETIC.

CLASS VI.

1. If one dollar is worth 2s. 1½d., how many dollars and cents are £11 4s. 6d. worth?

2. Find the cost of 24 tons 3 cwt. of coal at 1s. 4d. per cwt.

3. If a man's income is £550 15s. 6d. per annum and he spends £326 2s. 4d. each year, how much will he save in 19½ years?

4. If you see the flash of a cannon immediately it is fired but only hear the sound after 7 seconds how far off is the cannon if sound travels at the rate of 1,120 feet per second? Give answer in miles, furlongs and yards.

5. Explain how it is that 1 square yard = 9 square feet, and 27 cubic feet = 1 cubic yard.

No. 31.

ARITHMETIC.

CLASS VII.

1. Express in words the following numbers:—

$$271,432,859, \quad 50,100,302.$$

2. Find the sum of one hundred thousand and two, seven thousand and twenty, seventy one, and forty three.

3. Add together 431,204, 736, 20,610, 17.

4. Find the difference between 43,216,502 and 82,174,314.

5. Divide equally into 7 parts the following sum of money £1,499 2s. 5½d.

No. 32.

ALGEBRA.

CLASSES 1A & 1B.

1. If a is the first term and r is the common ratio of n terms in Geometrical Progression show that the sum of the terms = $\frac{a(r^n - 1)}{r - 1}$.

2. Prove that $a^0 = 1$.

3. Simplify :—

$$a^{\frac{1}{2}} \cdot \sqrt[3]{a} \cdot a^{-\frac{1}{2}} \cdot a^{-\frac{1}{3}}$$

4. Solve the following equation :—

$$\frac{a}{x} + \frac{x}{a} = \frac{b}{a} + \frac{a}{b}$$

5. A man having a certain sum of money, borrowed from a friend an equal sum and gambled with the total and lost \$6. He then borrowed a sum equal to what he had left and again gambled and lost \$6. He then borrowed again a sum equal to what he had left and gambling again lost \$6 and found he had nothing left. What amount of his own money did he begin with?

6. Simplify :—

$$\left(\frac{1}{1+a} + \frac{a}{1-a} \right) \div \left(\frac{1}{1-a} - \frac{a}{1+a} \right)$$

Note :—Only five questions to be answered.

No. 33.

ALGEBRA.

CLASS II.

1. Solve the following equation :—

$$7(3a - 6) + 5(a + 3) = 11 - 4(18 - a).$$

2. Divide $a^4(a + 2b) + 7ab^4 - b^3(4a^2 + 5b^2)$ by $a^2 - ab + b^2$.

3. At what time between 3 and 4 o'clock will the minute hand be exactly over the hour hand.

4. Find the H.C.F. of the following expressions :—

$$a^4(a + 1)^3(a - 1)^2 \text{ and } a^3(a + 2)^4(a - 1)^3.$$

5. Find the L.C.M. of :—

$$a^2 + 7a + 6 \text{ and } a^2 + 8a + 12.$$

No. 34.

ALGEBRA.

CLASS III.

1. Simplify the following expression :—

$$8b - (3c - a) - [6a - 3b - \{5c + (3a - b - c)\}].$$

2. If $a = 2$, $b = 3$ and $c = 4$ find the value of :—

$$a - 2[b + 3\{c - 2a - (a - b)\} + 2a - (b + 3c)].$$

3. Divide :—

$$a^2 + b^2 - c^2 - d^2 - 2ab + 2cd \text{ by } a - b + c - d.$$

4. Show that the index of the product of two numbers which are powers of the same quantity, is the sum of their indices.

5. Find the sum of the following expression and arrange it according to descending powers of x with the coefficients of the like powers of x grouped in brackets :—

$$ax^2 - bx + c, \quad bx^2 - cx + a, \quad \text{and } cx^2 - ax + b.$$

No. 35.

ALGEBRA.

CLASS IV.

1. What are meant by the following expressions :—

$$(1.) a + 2b + 3a + 5c.$$

$$(2.) 2a + 4b - 4a + 2c - 3d.$$

and if $a = 3$, $b = 4$, $c = 5$, and $d = 2$, what will be the value of each expression?

2. Simplify the following expression :—

$$9a - (6b - 3c) - [2a - 3b - 2c - (4b + 5c)].$$

3. Find the sum of the following expressions :—

$$\frac{1}{2}a + \frac{1}{3}b - c + \frac{1}{4}d \text{ and } \frac{1}{3}a - \frac{1}{2}b - \frac{1}{2}c + \frac{1}{4}d.$$

4. Find the difference between :—

$$-(a + b - c + d) \text{ and } (a - b + c - d).$$

No. 36.

GEOMETRICAL DRAWING.

CLASS IV.

1. Draw two straight lines of unequal length, call one AB and the other CD. Take one of them as equal to the base and the other as equal to one side of an isosceles triangle and construct a triangle accordingly.

2. Draw a triangle having its sides 4 inches, 3 inches and 2 inches long respectively.

Why can you not draw a triangle with sides in the proportion of 3, 2 and 1?

3. Draw an irregular pentagon and make another one exactly like it.

No. 37.

GEOMETRY.

CLASSES 1A & 1B.

1. If two triangles have two sides of the one equal to two sides of the other, each to each, and the angles, included by these sides equal, then the triangles are equal in all respects.

Prove the above proposition.

2. Find the area of a triangle whose sides are 37 inches, 30 inches and 13 inches long respectively.

3. Construct a right-angled triangle having given the hypotenuse and one other of its sides. Prove the truth of your construction.

4. Prove that the square on the diagonal of any given square is equal in area to twice the given square.

5. Prove that the angle in a semicircle is a right angle.

Note:—Class 1A to do questions 2 to 5 and Class 1B, questions 1 to 4

No. 38.

GEOMETRY.

CLASS II.

1. Prove that the straight lines drawn from the extremities of the base of an isosceles triangle to the middle points of the opposite sides are equal to one another.

2. Define Parallel straight lines.

3. Prove that straight lines which are parallel to the same straight line are parallel to one another.

4. If you walk due North for 100 yards and then due East for 30 yards how far will you then be from your starting point.

5. Prove that all the interior angles of any rectilinear figure are equal to twice as many right angles as the figure has sides less four right angles.

No. 39.

GEOMETRY.

CLASS III.

1. What are the three Postulates?

2. Explain what is meant by saying that complements of the same angle are equal.

3. If a clock is started at 12 o'clock, what will be the time when the hour hand has advanced 45 degrees and what will be the angle included by the hour and minute hands at that time?

4. How are triangles classified with regard to their angles?

5. Show that the angles at the base of an isosceles triangle are equal.

No. 40.

MENSURATION.

CLASS I.

1. By what method can you find the area of a triangle having given the length of the three sides?
2. Prove that the volume of a sphere $= \frac{4}{3} \pi r^3$.
3. Find the area of a field from the following entry in a field book:—

	To D	
	538	
To C 66	400	
	From B	on left.

	To B	
	629	
To D 295	179	
	From A	go East.

4. The minute hand of a clock is 6 inches long, find the area on the clock face which it describes between 12 and 12.40 o'clock.

No. 41.

MENSURATION.

CLASS II.

1. How long must a fire escape be to reach from the middle of a street 50 feet wide to the top of the front wall of a house 60 feet high?
2. What are similar figures? Give an example.
3. Having given the chord of an arc, and the height of the arc, show by rule and example how to find the diameter of the circle.
4. The chord of half an arc is 12 feet, and the diameter of the circle is 80 feet: find the chord of the arc.

No. 42.

TRIGONOMETRY.

SENIOR.

1. If a street runs due North and South and the height of the houses on each side is equal and such that a line drawn from the top of the front wall of any house to the foot of the wall of the house exactly opposite makes an angle of 60° with the roadway, for how many hours per day could sunshine get down to the roadway supposing the sun to rise due East and set due West?
2. Prove that $\cot A - \cot 2A = \csc 2A$.
3. Show how to solve a triangle having given two angles and a side.
4. In a triangle ABC the angle at B $= 45^\circ$ and that at C $= 75^\circ$, and the shortest distance between the angle A and the side BC $= 3$ inches, what are the respective lengths of the sides of the triangle?
5. What is a logarithm? Show that the logarithm of a product equals the sum of the logarithms of its factors.

No. 43. TRIGONOMETRY.

JUNIOR.

1. What are the six commonly used trigonometrical ratios? Explain them and draw a figure to show what you mean.
2. A ship steaming North at 12 miles an hour sights a lighthouse bearing North East. A quarter of an hour later the lighthouse bears due East. How far off the lighthouse is the ship passing?
3. Prove that:—
 - (1) $\sin^2 A \cot^2 A + \cos^2 A \tan^2 A = 1$.
 - (2) $\tan A + \cot A = \sec A \operatorname{cosec} A$.
4. Define a radian and find the number of radians in each interior angle of a regular hexagon.
5. What is meant by a compound angle? Prove that $\sin (A+B) = \sin A \cos B + \cos A \sin B$.

No. 44. TRANSLATION FROM ENGLISH INTO CHINESE.

Class I to attempt the first two pieces; Class II the second and third pieces; Class III the third piece.

I.

There lies a vale in Ida, lovelier
Than all the valleys of Ionian hills.
The swimming vapour slopes athwart the glen,
Puts forth an arm, and creeps from pine to pine,
And loiters, slowly drawn.

II.

Therefore it is said: "Though the outer and the inner walls be unfinished, though there be scant show of weapons and armour, not of such are the ills of countries. Though the fields and lands be not extended, though stores of wealth be not gathered together, not of such is the ruin of countries." But when those in high places do the things that are unseemly and when the humble are set against learning, in that day there shall be born sedition, and destruction shall come before the evening.

III.

The Humble Petition of—

Your Petitioner has long lived in Hongkong, quietly trading as a seller of broken iron. Now unexpectedly he has been arrested for having no licence. He begs your Honour will assist him. And he as in duty bound will ever pray, &c.

Honourable Registrar General.

No. 45. TRANSLATION FROM CHINESE INTO ENGLISH.

(CLASSES I, II & III.)

CLASS III TO DO QUESTION I ONLY.

I.

蟻化為人

桓謙字敬祖太原中忽見
有人皆長寸餘持槊乘馬
從堽中出精光耀日遊走
宅上數百爲羣部陣指揮
更相撞刺馬旣輕快人亦
鞭捷能緣几登竈尋飲食
之所或有切肉輒來叢聚
力所能勝者以槊刺取逕
入穴中桓遂作沸湯澆所
入處因掘之有斛許大蟻
死在穴中

II.

該船必須將茶葉裝回香港
昨接來函是於
是以多報少
論何處之兵