

1888.
NEW ZEALAND.

EDUCATION:
TEACHERS' AND CIVIL SERVICE EXAMINATIONS.
[In Continuation of E.-1A., 1887.]

Presented to both Houses of the General Assembly by Command of His Excellency.

The INSPECTOR-GENERAL of SCHOOLS to the Hon. the MINISTER of EDUCATION.

SIR,— Education Department, Wellington, 31st January, 1888.
I have the honour to report that for the examination for teachers' certificates which has just been held the number of entries was 866. The candidates may be divided into five groups, as follows:—

- (a) There are 160 who either have certificates already or have qualified for certificates so far as qualification depends on examination. These all seek to improve their standing—8 of them by obtaining a full certificate instead of a provisional one, and the rest by qualifying for a higher class.
 - (b) 261 candidates who at previous examinations have obtained "partial pass" have entered for "completion." Twenty-six of these hold licenses.
 - (c) 144 are candidates who have been examined before and have failed. Fifteen of these hold licenses.
 - (d) There are 437 new candidates, of whom three have licenses, and two have district licenses.
 - (e) Two have entered for science prizes only, and two are pupil-teachers who avail themselves of the regulation allowing them to attend for examination in one branch of drawing.
- Out of the whole number (866) there are only 60 who have not been connected with the Education Boards as teachers, pupil-teachers, or normal-school students. In group (b) are two such candidates, in group (c) 11, and in group (d) 47.

The following table exhibits the numbers in each group in each district:—

District.	Group (a).	Group (b).	Group (c).	Group (d).	Group (e).	Total.
Auckland	48	73	62	79	1	263
Taranaki	3	2	4	3	...	12
Wanganui	5	14	6	12	1	38
Wellington	13	19	5	32	...	69
Hawke's Bay ... ..	...	5	2	15	...	22
Marlborough	4	2	1	6	...	13
Nelson	3	9	11	9	...	32
Grey	1	4	3	1	...	9
Westland	1	4	1	3	2	11
North Canterbury	29	49	15	55	...	148
South Canterbury	7	11	4	10	...	32
Otago	40	53	15	54	...	162
Southland	6	16	15	18	...	55
Totals	160	261	144	297	4	866

Of this year's candidates who have hitherto failed, 117 were among the 170 who failed in December, 1886; and there are 20 whose last-previous attempt was made two years ago, and 7 who have allowed more than two years to elapse.

I observe that among the teachers holding licenses there are 44 who have not entered for this examination; and that 81 candidates in whose favour "partial pass" has been recorded are making no effort this year to improve their position. It is probable, however, that many of these last have retired from the profession of teaching.

The amount of candidates' fees is £549 5s. This is increased to £751 18s. by the fees of candidates for the Civil Service examinations, held simultaneously with the teachers' examinations. There are 40 candidates for the Senior examination and 153 for the Junior.

1—E. 1A.

I hope to be able to submit a summary* of the examiners' reports soon after the middle of February. I cannot hope to do so earlier, seeing that the examination was not over till the evening of the 17th instant.

The music papers were set by local examiners. The other papers, with the exception of those for drawing, I attach to this report.

I have, &c.,

WM. JAS. HABENS,

Inspector-General of Schools.

The Hon. the Minister of Education.

EXAMINATION PAPERS.

Elementary Science.—For Class E. Time allowed: 3 hours.

1. Describe the chief characteristics of the three states of matter. To which form of energy is latent heat to be referred?
2. Describe exactly what is meant by centrifugal force. Give examples.
3. Draw a diagram to illustrate the action of a common fountain. How could you make a fountain by means of a tumbler of water and an indiarubber tube?
4. What is meant by specific gravity? How would you ascertain the specific gravity of a piece of lead?
5. How is power gained in a screw-jack? The handle of a jack is 3ft. long; the screw has three turns to the inch: what power is gained?
6. Describe fully the properties of a bar-magnet. How would you show the inductive action of the earth upon soft iron?
7. Contrast magnetism and frictional electricity.
8. How may a voltaic current be made to produce heat, light, magnetism, mechanical work, and chemical action respectively?
9. What are respectively the chief characteristics of acids, bases, and salts? Give examples, with formulæ, of each of the three.
10. Describe in detail how a plant gets its food.

Domestic Economy and Laws of Health.—Alternative with Elementary Science for Class E. Time allowed: 3 hours.

1. Describe the effect of heat upon air. How would you show this effect to your pupils? Draw a diagram to show how heated gases are made to circulate around the oven of a range.
2. For what several purposes may yeast be used in cooking? What is the reason for its being used?
3. What are the several ways of using tomatoes?
4. Describe the several ways in which fruit, such as gooseberries, may be preserved for winter use. Discuss the advantages of each.
5. Describe how to make a vegetable soup that shall contain all the essential foods.
6. What are the means by which the lungs are expanded and contracted? How does tight-lacing affect the mechanism of breathing?
7. Describe a sweat-gland in detail, and explain its functions.
8. Show by a diagram the course a blood-corpuscle takes in passing from the right auricle to the left ventricle. Write on the diagram the names of all the valves it passes.
9. Name and discuss the several advantages that are possessed by a house that stands on a rise.
10. Describe the most perfect mode of connecting a kitchen sink with a drain. Give diagrams, and explain the uses of the several parts.

Elementary Experimental Science.—For Class D. Time allowed: 3 hours.

1. Describe any simple form of Atwood's machine, and show how the elementary facts of force and inertia may be illustrated by its means.
2. What is centrifugal force? Show some of the means by which it may be illustrated.
3. Describe some of the experiments that may be made by means of a ball hanging from the ceiling, and state the principles the experiments illustrate.
4. Describe how you would make a simple experiment to illustrate the action of a diving-bell.
5. How would you make the experiment to show that water boils at a lower temperature at reduced pressure?
6. Describe various simple experiments by which the attraction and repulsion of frictional electricity may be illustrated.
7. Describe in detail how you would make hydrogen with H_2SO_4 and zinc, what precautions you would take in lighting it, what experiments you would make with it, and how you would crystallize the sulphate of zinc produced.
8. How would you make experiments to illustrate the action of carbonic acid in nature?
9. Describe how the gluten may be got out of flour, and the starch out of a potato.
10. Describe some piece of apparatus to illustrate the mechanism of breathing.

English.—For Class D. Time allowed: 3 hours.

[All the Questions are to be attempted.]

1. Distinguish the uses of *a* in (a) Once a year, (b) They are all of a sort, (c) Many a man; the uses of *that* in (a) I am that I am, (b) He gave this and took that, (c) That cannot be true; the uses of *what* in (a) What he said, that he would never deny, (b) What with debts and worries he has a difficult outlook, (c) What a despicable creature! (a) What to do I know not; the uses of *some* in (a) Some fail, some succeed, (b) Somebody said so, (c) Some few came; and the uses of the infinitive in (a) To err is human, (b) He cannot say so, (c) A house to let, (a) I was about to tell him, (c) He was sorry to see such a mob, (c) Just to think of his imprudence!

2. Point out what you think the merits of style in each of the following passages, and explain, as far as you can, why they seem merits to you:—

(a.) What a careless, even deportment hath your borrower! What rosy gills! What a beautiful reliance on Providence doth he manifest—taking no more thought than the lilies! What contempt for money—accounting it (yours and mine especially) no better than dross! What a liberal confounding of those pedantic distinctions of meum and tuum! or, rather, what a noble simplification of language (beyond Tooke), resolving these supposed opposites into one clear intelligible pronoun adjective!

(b.) The great river-courses which have shaped the lives of men have hardly changed; and those other streams, the life-currents that ebb and flow in human hearts, pulsate to the same great needs, the same great loves and terrors. As our thought follows close in the slow wake of the dawn, we are impressed with the broad sameness of the human lot, which never alters in the main headings of its history—hunger and labour, seed-time and harvest, love and death.

(c.) Dry clash'd his harness in the icy caves
And barren chasms, and all to left and right
The bare black cliff clang'd round him, as he based
His feet on juts of slippery crag that rang
Sharp-smitten with the dint of arm'd heels—
And on a sudden, lo! the level lake,
And the long glories of the winter moon.

3. State the common element in each of the following sets of synonyms, and then distinguish the words in each: (a) Growth, development, evolution; (b) Education, culture, instruction; (c) Discovery, invention.

4. Rewrite the following so as to avoid its ambiguities, dislocations, intricacies, awkward constructions, repetitions, and archaic uses of words. The words and order of words and of ideas may be changed, but the ideas may not:—

“Some few years before these troubles, when the power of churchmen grew more transcendent, and indeed the faculties and understandings of the lay-counsellors more dull, lazy and inactive, (for without the last, the first could have done no hurt) the bishops grew jealous that the countenancing another discipline of the church here, by order of the state, (for those foreign congregations were governed by a presbytery, according to the custom and constitution of those parts of which they had been natives; for the French, Dutch and Walloons had the free use of several churches according to their own discipline) would at least diminish the reputation and dignity of the episcopal government and give some hope and countenance to the factious and schismatical party in England to hope for such a toleration.”

5. Write a short essay on the life and character of any great writer as seen in one or more of his best writings, or of any great statesman as seen in his policy.

6. Write out the following with correct punctuation:—

Mr. Gale went, and opened; whom have you up stairs, asked a voice a rather remarkable voice nasal in tone abrupt in utterance; Oh Mr. Helstone! is it you? sir! I could hardly see you for the darkness, it is so soon dark, now, will you walk in Sir? I want to know first; whether it is worth my while, walking in, whom have you up stairs. The curates Sir; what, all of them! Yes! Sir! Been dining here; Yes! Sir! That will do! With these words, a person entered a middle aged man, in black; he walked straight, across the kitchen, to an inner door; opened it; inclined his head forward; and stood, listening; there was something to listen to for the noise above was just then louder than ever; hey; he ejaculated to himself, then turning to Mr. Gale, have you often this sort of work? Mr. Gale had been a churchwarden and was indulgent to the clergy; they're young you know Sir! they're young, said he deprecatingly; young? they want caning; bad boys, bad boys; and if you were a dissenter John Gale! instead of being a churchman they'd do the like, they'd expose themselves, but Ill; by way of finish to this sentence he mounted the stair.

7. Write down the words which the supervisor dictates.

[The words were — Superintendence, defensible, defence, assizes, chevalier, rheum, debauchee, saleable, ellipsis, desuetude, homogeneous, inexcusable, tracheotomy, atrophy, sacrilegious, chrysanthemum, veneer, licentiate, rhododendron, relieve.]

Arithmetic.—For Class D. Time allowed: 3 hours.

1. When it is attempted to measure a length of 77 feet with a certain rod it is found that there are 6 inches over; and when it is attempted to measure 61 feet with the same rod there are 3 inches over: find the greatest length which the rod can have.

2. Reduce to its simplest form $\frac{27\frac{1}{4} - 2\frac{5}{8}}{.064} - \frac{56.72}{28\frac{1}{2}} - \frac{11\frac{3}{4}}{17.1}$.

3. It is recorded that in a certain month 5·7 inches of rain fell. Find the weight of the rain which has fallen on an acre of land, assuming that a cubic foot of water weighs 1,000oz.

4. State and prove the rule for converting a vulgar fraction to a decimal. How can you tell before trial whether the decimal will terminate or will circulate? Give the reason for your answer.

5. A quartz reef yields ·00203125 per cent. of gold. Find the value of a ton of the quartz, if gold be worth £3 17s. 6d. an ounce, and the refuse quartz be valueless.

6. A square field, containing $22\frac{1}{2}$ acres, has a roadway 6 yards wide running all round it just outside its boundary. Find the cost of making this road at 3s. $2\frac{1}{2}$ d. per square yard.

7. In a game, A can give B 20 points out of 100, and B can give C 30 out of 200. How many can A give C in a game of 350 points?

8. A property-tax of a penny in the pound is levied on the capital value of property. If 7 per cent. be the current rate of interest, find how many pence in the pound would have to be levied on the income of the property to yield the same revenue.

9. The 3-per-cent. Consols being at $103\frac{1}{2}$, a man sells out £10,000 stock, and buys into the New Zealand 4-per-cents, by doing which he increases his annual income by £120. What was the price of the latter stock?

10. If the town population be to the country population at the present time in the ratio of 17 to 5, and if the town population increase at the rate of 12 per cent. whilst the country population increases at the rate of 5 per cent., what is the rate of increase of the total population?

11. Two farmers, who have 2,500 acres and 3,500 acres of land respectively, go into partnership, taking at the same time a third partner, who pays £15,000 into the concern. How must the money be divided between the two original landowners, it being understood that all three are to have equal shares in the land, which is of uniform goodness throughout?

12. Two stations, A and B, are on a line of railway, and are 120 miles apart. A train starts from A at 8.15 a.m., and travels towards B at the rate of 25 miles an hour; another train leaves B at 9.30 a.m., and travels towards A at the rate of 30 miles an hour. At what distance from A will they meet?

13. If standard silver contains 37 parts in 40 of pure silver, and if a pound weight Troy of standard silver is coined into 66 shillings, find how much the real value of a shilling is below its intrinsic value, assuming that pure silver is worth 5s. 4d. an ounce, and that the value of the alloy may be neglected.

14. If the price of diamonds *per grain* is directly proportional to their weight, and if a diamond weighing 5 grains be worth £7 10s., what will be the worth of a diamond weighing 16 grains?

Geography.—For Class D. Time allowed: 3 hours.

[Candidates should answer seven Questions. One should be selected from Section A, and two at least from Section B.]

SECTION A.

1. In what two latitudes is the meridian altitude of the sun $65^{\circ} 15'$ when its declination is $21^{\circ} 55' S$? Explain the process by which you solve the problem.

2. How is it that the moon exercises a greater influence than the sun does in the formation of tides, its actual attraction being so much less than that of the sun?

3. What is the principle of Mercator's projection? What are its special advantages and its characteristic defects?

SECTION B.

4. What are monsoons? How are they accounted for? Why are they so marked in the Indian Ocean?

5. What are the three main types of coral reefs? Explain their peculiarities of form.

6. State the general direction of the great volcanic lines on the earth's surface. What reason can you give for it?

7. Illustrate the influence of the physical features of a country in the formation of national character by reference to Scotland, France, and Greece.

SECTION C.

8. Describe the general configuration of New Zealand, tracing the connection between the physical features of the two Islands. (N.B.—A good sketch-map, showing the mountain-ranges, chief rivers and lakes, will increase the value of the answer.)

9. Name the chief commercial products of Ceylon, India, South Africa, the West African colonies, Queensland, Mauritius, and British Columbia.

10. Describe the course of the Danube or of the Congo, noting the characteristic features of its basin. Illustrate by sketch-map if possible.

11. In the course of a journey across North America from east to west, either by the Central Pacific route or by the St. Lawrence and the Canadian Pacific line, what would be the successive aspects of the country passed through?

12. Where are the following places, and for what are they respectively noted: Granada, Birkenhead, Agra, Heidelberg, Belfast, Milan, Wolverhampton, Buenos Ayres, Greenock, Khartoum, Suva, Mandalay, Valetta, Pittsburg, Port Said, Durban, Herat, Valparaiso, Honolulu, Strasburg?

History.—For Class D. Time allowed: 3 hours.

[All the Questions are to be attempted.]

1. Give a brief outline of the history of the conquest and subjugation of England by the Normans.

2. How did the character of Henry the Eighth influence the course of English politics and religion?

3. Characterize the various pretenders to the English throne and the results of their attempts.
4. In what various ways did favourites affect the policy of James the First and Charles the First?
5. Describe the steps by which Cromwell was compelled to assume a dictatorship.
6. Why was the English Revolution of 1688 a bloodless one, and what did it effect?
7. What were the relations between France and England during the reign of George the Third up to 1789?
8. Name the Prime Ministers of the reign of George the Fourth, and give an account of the more important measures of the Ministry of each.
9. What do you know of Domesday, the Act of Uniformity, Shipmoney, the Stamp Act, and the Manchester-Massacre?

Art of Teaching and School Management.—For Class D and Class E. Time allowed : 3 hours.

[NOTE.—Questions 1, 2, and 3 must be answered by all candidates, and not more than six of the remaining questions.]

1. What are the general principles to be observed in drawing up a time-table?
2. What averages are required in the quarterly returns of attendances? How is each obtained? Complete the return on the form* furnished to you herewith, and send it in with your answers.
3. Draw up full notes of a lesson on *one* of the following subjects, the lesson to last for half an hour:—
 - (a.) A lump of sugar. (For Standard I.)
 - (b.) Atmospheric moisture. (For Standard VI.)
 - (c.) Magna Charta. (For Standard IV.)
4. "A place for everything, and everything in its place." Illustrate the educational value of this saying in school life.
5. Write a short essay on self-culture, with especial reference to the work of a teacher.
6. What points of school hygiene should be kept most prominently in view in order to secure the best results with the least strain?
7. What are the various purposes of questioning? State the leading characteristics of good questions.
8. "I strive to make myself useless to my pupils." On what grounds may this statement be justified?
9. State the various purposes for which punishment is inflicted, and show their bearing on school life.
10. What do you consider the true aim of the teacher? Indicate how, in your opinion, this aim may best be secured.
11. Explain clearly how you would give a first lesson on the addition of fractions, and illustrate your answer with reference to $\frac{1}{2} + \frac{2}{3} + \frac{3}{4}$.
12. Distinguish between the different kinds of memory, and show under what circumstances each is an important factor in education.

* RETURN of ATTENDANCE for the Quarter ending , 188 .

SCHOOL.	HALF-DAYS.	M.	F.	TOTAL.
I. How many scholars were returned as belonging to the school at the end of last quarter? [<i>Line VII. of last quarter's return</i>] ...	—	37	34	
II. How many of these have left, not having attended at all this quarter? ...	—	4	2	
III. What, then, was the number really belonging to the school at beginning of quarter? [<i>Subtract II. from I.</i>] ...	—			
IV. How many have been admitted during the quarter? ...	—	2	3	
V. How many, therefore, have belonged to the school this quarter? [<i>Add III. and IV.</i>] ...	—			
VI. How many of these (in V.) left before the end of the quarter? ...	—	3	2	
VII. What, then, is the number now belonging? [<i>Subtract VI. from V.</i>] ...	—			
VIII. What is the average weekly number on the roll during the quarter? ...	—	33.5	34	
IX. How many times has the school been open this quarter (mornings and afternoons to be reckoned separately)? ...	110	—	—	—
X. What is the number of half-day attendances? ...	—	3,290	3,315	
XI. What, then, is the strict average attendance? [<i>Divide X. by IX.</i>] ...	—			
XII. On how many half-days has the attendance been not less than one-half of the number on the roll for the time being? ...	103	—	—	—
XIII. What is the number of attendance on these half-days? ...	—	3,206	3,243	
XIV. What, then, is the average attendance by the second computation (or working average)? [<i>Divide XIII. by XII.</i>] ...	—			
XV. What has been the largest attendance on any half-day this quarter? ...	—	34	35	

English Grammar and Composition.—For Class E and Junior Civil Service. Time allowed : 3 hours.

1. Point out, and explain the force of, the prefixes in—colloquial, irrevocable, succumb, superfluous, circumspectly, impervious. Write sentences showing that you understand the meaning of these words.

2. "That the congregation may thereby be satisfied, which before were offended." How do you account for this use of a plural verb with a singular nominative? Mention, with examples, two or three other words that admit of a similar construction.

3. Distinguish between imperfect participles and gerunds or verbal nouns. Parse all the words in -ing in the following passages :—

- (a.) Oh ! who can hold a fire in his hand
By thinking of the frosty Caucasus ?
- (b.) When midnight bells cease ringing suddenly.
- (c.) The sound of the church-going bell
These valleys and rocks never heard.
- (d.) The younger people, making holiday,
Went nutting to the woods.
- (e.) He told me with a bumpkin grin,
A weakly intellect denoting,
He'd rather not invest it in
A company of my promoting.

4. Unhappy he, who, from the first of joys,
Society, cut off, is left alone
Amid this world of death. Day after day
Sad on the jutting eminence he sits
And views the main that ever toils below ;
Still fondly forming in the farthest verge,
Where the round ether mixes with the sky,
Ships, dim-discovered, dropping from the clouds.

Parse the words—Society, cut, alone, forming, farthest, ships. Analyse the passage, *day after day*, &c., to *toils below*. Explain clearly the meaning of the last three lines.

5. Punctuate the following, and put capital letters where required :—

When he was returned honest man said Sancho let me see that cane a little I have a use for it with all my heart answered the other sir here it is and with that he gave it him Sancho took it and giving it to the other old man there said he go your ways and heaven be with you for now you are paid how so my lord cried the old man do you judge this cane to be worth ten gold crowns certainly said the governor or else I am the greatest dunce in the world and now you shall see whether I have not a headpiece fit to govern a whole kingdom this said he ordered the cane to be broken in open court which was no sooner done than out dropped the ten crowns.

6. The first four of the following sentences contain grammatical mistakes, and the second four some faults of expression. Point out and correct what is wrong in each case :—

The very two individuals whom he thought were far away.

A man may see a metaphor or an allegory in a picture as well as read them in a description.

The plan proposed by Mr. Bright was certainly one of the boldest that has ever been put forward.

He is not one of those who interferes in matters that do not concern him.

In his ranting way, half-poetical, half-inspired, and half-idiotic, Coleridge began to console me.

I have a singular power of seeing in the dusk, for though long-sighted, or perhaps for that reason, brilliant sunlight only dazzles me, in a dim uncertain light I can trust my eyes not to deceive me.

It was the most amiable, although the least dignified, of all the party struggles by which it had been preceded.

The future of the novel cannot be predicted, and had better not be attempted.

7. "When a nation has a real belief in culture, and when its schools are worthy of this belief, it will not suffer them to be sacrificed to any other interest ; and, however greatly political considerations may be paramount in other departments of administration, in this they are not." This sentence might be written : "A nation will not suffer its schools to be sacrificed to any other interest when it has a real belief in culture, and when its schools are worthy of this belief ; and political considerations are not paramount in this department of administration, however greatly they may be in others." Examine the construction of the sentence, and show why as first written it has a great superiority in precision and force.

8. Write a short essay on—

Any favourite book ; remarking on its style and purpose, and the pleasure or profit you have derived from reading it ;

Or, River Scenery ;

Or, Loyalty.

9. Write down, as an exercise in spelling, the words dictated by the Supervisor.

[The words were—Circuit, assuage, auxiliary, prophecies (noun), beneficent, forfeiture, buoyant, guiltily, admissible, prophesies (verb), tenacious, variegated, vacillating, fulfilment, capricious, stationery (noun), flageolet, jeopardy, pavilion, cylinder, mischievous, portraiture, assassin, synonymous, confederacy.]

Arithmetic.—For Class E and Junior Civil Service. Time allowed: 3 hours.

[The working of each Question must be given.]

1. Divide six million seven hundred and twenty-three thousand eight hundred and sixty-four by forty thousand and twenty-three. To the quotient add half of itself, and square the result. Write your answer in words.

2. Show, by simple examples, (a) that multiplication and division are but short methods of addition and subtraction respectively; and (b) how to prove the correctness of your results in those rules.

3. If the weight of a cubic foot of water be 1,000oz., find the weight of a cubic inch in grains.

4. The cost of carpeting a square room at 5s. a square yard is £6 5s., and the painting of the walls at 9d. the square yard is £2 12s. 6d. What is the height of the room?

5. A field of $13\frac{1}{2}$ acres yields corn to the value of £108 18s. when the price is 44s. per quarter. Find the extent of a field that would return £134 4s. when corn is selling at 45s. 9d.

6. Find, by Practice, the cost of 48 square yards 8 square feet 114 square inches at 13s. 7 $\frac{1}{4}$ d. per square yard.

7. Explain the difference between a vulgar and a decimal fraction, and show how the one may be converted into the other. What fractions produce terminating and what recurring decimals?

8. Find the value of $£\frac{2}{3}(6\frac{2}{3}+2\frac{1}{2})+\frac{2\frac{1}{4}-\frac{3}{8}\text{ of }1\frac{5}{8}}{\frac{1}{3}\text{ of }3\frac{1}{2}+\frac{1}{4}\frac{3}{8}}\times\cdot95\text{ of }5s.+ \frac{16\cdot8}{\cdot024}d.$

9. By what decimal must 1·00503 be divided so that $\frac{4}{5}$ ths of the quotient may be ·859?

10. A woman, by selling eggs at 9 for 7d., gains 12 per cent. At what price must she sell them per dozen to gain 20 per cent.?

11. What sum must be put out to interest at 4 $\frac{3}{8}$ per cent. to become £49 0s. 5 $\frac{1}{4}$ d. in 5 $\frac{1}{4}$ years?

12. Define *discount*, and find the present worth of £131 12s. 6d. due three months hence at 5 per cent.

13. The 3-per-cent. stock is at 98 $\frac{3}{8}$, and the 3 $\frac{1}{2}$ -per-cent. at 106 $\frac{1}{4}$. Which is the better investment?

14. The standard silver coin of Great Britain is made of 37 parts of pure silver and 3 of copper, and a pound Troy of this metal yields 66 shillings. What weight of pure silver is there in 20s.?

Geography.—For Class E and Junior Civil Service. Time allowed: 3 hours.

[All candidates should take at least two out of the first four Questions. Eight Questions should be answered well to gain full marks.]

1. Explain the following terms: Ecliptic, plane of the earth's orbit, meridians of longitude, tropic, vernal equinox, spring-tide, watershed, avalanche, moraine, cyclone.

2. How are "the seasons" to be accounted for? When is the sun vertical at the equator, and when at either tropic?

3. Describe the circulation of the water in the North Atlantic and in the North Pacific basin.

4. What are the trade-winds? What is their direction? How are they to be explained?

5. Describe the characteristic physical features of your own provincial district. (N.B.—A good sketch-map will increase the value of your answer.)

6. Draw a map of the English coast from Berwick to Plymouth, inserting rivers and chief coast-towns.

7. Where and what are the following: The Lothians, Connemara, the Fens, the Tyrol, the Landes, the Campagna, the Engadine, the Morea, the Terai, the Tundra, the Sunderbunds, the Great Karroo, the Prairies, the Pampas, the Llanos, the Selvas, the Punjaub?

8. Describe the course of the Nile or of the St. Lawrence, noting its principal tributaries, the chief towns on its banks, and the characteristic features of its basin.

9. Give the situation of each of the following places: Boston, Lucknow, Philadelphia, Halifax, Rio Janeiro, Washington, Delhi, Grahamstown, Genoa, Antwerp, Valparaiso, Ballarat, Demerara, Chicago, Dundee, Tokio.

10. What is the general configuration of the Australian Continent? What reasons are there for thinking that it was not always one island?

History.—For Class E and optional for Junior Civil Service. Time allowed: 3 hours.

1. The Barons struggled against the power of John and of his immediate successor: briefly recount the chief incidents of the struggle, and show (more fully) how its issue affected the liberties of the people.

2. What was the fate of each of the following persons: Joan of Arc, Perkin Warbeck, Algernon Sidney, Admiral Byng? Write a short biography of any one of them.

3. How was the claim that was set up on behalf of Arabella Stuart supported, and what results followed the failure to establish it?

4. State what you know about the Scotch and the Irish rebellions in the reign of Charles I., and their effect on the Civil War.

5. There was a Triple Alliance in 1668, and another in 1717: what countries entered into them, and what were the objects of the contracting parties?

6. In the reign of Charles II., and again in 1689, measures were passed by Parliament to render the liberties of the people more secure than they had previously been: what were these measures, and what their principal provisions?

7. Narrate briefly the principal events that occurred under the Commonwealth.
8. How did England acquire Cape Colony, Ceylon, Malta, and Mauritius?
9. Name some of the principal literary men of the reign of George III., and briefly indicate the works which have done most to render them famous.
10. Mention the chief engagements, on sea and on land, that took place during the war between England and France from 1803 to 1815. In each case give the names of the commanders of the forces engaged, and state the issue of the engagement.

Algebra.—Optional for Class D and Junior Civil Service. Time allowed: 3 hours.

1. If $x = \frac{1}{2}$, $y = 0$, $z = -\frac{2}{3}$, find the numerical value of $x^2 - yz + \frac{z^2 - xz}{z^2 - y^2}$.
2. Multiply $2x^2 + 4y^2 - 3xy$ by $xy - 2y^2 - 5x^2$, arranging your answer in descending powers of x . Find the remainder when the preceding product is divided by $xy - 4y^2 + 2x^2$.
3. Resolve into elementary factors $x^4 - 16y^4$; $15a^2 + 14ab - 8b^2$; $(3a - 2b + c)^2 - (2a + b - 3c)^2$; $x^6 - y^6$; $x^2 - y^2 + z^2 - 2xz$.
4. Simplify $3(2a - 3b) - 2[a - (-2a + b) + 3\{-2a + b - (a - b)\} - 4b]$ and $\frac{1}{2}(2a - b) - \frac{1}{3}\{-2a - \frac{b - a}{2}\}$.
5. Find the highest common divisor of $6x^4 - x^3y - 3x^2y^2 + 3xy^3 - y^4$ and $15x^4 - 4x^3y - 8x^2y^2 + 8xy^3 - 3y^4$.
6. Simplify the fractions—

$$\frac{x^2 + 1}{x(x^2 - 1)} + \frac{x}{(x + 1)^2} - \frac{x + 1}{x(x - 1)}.$$

$$\frac{1}{a^2 + b^2} \times \frac{\frac{a^2}{b} - b^2}{\frac{1}{a} - \frac{1}{b}} - \frac{1}{a^2 - b^2} \times \frac{\frac{a^2}{b} + b}{\frac{1}{a} + \frac{1}{b}}.$$

7. Solve the equations—

$$\frac{4x - 12}{11} - \frac{1}{2}\left(\frac{x + \frac{1}{2}}{5}\right) = \frac{7 + x}{3} - 1\frac{7}{12}.$$

$$(ax + b)\left(\frac{x}{a} - \frac{c}{b}\right) = (x + c)(x + 1).$$

8. A rectangular sheet of cardboard, which is a inches long and b inches wide, has a square, whose side is x inches, cut out of each corner, thus allowing the four sides of the sheet to be turned up without rumpling, so as to form a box without a lid. Write down the expression for the cubical content of the box.

9. A merchant buys a cask of brandy for £48, and sells a quantity exceeding three-fourths of the whole by 10 gallons, at a profit of 25 per cent. He afterwards sells the remainder at such a price as to clear 60 per cent. by the whole transaction. Had he sold the whole quantity at the latter price he would have gained 175 per cent. How many gallons were there in the cask?

Euclid.—Optional for Class D and Junior Civil Service. Time allowed: 3 hours.

1. What geometrical magnitudes are treated of by Euclid in the First and Second Books? How are these magnitudes compared with one another? What is the ultimate test of the equality of geometrical magnitudes?
2. Define a parallelogram, a rectangle, and a rhombus. Prove that a rhombus is a parallelogram.
3. If one side of a triangle be produced, the exterior angle is greater than either of the interior opposite angles.
4. Prove (preferably by superposition) that two triangles having two angles and the adjacent side of the one respectively equal to two angles and the adjacent side of the other are equal in every respect.
5. Triangles upon equal bases and between the same parallels are equal in area.
The diagonals AC, BD, of a parallelogram intersect in O, and AP, CP, are drawn to any point P in BD. Show (1) that the triangles APO, CPO, are equal; (2) that the triangles APB, CPD, are together half of the parallelogram.
6. On a given straight line to describe a parallelogram equal to a given rectilineal figure and having an angle equal to a given angle.
7. If a straight line be divided into any two parts, the square on the whole line is equal to the squares on the two parts together with twice the rectangle contained by the parts.
8. To describe a square that shall be equal to a given rectilineal figure.
The hypotenuse of a right-angled isosceles triangle is 15 inches: find the side of a square equal in area to the triangle.

German.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

1. Translate into English—

- (1.) Die Mutter tröstet die Tochter.
- (2.) Ich lebe in Neu-Seeland.
- (3.) Wir haben ihn geliebt.
- (4.) Thu es nicht wieder.
- (5.) Er war am Cap der Guten Hoffnung.
- (6.) Nennen wir uns Christen?
- (7.) Gib mir das Wörterbuch.
- (8.) Ich kann das Wort nicht finden.
- (9.) Der König nahm einen goldenen Becher.
- (10.) Was für ein starker Wind ist heute!

2. Translate into German—

- (1.) The enemy is bold.
- (2.) The climate is very pleasant.
- (3.) Do you learn the German language?
- (4.) She was a pretty little girl.
- (5.) You must start to-morrow.
- (6.) He takes a bath every morning.
- (7.) Good morning, Sir.
- (8.) There is much fever in those districts.
- (9.) I call that very unfair.
- (10.) Be attentive, please.

3. Grammatical questions :—

- (1.) Give a masculine word of the strong declension.
- (2.) Give one of the weak declension.
- (3.) What is the declension of feminine nouns?
- (4.) What is the declension of neuter nouns?
- (5.) Can you explain the neuter gender of *Mädchen*?
- (6.) Decline the word "Professor."
- (7.) Do you know of any dative plural not ending in *n*?
- (8.) Decline "the high tree" in German.
- (9.) Decline "a high tree" in German.
- (10.) Give three prepositions with the dative case.
- (11.) Give three prepositions with the accusative case.
- (12.) Give three prepositions with the genitive case.
- (13.) Give three prepositions with dative or accusative case.
- (14.) What do you understand by "strong conjugation"?
- (15.) Give the principal parts of *können*, *kennen*, *mögen*.
- (16.) How do you form ordinal numbers?
- (17.) Where do you put the object of a verb?
- (18.) Translate "one hundred and eighty-seven."
- (19.) How do you address a letter to a man called "Herr Müller"?
- (20.) Would you translate "sorceress" by "Zaubererin" or by "Zauberin"?

4. Translate into English—

Hier sitze ich dann und bin soweit ganz vergnügt. Ich habe einen Spaziergang an dem Meeresufer gemacht, und fühle mich angenehm erfrischt. Meine kleine Tochter, ein liebliches Kind von drei Jahren, pflückt eine Blume nach der anderen in unserem sonnigen Garten und unterbricht mich fortwährend beim Lesen, indem sie mir die Blumen auf das Buch legt. Das kann unmöglich so weitergehen. Entweder muss ich mein sehr anziehendes Buch fortlegen oder sie muss aufhören, mir Blumen zu bringen. Doch halt! da kommt die Mutter und ruft sie in die Küche, am ihr eine Handvoll Kirschen zu schenken.

Latin.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

1. Translate,—

(a.) Pleraque eorum quae rettuli quaeque referam, parva forsitan et levia memoratu videri non nescius sum: sed nemo annales nostros cum scriptura eorum contenderit, qui veteres populi Romani res composuere. Ingentia illi bella, expugnationes urbium, fusos captosque reges, aut si quando ad interna praeverterent, discordias consulum adversum tribunos, agrarias frumentariasque leges, plebis et optimatum certamina memorabant. Nobis in arcto et inglorius labor: immota quippe aut modice lacescita pax, maestae urbis res, et princeps proferendi imperii incuriosus erat. Non tamen sine usu fuerit introspicere illa, primo aspectu levia, ex quibus magnarum saepe rerum motus oriuntur.

(b.)

Colle sub aprico creberrimus ilice lucus
 Stabat, et in ramis multa latebat avis,
 Area gramineo suberat viridissima prato,
 Humida de guttis lene sonantis aquae.
 Ipse sub arboreis vitabam frondibus aestum,
 Fronde sub arborea sed tamen aestus erat.
 Ecce, petens variis immixtas floribus herbas,
 Constitit ante oculos candida vacca meos;
 Candidior nivibus, tunc quum cecidere recentes,
 In liquidas nondum quas mora vertit aquas.

(c.) Multi divitias despiciunt, quos parvo contentos tenuis victus cultusque delectat : honores vero quorum cupiditate quidam inflammantur, quam multi ita contemnunt, ut nihil inanius, nihil esse levius existiment : itemque cetera quae quibusdam admirabilia videntur, permulti sunt qui pro nihilo putent. De amicitia omnes ad unum idem sentiunt, et ei qui ad rem publicam se contulerunt, et ei qui rerum cognitione doctrinaque delectantur, et ei qui suum negotium gerunt otiosi, postremo ei qui se totos tradiderunt voluptatibus, sine amicitia vitam esse nullam, si modo velint aliqua ex parte liberaliter vivere.

2. Parse the words *otiosi* and *levius*, and account for the mood of *existiment* and *velint*, in (c).

3. What are the principal parts of a Latin verb, and why are they so called? Give the endings of the different persons in the active voice. Break up the word *amabimur* into its different component elements.

4. In what different ways is the infinitive in Latin used? Illustrate your answer by examples.

5. Translate into Latin—

The second Punic war was brought on the Romans through the action of Hannibal the Carthaginian general, who attacked Saguntum, a Spanish town friendly to the Romans. The Romans sent an embassy to warn him to abstain from war; but he refused to receive the ambassadors. They also sent to Carthage, demanding that instructions might be given to Hannibal not to make war on the allies of the Roman people. Meanwhile the people of Saguntum, being reduced by famine, were taken by Hannibal, and the heaviest punishment inflicted on them.

French.—Optional for Class D and Junior and Senior Civil Service. Time allowed : 3 hours.

1. Translate into English—

Je crains que la liberté ne soit pas un fruit du sol de la France ; hors quelques esprits élevés qui la comprennent, le reste s'en soucie peu. L'égalité, notre passion naturelle, est magnifique dans les grands cœurs ; mais, pour les âmes étroites, c'est tout simplement de l'envie ; et, dans la foule, des meurtres et des désordres ; et puis l'égalité, comme le cheval de la fable, se laisse brider et seller pour se défaire de son ennemi ; toujours l'égalité s'est perdue dans le despotisme ; cela, monsieur, vous expliquera toutes les désertions qui vous environnent ; le passage continuuel de vos jeunes amis au pouvoir ; enfin, quelque chose de pis, en ce moment : l'insensibilité de la France à ce qui lui fut toujours si cher : l'honneur de son nom et de ses armes. Dans quelle humiliation sommes nous plongés ! Quoi ! la Belgique aux Anglais, l'Italie et la Pologne abandonnées ! Il y aurait eu, jadis, mille révolutions dans cette politique antifrançaise. Aujourd'hui, on souffre tout ; cela s'appelle de l'ordre et de la paix. Une Chambre vendue applaudira ; un discours royal, embelli de quelques rodomontades de collège, sera trouvé superbe ; peut-être ira-t-on jusqu'à reconnaître une Pologne quand Varsovie sera prise. Ah ! monsieur, j'ai le malheur d'être un ancien et un nouveau Français ; je me ferais écorcher vif pour l'honneur de la France et pendre pour ses libertés. A quoi serais-je bon dans un pays qui ne sent plus le premier et qui est toujours prêt à livrer les secondes.—*Chateaubriand*.

2. Translate into French—

Alfred de Musset was born at Paris in 1810. His father held a government place of some value ; his elder brother, M. Paul de Musset, was himself a man of letters, and at the same time deeply attached to his brother ; and the family, though after the death of the father their means were not great, constantly supplied Alfred with a home. He was, fortunately or unfortunately, thrown, when quite a boy, into the society of Victor Hugo, the *cénacle* or inner clique of the romantic movement. When only nineteen Musset published a volume of poetry which showed in him a poetic talent inferior only to Hugo's own, and, indeed, not so much inferior as different. His temperament was of almost ultra-poetic excitability, and he had a positively morbid incapacity for undertaking any useful employment, whether it was in itself congenial or no. Thus he refused a well-paid and agreeable position in the French Embassy at Madrid ; and, though he had written admirable prose tales for his own pleasure, he was either unwilling or unable to write them under a regular commission.—*Saintsbury*.

3. Translate into French—

- (a.) Let us not flatter ourselves with vain hopes.
- (b.) This old man is a retired soldier.
- (c.) The more one knows him the more one loves him.
- (d.) Poverty is no vice.
- (e.) I am glad to hear you have good news.
- (f.) To give quickly is to give twice.
- (g.) Show the doctor your tongue.
- (h.) He was ready before you.

4. Distinguish between—*Chaque* and *chacun* ; *il a chaud* and *il fait chaud* ; *tous les jardins* and *tout le jardin* ; *ils se trompent l'un l'autre* and *ils se trompent l'un et l'autre* ; *deux mille* and *deux milles* ; *je serais* and *je serrais* ; *qui est-ce qui* and *qu'est-ce qui* ; *bénie* and *bénite*.

5. Give the French for—About eleven o'clock ; Louis the Sixteenth and Napoleon the First ; the thing happened on the twentieth of November ; a third of his income ; it is past midnight.

6. Give the plural form of—*Le château tout entier* ; *ce trop long détail* ; *c'est mon frère* ; *la route du ciel* ; *celui à qui* ; *elle chanta* ; *qu'elle chantât*.

7. Give the two comparatives in use for *mauvais*, *petit*, *mal*.

8. Write down the nominative of *auquel*, *te*, *dont*, *en*, *lui*, *leur*, *desquels*.

9. Give the feminine of *jalous*, *doux*, *prince*, *bienfaiteur*, *roi*, *berger*, *héros*, *empereur*.

10. Give the plural of—*Un cheval vicieux* ; *le nouvel hôpital* ; *cet animal cruel* ; *un oiseau bleu* ; *notre victorieux général*.

11. Give the French for—How many times? several times; this time; next time; twice; last time; once only; many times.

12. Translate into French (using *pleurer* and *arriver*)—

- (a.) She had wept.
- (b.) Is she not weeping?
- (c.) Would he not have arrived?
- (d.) He has arrived.
- (e.) Let her not weep.

13. Give the present and past participles of *requérir*, *vivre*, *mourir*, *lire*, *écrire*, *manger*, *percer*, *croître*, *croire*, *moudre*.

14. Give the feminine corresponding to—*Ce garçon*; *un coq*; *mon bon fils*; *le bouc*; *leur oncle*; *quel homme*!

15. Write down the dative of *toi*, *tu*, *il*, *elles*, *vous*, *l'un*, *qui* (with antecedent *celui*), *qui* (with antecedent *ce*).

16. Write down, in their proper order, the French names for—

- (a.) The days of the week.
- (b.) The months of the year.
- (c.) The four seasons.

[N.B.—The following Questions are not to be answered by Candidates for the Junior Civil Service.]

17. Which participles in the following sentences are correct, and which ought to agree? Give full reasons in each case:—*Ils ont donné à leurs enfants toute l'éducation que leur a permis leur fortune. Les obstacles que j'ai eu à vaincre étaient terribles. Tous ces événements se sont succédé de la façon que je l'avais pensé.*

18. Explain the etymological origin—

- (a.) Of the inserted *t* in *parla-t-il*;
- (b.) Of the peculiar form of the adjective in *grand'-mère*;
- (c.) Of the twofold gender of *amour*.

Physics.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

1. Describe a method of determining the coefficient of linear expansion of a metal bar. Show that the coefficient of cubical expansion is very nearly three times the linear coefficient.

2. What is meant by the specific heat of a substance?

A pound of small shot heated to the temperature of 100°C . is quickly thrown into two pounds of water at 10°C ., and the temperature of the water is thereby raised to 11.38°C .: hence calculate, on the supposition that the loss of heat during the operation is negligible, the specific heat of lead.

3. Define the dew-point. State the conditions which are favourable to the deposition of dew. Describe an instrument by which the dew-point may be directly determined.

4. Describe the siren, and explain its use.

A siren, having 15 holes, makes 400 revolutions per minute when it is in unison with an open organ-pipe: determine the length of the pipe, taking the velocity of sound as 1,100ft. per second.

5. What is the law of the decrease of luminous intensity with increase of distance? How would you verify this law by means of a photometer?

6. A luminous point is placed in the axis of a double-convex lens, at a distance from the lens (1) equal to half the focal length of the lens, (2) equal to the focal length, (3) equal to twice the focal length. Draw diagrams showing in each case the course of the rays which pass through the lens.

7. What is meant by the term "magnetic field"? How may the direction of the lines of force in a magnetic field be ascertained? How is the intensity of the field measured, and how is it conventionally represented?

8. A stick of sealing-wax is rubbed with fur and brought near a pith ball suspended by a lint thread from a retort-stand: explain the action that takes place. Will it make any difference if the lint thread is replaced by one of dry silk?

9. Enumerate the effects which may be produced by an electric current. Give conspicuous instances in which these effects are utilised.

10. Describe Grove's voltaic cell, and explain its action.

What is the E.M.F. of a cell which sends a current of 49 milliampères through a circuit of 40 ohms resistance?

Mechanics.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

1. What particulars must be ascertained with respect to a force before it can be regarded as a known force?

Show that a straight line may represent a force in respect of each of these particulars.

Define the resultant of two or more forces.

2. How is a variable velocity measured?

Enunciate the proposition called the parallelogram of velocities.

A ball travelling at the rate of 30ft. a second is struck in such a way that after the blow it is travelling at right angles to its former direction with a velocity of 40ft. a second. What were the magnitude and direction of the velocity communicated by the blow?

3. What is meant by *acceleration*? When is a body said to be uniformly accelerated?

Establish the formula $h = \frac{1}{2}gt^2$.

4. A stone is let fall from a certain height at the same instant that another is projected vertically upwards from a point immediately below the first: if the two stones meet half-way prove that the second stone comes to rest at the instant the other stone meets it.

5. Enunciate and prove the proposition called the "triangle of forces."

6. A hundredweight is hanging by a rope, and it is drawn aside by a horizontal force till the rope makes an angle of 30° with the vertical: find the magnitude of the horizontal force and the tension of the string.

7. Weights of 3lb., 4lb., 5lb. are placed at the angular points of a triangular plate which itself weighs 3lb.: find the centre of gravity of the whole system.

8. Find what force acting up an inclined plane which makes an angle of 30° with the horizon will support a weight of 50lb.

9. Assuming that the specific gravity of sea-water is 1.025, find the pressure per square foot at a depth of 40ft. in the sea, a cubic foot of fresh water being taken to weigh 1,000oz.

10. What are the conditions which must be satisfied if a body float freely in equilibrium?

11. Describe any mode of practically determining the specific gravity of a fluid, giving a description of the instrument you use.

Chemistry.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

1. How many grammes of oxygen in each case are required to burn completely one hundred grammes of hydrogen, of carbon, of sulphur, of phosphorus?

2. Show, by equations, the action of heat on the following compounds: Manganese dioxide, potassic chlorate, mercuric oxide, ammonic nitrate.

3. From what considerations is atmospheric air supposed to be merely a mixture, and not a compound, of its constituents?

4. Arrange the non-metallic elements in the order of their atomicity (monads, dyads, triads, &c.); and assign to each its symbol and atomic weight.

5. What is meant by the following terms: Atom, molecules, element, compound, anhydride, allotropic, oxychloride? Give two examples of the application of each of these terms.

6. Write down the formulæ (symbols) of each of the following compounds: Nitrous oxide, carbonic oxide, ammonic nitrite, silicic acid, hydrosulphuric acid, metaphosphoric acid, pyrophosphoric acid.

7. In what respects does red phosphorus differ from common yellow phosphorus? How may each of these be converted into the other?

8. How may it be shown that diamond, plumbago, and wood-charcoal are merely different forms of the same elementary substance?

9. Write down as many equations as you can for making hydrogen, chlorine, carbon dioxide, and sulphur dioxide.

10. Given oxygen, chlorine, nitrogen, hydrogen, carbon dioxide, and sulphur dioxide in different bottles: how would you distinguish them from each other?

11. Explain, as fully as you can, all the changes that take place when a candle burns.

Elementary Biology.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

ZOOLOGY.

1. What is bone composed of? Explain how a bone is nourished and grows. What are the chief uses of the skeleton?

2. Describe the structure and functions of the arteries, capillaries, and veins. What is the pulse, and why is there no pulse in the veins?

3. Describe the microscopic appearance of fresh blood, and explain the coagulation which the blood undergoes when drawn from the living body. What is the composition of the blood-plasma?

4. Describe and explain the action of the mechanism by which blood is drawn into the lungs and expelled from them. What changes does the blood undergo in the lungs?

5. Describe the structure of the liver. How is it supplied with blood, and what are its functions?

6. What are the different kinds of food necessary for health, and what is their composition? What are the advantages of a mixed diet for man?

7. What are the muscles? Describe the microscopic appearance of muscular tissue. Show how the locomotion of the body is effected by the contraction of the muscles.

8. What do you understand by nerves, nerve-fibres, and nerve-cells, and what are their general properties? What will be the condition of a man when his back is so injured that the spinal cord is practically broken across? Give the reasons for your answer.

9. Write an account of the structure of the ear, and explain how the different parts assist in hearing.

BOTANY.

1. Give the chief characters of roots. Describe the chief forms of underground stems, and explain how they are distinguished from roots.

2. Describe the form and structure of any typical simple leaf. Show how other forms of leaves may be derived by the modification of some part or parts of the typical leaf. What are compound leaves?

3. Describe fully the various parts of any dicotyledonous flower, and show how the fruit is formed from the flower.

4. What are the seeds of plants? Describe the germination of any seed. Mention any structures, in seeds you are familiar with, which aid in the dispersal of the seed.

5. Give the characters of the flower and inflorescence in any form of the following orders: Cruciferae, Gramineae, Compositae, Liliaceae, Leguminosae, Geraniaceae.

6. State clearly what you understand by a vegetable cell, and show how cells are modified to form different kinds of tissues. What is wood?

7. What is the condition of plants grown in the dark? Explain why they assume that condition.

8. What is starch, and in what form is it found in plants? What purposes does it serve in the life of the plant?

9. What are the various elements required by plants for their healthy growth? From what sources are these elements derived, and how are they taken up by the plant?

Greek.—Optional for Class D and Junior and Senior Civil Service. Time allowed: 3 hours.

1. Translate—

(a) Οὐ προσδεξαμένων δὲ αὐτῶν μίαν μὲν ἡμέραν ἐπέσχον, τῇ δ' ὑστεραίᾳ ἀνηγάργοντο μὲν νυκτὸς ἐπ' ὀλίγας ναῦς τοὺς ὀπλίτας πάντας ἐπιβιβάσαντες, πρὶ δὲ τῆς ἑω ὀλίγον ἀπέβαινον τῆς νήσου ἐκατέρωθεν, ἕκ τε τοῦ πελάγους καὶ πρὸς τοῦ λιμένος, ὀκτακόσιοι μάλιστα ὄντες ὀπλίται, καὶ ἐχώρουν δρόμῳ ἐπὶ τὸ πρῶτον φυλακτήριον τῆς νήσου. ὦδε γὰρ διετετάχατο· ἐν ταύτῃ μὲν τῇ πρώτῃ φυλακῇ ὡς τριάκιντα ἦσαν ὀπλίται, μέσον δὲ καὶ ὁμαλώτατον τε καὶ περὶ τὸ ὄψωρ οἱ πλείστοι αὐτῶν καὶ Ἐπιτάδας ὁ ἄρχων εἶχεν, μέρος δέ τι οὐ πολὺ αὐτὸ τοῦσχατον ἐφύλασσε τῆς νήσου τὸ πρὸς τὴν Πύλον, ὃ ἦν ἕκ τε θαλάσσης ἀπόκρημνον καὶ ἐκ τῆς γῆς ἥκιστα ἐπίμαχον· καὶ γὰρ τι καὶ ἔρυμα αὐτόθι ἦν παλαιὸν λίθων λογάδην πεποιημένον, ὃ ἐνόμιζον σφίσιν ὠφέλιμον ἂν εἶναι, εἰ καταλαμβάνοι ἀναχώρησις βαιοτέρα. οὗτο μὲν τεταγμένοι ἦσαν.

(b) Ἐπεὶ δὲ ἤκουσεν ὁ Ἀστυάγης ὅτι πολέμοι εἰσιν ἐν τῇ χώρᾳ, ἐξεβοήθει καὶ αὐτὸς πρὸς τὰ ὄρια σὺν τοῖς περὶ αὐτὸν καὶ ὁ υἱὸς αὐτοῦ ὡσαύτως σὺν τοῖς παρατυχούσιν ἱππόταις, καὶ τοῖς ἄλλοις ἐσήμαινε πᾶσιν ἐκβοηθεῖν. ὡς δὲ εἶδον πολλοὺς ἀνθρώπους τῶν Ἀσσυρίων συντεταγμένους καὶ τοὺς ἱππέας ἡσυχίαν ἔχοντας, ἔστησαν καὶ οἱ Μῆδοι. ὁ δὲ Κύρος ὄρων ἐκβοηθῶντας καὶ τοὺς ἄλλους πασσοῦδι, ἐκβοηθεῖ καὶ αὐτὸς πρῶτον τότε ὅπλα ἐνδύς, οὐποτε οἰόμενος· οὕτως ἐπέθιμι αὐτοῖς ἐξοπλίσασθαι· μάλα δὲ καλὰ ἦν καὶ ἀρμόττοντα αὐτῷ ἃ ὁ πάππος περὶ τὸ σῶμα ἐπεποίητο. οὕτω δὲ ἐξοπλισάμενος προσήλασε τῷ ἱππῳ. καὶ ὁ Ἀστυάγης ἐθαύμασε μὲν τίνος κελεύσαντος ἦκοι, ὅμως δὲ εἶπεν αὐτῷ μένειν παρ' ἐαυτόν.

(c) Βάτραχοι ποτε πρέσβεις ἔπεμψαν ἐπὶ τὸν Διᾷ, δεόμενοι βασιλέα αὐτοῖς παρασχεῖν· ὁ δὲ ξύλον εἰς τὴν λίμνην καθῆκε. καὶ οἱ βάτραχοι τὸ μὲν πρῶτον καταπλαγέντες τὸν ψόφον ἑαυτοῦς εἰς τὰ βάθη τῆς λίμνης ἔριπτον· ὕστερον δὲ, ὡς ἀκίνητον ἦν τὸ ξύλον, ἀναδίντες εἰς τοσοῦτον καταφρονήσεως ἦλθον, ὥστε ἐπιβαίνοντας αὐτῷ ἐπικαθέζεσθαι· ἀνάξιον δὲ ποιούμενοι τοιοῦτον ἔχειν βασιλέα, ἦγον ἐκ δευτέρου πρὸς τὸν Διᾷ, καὶ αὐτὸν παρεκάλουν ἀλλάξαι αὐτοῖς τὸν ἄρχοντα· τὸν γὰρ πρῶτον ἐφασαν λίαν εἶναι νοχελῇ. καὶ ὁ Ζεὺς ἀγανακτήσας κατ' αὐτῶν, ὕδραν αὐτοῖς ἐπέπεμψεν, ὑφ' ἧς συλλαμβανόμενοι κατησθιόντο.

2. Translate into Greek—

A child, who was bathing in a river one day, was in danger of being drowned; so, seeing some one passing by, he called to him for help: but the traveller began to find fault with the boy for being rash. The boy, however, said to him, "Well, but help me now, and afterwards find fault with me, when I have been saved."

3. Give the demonstrative pronouns in Greek, with their meanings. Decline fully οὗτος.

4. Give the comparative and superlative of ἀγαθός, ταχύς, εὐδαίμων, πολὺς, ἀληθώς.

5. Give rules for forming the future and perfect active of a Greek verb from the stem.

6. Distinguish the meanings of ὅσος, πόσος, ὅπως. What other similar sets of correlatives can you give?

7. What are the chief uses of the subjunctive and optative moods respectively in Greek in (a) principal, (b) dependent clauses?

Shorthand.—Optional for Senior and Junior Civil Service. Time allowed: 3 hours.

INSTRUCTIONS TO SUPERVISORS.

1. Inform candidates before the time for taking up this subject that they may use pen or pencil, and ruled or unruled paper, as they please, for taking notes, but that they must transcribe those notes into longhand with pen and ink.

2. Inform candidates that when once you have commenced to dictate you cannot stop until the passage is finished.

3. Dictate the passages at the following rates of speed:—

Junior	(a)	50	words per minute.
	(b)	80	" "
	(c)	100	" "
Senior	(d)	80	" "
	(e)	120	" "
	(f)	150	" "

N.B.—It will be well to practise reading these aloud some time beforehand, looking at a clock, so as to accustom yourself to the speed.

4. Candidates are at liberty to take down the three passages, if they choose. If they do so, all the passages are to be dictated to them before they commence transcribing. If a candidate

takes only one or two of the passages he is to commence transcribing as soon as he has finished taking notes.

5. Inform candidates that rapidity in transcribing notes into longhand is essential, and note carefully on the transcribed copy the exact time taken in transcription.

6. Forward each candidate's notes attached to his transcript.

PASSAGES FOR DICTATION.

Junior.

(a.) At the rate of 50 words per minute Takes 10 minutes.

I have the honour to enclose a copy of a letter from the Board of Trade, and its enclosures, on this subject, in which reference is also made to the proposal of that department to publish an official trade journal, for the purpose of affording early information respecting actual and contemplated changes in the Customs tariffs and regulations, as well as other useful information as to trade generally.

I also transmit to you a copy of a letter from the Assistant Director of the Royal Botanic Gardens, Kew, calling attention to the interest which has been awakened in regard to tropical and other fruits by the display in the several courts of the Colonial and Indian Exhibition, and enclosing a list of questions respecting colonial fruits, which he suggests should be answered as fully as possible by the colonial Governments.

The remarkable growth and development of the trade and resources of many of the colonies, the extension of telegraphs, and the more frequent and rapid communication between this country and the British colonies have created a great amount of interest in colonial trade and produce, which has been further stimulated by the Colonial and Indian Exhibition; and there is a constantly-increasing demand for information on subjects connected with the productions and commerce of the colonies. It is therefore very desirable, with a view to the encouragement and development of commercial interchange, that the colonial Governments should furnish, as far as they are able, the desired information, for publication in this country, respecting all branches of colonial produce and manufactures, modern discoveries, and improvements in production, &c., tariffs and suggested alterations in them, and other matters of interest relating to colonial trade, in order that such information may be easily procurable by the public in this country at a moderate cost and without delay.

I need hardly observe that it is the desire of Her Majesty's Government to do all in their power to assist the development of colonial commerce, and that, with this view, arrangements have been made for publishing from time to time, in the new trade journal which the Board of Trade propose to issue monthly, colonial commercial intelligence of interest and importance. This, it is believed, will supply a long-felt want, affording to the colonies much-needed facilities for the dissemination of such information in this country, and enabling Her Majesty's Government to answer many of the numerous inquiries made by merchants and others.

The chief points upon which information is desired will be best gathered from the accompanying parliamentary papers; and I need only express my hope that I shall receive the ready co-operation of yourself and of your Government, and that steps will be taken for furnishing me, as often as may be found convenient and necessary, for publication in the proposed Board of Trade journal, with any notes or items of news affecting the development of colonial trade, as well as with commercial reports containing the latest and best information respecting the colony under your government.

(b.) At the rate of 80 words per minute. Takes 10 minutes.

I rise to move the address to His Excellency of which notice has been given; and, in doing so, I will confine myself to one general observation on the exhausted subject to which the address relates. It is that, come what may, whatever may be the results of the step taken by His Excellency, he has completely done his part in this matter. Whatever may come of it, he could do no more. Not only is the principle admitted without reserve, but as a principle of government it has been carried into real and full effect. For my own part, I confess that more has been done than I expected or hoped for at this time. The feeling, Sir, with which I regard this event is one of high—if I may say so without appearing to exaggerate—of supreme satisfaction—satisfaction without a drawback. I do not intend to qualify this confession by adding that the greatness and suddenness of the change—the fullness of the success—almost make me share in the consternation of those to whom this revolution comes as a stunning blow. I feel like one who has just escaped a fearful danger, for I am intimately persuaded that, if this step had not been taken, the country would have been thrown into a state of convulsion. Not physical convulsion—of that there was never any danger; but, after having carefully watched the growth of opinion and the temper of the colony on this subject, I am convinced that if we had got into collision with the Executive, and this House had been prorogued without doing any business, a most lamentable and dangerous state of things would have ensued, more especially in the provinces of the South. There is a provision in the Constitution Act, with which my honourable and learned friend (Mr. Sewell) is well acquainted, relating to the appropriation of the general revenues of the colony, whereby, if this House had “stopped the supplies” by refusing to appropriate, the whole of the revenues would have become surplus under the Act, and would have belonged to the provinces; or, at any rate, the five southern provinces would have so interpreted the Act, and would have taken possession of all general revenues, Land Fund as well as Customs duties, raised in each of them. What would have been the effect? The General Government would have disappeared, at least from the South. Was not that a dangerous prospect? I know that the word “danger” has been objected to, but not by any one acquainted with the South and the temper of its Provincial Councils. Having that knowledge myself, I say with confidence that there was imminent danger of events which, to say the least, would

have proved very injurious to the colony for a long while, and must have been fatal to the pursuit of those much-desired objects which we have now so fair a prospect of attaining. But at this moment, Sir, another fear has come upon me. I am now somewhat afraid of something else—something of a very different character and tendency. I look with some apprehension to the possibility that we, betrayed into over-confidence by the greatness of our unexpected success, may be disposed to go too fast in the exercise of the powers which that success has bestowed upon us. Prosperity is harder to bear than adversity. I trust that we may not be led away by this great event to think ourselves immaculate; to believe that whatever we do must be right; to resemble the army or navy captain who receives at his club the astonishing information that Her Majesty's Government consider him to possess the high qualities which fit him to represent the Crown in one of Her Majesty's colonies, and who, after a night of sleepless enjoyment, looks at himself in the glass, and asks his image how it happened that his great capacity for governing remained so long undiscovered. Sir, I venture to pray of the House to recollect that, in present circumstances, the state of mind that will best become us is one of thoughtfulness and caution in all our proceedings. I will now proceed to notice the Ministerial arrangements which have resulted from our successful pursuit of Responsible Government, and will afterwards touch upon the policy of the new Ministers as that was developed to us by the able and interesting speech of my honourable friend the member for Lyttelton (Mr. FitzGerald). But, first, let me say that this appears a most fitting occasion for such remarks. We have been here nearly a month, and have hitherto discussed only the single topic of Responsible Government. None of us has had any opportunity of expressing his views as to legislation for the general advantage of the colony and the particular provinces.

(c.) At the rate of 100 words per minute. Takes 5 minutes.

We have not had before us any legislative policy that we could examine. Such a policy has now been framed for us by three of our body, or, rather, is submitted to us by them for our consideration. Our first duty is to examine it; and, indeed, my honourable friend (Mr. FitzGerald), at the close of his speech, expressly invited us to examine it in a spirit of friendly but searching criticism: an invitation which, I am sure the House thinks with me, came from him with peculiar grace and propriety. Considering the Ministerial arrangements in a general point of view, it is manifest to all of us that they are incomplete, not intended to be permanent, essentially provisional, and therefore designed to be improved as soon as possible. I am not finding fault with that: on the contrary, I well know that the provisional character of the new Government was inevitable. There was no possibility of forming what would deserve to be called a permanent Government. In former debates it was often brought to the notice of the House that the absence of two rival parties amongst us forbade the immediate formation of a complete and permanent Administration; but on these occasions I expressed the hope and belief that this circumstance had a tendency to facilitate a complete adoption of the principle of Responsible Government, though it would necessitate a merely provisional arrangement. So it has turned out; and the latter fact must be fully acknowledged, as, indeed, it is by my honourable friends themselves. As to the manner in which we have obtained in this House responsible members of the Executive Council, I cannot refrain from expressing my own satisfaction with the compromise, whereby the views of the great majority have been reconciled with those of the minority of two. As I understood the honourable member for the Northern Division (Mr. Forsaith) and the honourable member for the City of Auckland (Mr. O'Brien), they had but one objection to the immediate establishment of Ministerial responsibility—namely, that it could not be done legally without permission from the Imperial authorities; that the law stood in our way; that without a reference Home there would be an infraction of constitutional law. That objection, that difficulty, I am pleased to find has been evaded or obviated through the willingness of the old members of the Executive to retire whenever they may be called upon to do so—a compromise of conflicting legal opinions, under which neither party has to give way, and of which the happy effect is that this House, instead of being divided with regard to giving immediate effect to the new principle of government, is now, I apprehend, unanimous upon that point. And here, Sir, let me say that I owe an acknowledgment, in the form of amends, to the honourable and learned gentleman who has long held the office of Attorney-General in this part of the colony.

Senior.

(d.) At the rate of 80 words per minute. Takes 10 minutes.

Sir, you will no doubt have remarked that, in the Queen's Speech on the prorogation of Parliament, Her Majesty was pleased to refer to her colonial and Indian possessions in the following terms: "I have observed with much satisfaction the interest which, in an increasing degree, is evinced by the people of this country in the welfare of their colonial and Indian fellow-subjects; and I am led to the conviction that there is on all sides a growing desire to draw closer in every practicable way the bonds which unite the various portions of the Empire. I have authorised communications to be entered into with the principal colonial Governments with a view to the fuller consideration of matters of common interest."

The communications thus promised with the colonies have engaged the careful consideration of Her Majesty's Government, and they have come to the conclusion that the Queen should be advised to summon a Conference, to meet in London in the early part of next year, at which representatives of the principal colonial Governments will be invited to attend for the discussion of those questions which appear more particularly to demand attention at the present time. I request you to inform your Ministers of this proposal, which, I am confident, will be very satisfactory to them, and to express the hope which I entertain of their cordial co-operation.

In the opinion of Her Majesty's Government the question which is at once urgent and capable of useful consideration at the present time is that of organization for military defence. The patriotic action of the colonies in offering contingents of troops to take part in the Egyptian campaign made a deep and lasting impression on the public mind, and was the first practical result of

much careful work during recent years. It is a necessity of the case that the measures which have been taken in each colony, as well for the organization of the local forces as for the construction of local defensive works, are, to a great extent, not yet fully understood and appreciated in other parts of the Empire. The close and thorough examination of the whole subject of Imperial defence which was completed by the Royal Commission presided over by the Earl of Carnarvon has led to the execution of extensive and important defensive works in various parts of the Empire; and the cordial co-operation offered to Her Majesty's Government by the colonies in carrying out this policy indicates their desire to arrive, so far as may at present be practicable, at a common basis of action. This work is still being actively pressed on, with the assistance of a Standing Committee, which is continuously occupied with matters relating to colonial defence.

Much yet remains to be done; and it is of course unavoidable that secrecy should continue to be observed with regard to many of the defensive measures in progress or in contemplation. The time has, however, now arrived when an attempt may fairly be made to attain to a better understanding as to the system of defence which may be established throughout the Empire. For this purpose an interchange of knowledge as to the state of preparation or as to the capabilities of organization in each colony would lead to a more thorough understanding of their wants and wishes; but, whilst Her Majesty's Government would thus be prepared to recommend for the consideration of the Conference certain principles calculated to promote the general defence of the Empire, it is not our intention, in calling the Conference, to commit either the Imperial Government or any colony to new projects entailing heavy expenditure, but rather to secure that the sums which may be devoted to this purpose may be utilised to the fullest extent, with complete knowledge of all the conditions of the problem.

Second only in importance to this great question is one concerning in a special degree the interests of the Empire in time of peace. The promotion of commercial and social relations by the development of our postal and telegraphic communications could be considered with much advantage by the proposed Conference. It is a subject the conditions of which are constantly changing. New requirements come into existence and new projects are formulated every year. It is obviously desirable that the question of Imperial intercommunication should be considered as a whole, in order that the needs of every part of the Empire may, as far as practicable, be provided for, and that suggestions may be obtained from all quarters as to the best means of establishing a complete system of communications without that increased expenditure which necessarily results from isolated action. My own opinion is that the best time for meeting would be April or May.

(e.) At the rate of 120 words per minute. Takes 10 minutes.

Sir, this debate, which has now extended over six days, has convinced the Government—if it required to be convinced, or had entertained any doubts on the subject—that no more favourable or more practical financial proposals could have been submitted, with any prospect of being affirmed by this House, than the proposals made by the Colonial Treasurer. The speech of the honourable gentleman who has just sat down fairly states, I think, the difficulties with which this or any Government has to contend, when it has to consider what financial proposals it can submit with any prospect of success. We have, in the first place, to consider that we have to provide for heavy liabilities and engagements as to which we have no option, and which have not been of our own creating. Amongst those liabilities is an expensive portion of the service so frequently alluded to, and just recently referred to by the honourable member for the Waimea: I mean the postal service. We find that one-fourth, or thereabout, of the whole expenditure on the postal service which we are compelled to ask the House to provide for, is a matter as to which neither the Government nor the House has positively any option. We find a standing contract for the Panama service, and an existing liability for the Suez service, for neither of which is this Government responsible, but which we are bound in law and honour to provide for. These two services, there is no doubt, are very heavy and expensive services for a community of the numerical amount of that of New Zealand to have to maintain. Previous Legislatures, previous Governments, have, however, thought it fit and proper and for the advantage of the colony that these services should be entered upon; and, even if we wished to reverse that decision, we could not now do so without incurring a heavy claim for compensation. That is a matter which requires to be taken into consideration when the Government is called upon to decide what is to be the expenditure and the taxation of New Zealand. We have also to provide for upwards of three hundred thousand pounds under the head of permanent charges (being principally the interest and sinking fund on the debts of the colony), which is a first charge to be provided for by the country. This charge also existed when we took office, and we are not responsible for it. When these two very large items of expenditure are considered, it will be perceived how greatly the discretion as to what should be our annual expenditure is limited; although I do not, nor did any member of the Government during the debate, nor did my honourable friend when submitting his proposals to the House, attempt to assume the position that there is no possible discretion left as to reducing the expense of some of the services on the estimates. There is no doubt that the House has a right to do so, and it may possibly be able to exercise that right with benefit to the country. I can say most heartily for the Government that, if the House can fairly and honestly point out and effect any reduction in the services, there is no member of the House that will be more thoroughly gratified than will the members of the Government. How could it be otherwise? Whatever this Government may be supposed to be deficient in, I believe the House will at least give it credit for possessing sufficient sagacity to discern that nothing could make it more popular than to effect reductions—that nothing could make it more acceptable to the country than that the Government should come down to this House with a proposal to reduce taxation. We have not to wait for honourable gentlemen to rise in their places and tell us this. Those of us who have taken a part in the administration of public affairs have known it for years, and if we had not known it before we could not now be in office for a week without having it forced upon our notice. If we wished, in administering the affairs of the colony, merely to consult the popularity of the Govern-

ment, the cry we should hoist would be, reduction of taxation. When we state, therefore, that we cannot honestly hold out the hope of any material reduction of taxation this year, we know that we are doing a thing which will lay us open to very great odium, and which will cause disappointment throughout the country. I concur with my honourable friend the member for Waimea that many people will feel disappointed that there is not some reduction. In reference to this question of taxation, I must, however, take leave to say that I must not be supposed to concur in the pictures that have been drawn by some gentlemen, to the effect that all the evils of the country result from its taxation. It is perfectly true that there is depression in certain branches of trade, and that there is in some places a want of employment for those who depend mainly on their thews and sinews for the maintenance of themselves and their families; but I contend the people of the colony generally have been in a very prosperous state under exactly the same taxation as we have now to pay. It might not be inopportune if I were briefly to trace the different circumstances which, quite apart from taxation, have caused a depression in certain parts of New Zealand. The first serious depression unmistakably originated in the Province of Southland, so far back as 1863. At that time every other part of the country was in a state of great prosperity and progress. All classes were well employed, and were making money. Merchants had increasing business, and revenue and trade were increasing hand over hand. Yet Southland was at that time, and has continued to the present day, in a state of prostration, which could not be attributed to the taxation which its inhabitants paid in common with those in other portions of the country who were at that time so prosperous. No, the real cause of the depression of Southland was that it had rushed into a rash and unwarrantable expenditure, and had contracted large liabilities which it could not meet, and heavy debts which it could not discharge. That province had, in the two preceding years, rushed into unwarranted expenditure by means of borrowed money, which was used up about the end of the year 1863. They had then come to the end of their borrowing, and were left to pay the interest and sinking fund which the loans entailed. The expenditure in Southland was suddenly stopped, and the consequent stoppage of trade and employment which ensued produced a panic which led to a large re-emigration of persons whom the previous large expenditure had attracted to the province. That was the cause, and not taxation, which first led to the depression of Southland. Well, the next marked retrogression was in the neighbouring Province of Otago, although it did not commence for nearly two years afterwards.

(f.) At the rate of 150 words per minute. Takes 5 minutes.

Sir, the duty which I have to perform this day is not only an unusual one, but one invested with an interest and importance amounting to solemnity. I have to call the attention of the House away from the narrow sphere of local politics and party struggles, and from the limited scenes which usually absorb our attention, and to fix it upon the momentous events which are passing in the land of our birth, and upon the drama which is enacting upon the great stage of the civilised world. And if, Sir, I could for a moment exclude from my mind the particular occasion of this motion, and the great calamity to which it refers, I confess I should welcome an opportunity which tended to elevate our thoughts for a time above the consideration of our own comparatively insignificant fortunes, and to place us in communion with the feelings and impulses of our fellow-countrymen in England, and to excite our interest in the policy and conduct of the Empire to which we belong, and to the part which she is called upon to play in the history of the world. England is at war; and the announcement of this fact by His Excellency affords us a fitting opportunity for renewing our assurances of attachment to our country and of allegiance to our Sovereign. I will not insult the House by doubting for a moment what its feelings must be. I know that every generous impulse and every deepest sympathy of our hearts must be with our home, our countrymen, and our Queen. It might be sufficient for us to know that Her Majesty has declared war, to know that the cause is a holy and a just one. I speak not of the dictates of the heart of that illustrious lady, who has wielded the sceptre of this Empire with such singular perception of the constitutional position which she has inherited; who has become, as a monarch should ever become, the very impersonation of right and justice in her age and country; though, in those personal attributes, I should have ample guarantee that her subjects would not have been plunged into the horrors of war without strong and stern necessity: but when I recollect the names of those who immediately surround Her Majesty's throne—men, some of venerable age, whose life has been passed in counselling the maintenance of peace; men of high and deep Christian principle, to whom war must bring a bitter pang; men of philosophic schemes of human improvement, to whom war can only bring disappointment—when I think of these men counselling their Sovereign to take up arms, I am satisfied that the war is one which is sanctified by the object and necessitated by the cause. Sir, Her Majesty has stated that cause in simple and dignified terms in the Declaration. It may not be out of place that I should refer to the events which have led to it. It is to defend Turkey from the aggression of Russia. Since the time when Europe emerged from the stern and savage struggles of its early history, and in the march of civilisation exchanged uncompromising force for skilful and enlightened diplomacy, the doctrine of the balance of power amongst the European States has gradually acquired the form of an axiom in all European politics. And at various times, in negotiations and stipulations and treaties, it has been recognised by the common consent of all, and has been stated with more or less distinctness, that the nations of Europe would invariably unite to prevent the aggrandisement of power by any one State to such an extent as to peril the liberties of the other States of the Continent. And this doctrine was ratified by the treaties at the close of the last war—a war, if not undertaken, yet carried on for so many years, and at so vast a cost, only to place limits to the insatiable ambition of a ruler who had resolved to enslave the world. By those treaties it was determined not only to maintain the great and strong but also the small and feeble States of Europe in their just and right powers and possessions. And amongst them it was specially determined that the power of the Sultan should be preserved, as a necessary check to the growing strength of Russia. It is not to be inferred that there is any sympathy on the part of England with the religion or policy or form of the government of the Sultan.

Arithmetic.—Alternative with Algebra for Senior Civil Service. Time allowed: Three hours.

1. A cubic foot of water weighs 1,000oz., and a gallon contains 277·274 cubic inches: how many gallons will weigh a ton, and what is the weight of a pint?

2. A certain kind of silver plate costs 7s. 8d. an ounce in London; but if it is to be exported, a drawback of 1s. 6d. an ounce is allowed. A New Zealand purchaser, after paying freight and duty, the latter at the rate of 15 per cent. on the net price of the silver to him, finds that his silver has cost him 2d. an ounce less than if he had bought it for use in London. Find what percentage of the original cost he has paid in freight.

3. A rectangular field is three times as long as it is wide, and the length of the diagonal is 1,240ft.: find the area of the field.

4. A can run a mile in 4min. 40sec. and B can run a mile in 4min. 50sec. In a mile race B is allowed 50 yards start. Which will win, and by what distance?

5. One publisher supplies booksellers at 25 per cent. below the publishing price, and, in addition, gives 13 copies of each book for the reduced price of a dozen; another sells at 30 per cent. below the publishing price: which publisher is it most advantageous to deal with?

Suppose a retailer buys from the latter of these two publishers, and sells at an advance of 10 per cent. on the publishing price, giving six months' credit, at a time when money is worth 8 per cent.; calculate his actual gain per cent. on his outlay.

6. The population of a place increases by one-twentieth of itself every year: if at present it be 1,940,400, what was it two years ago, and what will it be two years hence?

7. Show that the square root of a whole number must be either a whole number or an interminable decimal which does not recur.

8. The Three per Cent. Consols are quoted at $103\frac{1}{2}$, and a person has £10,000 which he sells out, and sends the proceeds to New Zealand, where it is invested on mortgage at 7 per cent: if all capital in the colony pay a penny in the pound per annum for property-tax, and the cost of transmitting money either to or from New Zealand be $1\frac{1}{2}$ per cent., find by how much the capitalist has increased his annual income by sending his money here for investment.

9. Two trains are travelling on parallel lines of rail; one is going at the rate of 15 miles an hour, and the other at the rate of 25 miles an hour: prove that they take four times as long to pass one another if they travel in the same direction as if they travel in opposite directions.

If one train be 66 yards long and the other 110 yards long, calculate what these times are.

10. A square building which has a frontage of 50ft. has a roof consisting of four equal equilateral faces: find the height of the apex of the roof above the top of the walls, and the number of square feet in the area of the roof.

11. If 1,000lb. can be carried 1,000 miles for £1, and the rate of conveyance be the same in France, find to two places of decimals how many kilogrammes can be carried 100 kilometres for 20 francs, having given £1 = 25·2 francs, 1 kilometre = ·6214 mile, and 1 kilogramme = 2·2046lb.

12. The attractions which the earth and the sun exert on the moon are directly proportional to the masses of the two former bodies and inversely as the square of their distances from the moon. If the distance of the sun from the moon be 400 times that of the earth, and the mass of the sun 320,000 times that of the earth, compare the attractions which they exert on the moon.

Algebra.—Alternative with Arithmetic for Senior Civil Service. Time allowed: Three hours.

1. Twice the number b is subtracted from the number a , and the excess is divided by three times the number c ; from this result is subtracted five times the number which when multiplied by itself gives the quotient obtained by dividing the number a by the number b ; the difference so obtained is multiplied by itself. Write down the algebraical expression for the above operation.

2. Multiply together $ax^3 + 3bx^2y - 2cxy^2 - 5y^3$ and $2py^2 - 3qxy - x^2$. Write the answer in descending powers of x , collecting coefficients of like powers in a bracket.

3. Divide $x^5 - 2x^4 - 4x^3 + 19x^2 - 31x + 12 + a$ by $x^2 - 7x + 5$, and find the value of a which makes the dividend exactly divisible by the divisor.

4. Find the factors of $a^4 + a^2x^2 + x^4$, and of $(5a - 7b - 3c)^2 - (2a + 4b - c)^2$; and show that $(b - c)^3 + (c - a)^3 + (a - b)^3 = 3(a - b)(b - c)(c - a)$.

5. Prove the rule for finding the lowest common multiple of two algebraical expressions.

Find the L.C.M. of $6x^2y^2(x^3 - y^3)$, $15x^3y^3(x^2 + xy + y^2)$, $3x^2y(x - y)^2(x + y)$, $4(x + y)^3(x - y)^2xy$.

6. Express in terms of a and b in its simplest form the fraction

$$\frac{x - y}{x + y} + \frac{x + y}{x - y}, \text{ when } x = \frac{a - b}{a^2 - ab + b^2} \text{ and } y = \frac{a + b}{a^2 + ab + b^2}.$$

7. Simplify—

$$\frac{(1 - \frac{1}{3} - x)\{\frac{1}{2} - (1 - x)\}}{x - \frac{1}{6} - \frac{1}{6(1 - x)}};$$

$$\text{and divide } 2 - \frac{3n}{m} + \frac{9n^2 - 2m^2}{m^2 + 2mn} \text{ by } \frac{1}{m} - \frac{1}{m - 2n - \frac{4n^2}{m + n}}.$$

8. Solve the equations—

$$\frac{20x+36}{25} + \frac{7x+12}{9x-16} = \frac{4x}{5} + \frac{86}{25};$$

$$\left. \begin{aligned} \frac{6x+9}{4} + \frac{3x+5y}{4x-6} &= 3\frac{1}{2} + \frac{3x+4}{2} \\ \frac{8y+7}{10} + \frac{6x-3y}{2y-8} &= 4 + \frac{4y-9}{9} \end{aligned} \right\};$$

$$\left. \begin{aligned} a(a+b)x - b(a-b)y &= a^3 + b^3 \\ a(a-b)x + b(a+b)y &= a^3 - b^3 \end{aligned} \right\}.$$

9. At a certain time the population of the North Island is to the South Island as a to b ; and when the former has increased p per cent., and the latter q per cent., it is found that the total population of both Islands is c . Find the population of each Island before the increase.

English.—For Senior Civil Service. Time allowed: Three hours.

Paper No. I.—Composition, Précis, &c.

[All the Questions are to be attempted.]

1. Make a short abstract, schedule, or docket of the accompanying despatch and enclosures.
2. Draw up a memorandum or *précis*: *i.e.*, a brief and clear statement of what passed, not letter by letter, but in the form of a narrative.

Directions.

(1.) The object of the abstract, schedule, or docket is to serve as an index. It should contain the date of each letter, the names of the persons by whom and to whom it is written, and, *in as few words as possible*, the subject of it. The merits of such an abstract are: (1) to give the really important point or points of each letter, omitting everything else; and (2) to do this briefly, (3) distinctly, and (4) in such a form as to catch the eye readily.

(2.) The object of the memorandum or *précis*, *which should be in the form of a narrative*, is that any one who had not time to read the original correspondence might, by reading the *précis*, be put in possession of all the leading features of what passed. The merits of such a *précis* are: (1) to contain all that is important in the correspondence, and nothing that is unimportant; (2) to present this in a consecutive and readable shape, expressed as distinctly as possible; (3) to be as brief as is compatible with completeness and distinctness.

You are recommended to read the whole correspondence through before beginning to write, as the goodness both of the abstract and of the *précis* will depend very much on a correct appreciation of the relative importance of the different parts.

Brevity should be particularly studied.

3. Rewrite the following passage so as to avoid its intricacy, ambiguity, illogical order of ideas, and separation of words and phrases that are closely connected by grammar. The words and order may be changed, but no idea is to be omitted:—

But this, though resolved with so much secrecy that it was not communicated to three persons (as I have been since assured by those who knew), whether by the treachery of one of those few, or by the curiosity of others (which I rather believe), who found means to overhear all private discourses (as both bedchambers were inhabited, and every corner possessed, by diligent spies upon their master and mistress), was imparted to those who procured those orders before-mentioned for Hull and Portsmouth; by reason whereof, and the advice and promise of many lords that they would firmly unite themselves for the just support of the regal power, with the extreme apprehension the queen had of danger, that counsel was laid aside.

4. Write a short essay on *one* of the following subjects:—

- (a.) The character of Falstaff.
- (b.) Shakespeare's representation of history in "Henry the Fourth" and "Henry the Fifth."
- (c.) "Henry the Fourth" and "Henry the Fifth" as throwing light upon Shakespeare's life.
- (d.) The humour of the Essays of Elia.

CORRESPONDENCE FOR ABSTRACT- AND PRÉCIS-WRITING.

No. 1.

The CHIEF SECRETARY, Queensland, to the PREMIER, New Zealand.

SIR,—

Colonial Secretary's Office, Brisbane, 18th February, 1887.

I have the honour to forward to you the enclosed copy of a letter which has just been received from the Government Agent of the Queensland Pacific Island labour-schooner "Helena" by the Assistant Immigration Agent at Bundaberg, with reference to the movements of the French authorities in the New Hebrides.

I have caused our Agent-General in London to be informed by cable of the statements contained in Mr. Cecil's report; and a copy of the report itself has been forwarded to Sir James Garriek, with the request that it may be laid before our Premier, who is now on his way to London, for such action as may be deemed necessary.

I have, &c.,

The Hon. the Premier of New Zealand, Wellington.

JAMES R. DICKSON.

Enclosure.

SIR,—

Labour-schooner "Helena," Bundaberg, 9th February, 1887.

During the voyage of the "Helena" the following intelligence was given to and facts ascertained by me relative to the movements of the French in the New Hebrides, which I trust you will communicate to the Chief Secretary. No. 1: When in Port Sandwich, on the 9th December, the French officers told me that they were about to erect forts for the protection of the port, one at the north head, one at the end of the harbour facing the entrance, and one near the company's store; also, that the number of soldiers was to be increased to 220, and that new barracks were to be built. No. 2: Whilst in Uruparapara, on the 8th January, the natives reported that a French war-ship had been there, and had pegged off land near the entrance to the harbour on both sides of the heads, on which, it was said, they intended to erect small batteries. No. 3: Whilst at Port Olroy, or Jackson Santo, the French despatch vessel "Guichen" came to the anchorage and landed a white missionary priest. I boarded her, and was told by the commander that they had within the three days previous landed three other priests—namely, two at Mate, in Villa Harbour, Sandwich, and one on private property at Proctor's Bay, which has been, or will be, bought by the Wesleyan missionary body.

I have, &c.,

The Assistant Immigration Agent, Bundaberg.

AUBREY C. CECIL.

No. 2.

The AGENT-GENERAL to the PREMIER.

SIR,—

7, Westminster Chambers, London, S.W., 23rd February, 1887.

A Press telegram came from Queensland a few days ago, stating that the French were about to construct three forts in the New Hebrides, increase the number of their troops, build new barracks at Port Sandwich, and erect batteries at another place. Questions were asked on the subject in the House of Commons last night, when Sir James Fergusson, Under-Secretary of State for Foreign Affairs, said that the Government had had no confirmation of the report; but, on the contrary, had been informed that the French posts had been much reduced. He added that negotiations were still going on with the French Government "with a view to arrangements under which the troops would be altogether removed."

The *Temps* had an article discrediting the rumour, as its correspondent at Noumea had just written that only forty men remained at each of the posts, and the rest had been sent back to New Caledonia. The *Temps* says that the Queensland telegram was only meant to keep alive the old agitation about the Hebrides. The *Journal des Débats* also says it has no confirmation of the report.

I have, &c.,

The Hon. the Premier, Wellington.

F. D. BELL.

Enclosure.

[Extract from the *Times*, Saturday, 19th February, 1887.]

THE NEW HEBRIDES.

Brisbane, 18th February.

THE labour-schooner "Helena," which has arrived here from the New Hebrides, brings intelligence that the French are about to construct three forts, to increase the number of their troops, and to build new barracks at Port Sandwich. It is added that sites have also been selected for the erection of small batteries at the heads of Uruparapara.

[Extract from the *Times*, Wednesday, 23rd February, 1887.]

THE NEW HEBRIDES.

IN answer to Mr. G. O. Morgan, Commander Bethell, and Mr. Johnston, Sir J. FERGUSSON said: There has been no confirmation received by Her Majesty's Government of the statement that the French are about to construct new forts, to increase the number of their troops, and to build new barracks in the New Hebrides. On the contrary, Her Majesty's Government have been informed that the French posts have been much reduced. Her Majesty's Government are in correspondence with the French Government with a view to arrangements under which they will be removed altogether.

No. 3.

The PREMIER, New Zealand, to the PREMIER, Queensland.

SIR,—

Premier's Office, Wellington, 3rd March, 1887.

I have the honour to acknowledge the receipt of your letter of the 18th ultimo, forwarding copy of a letter from the Government Agent of the Queensland Pacific Islands labour-schooner "Helena" with reference to the movements of the French authorities in the New Hebrides. I have to thank you for your attention, although I had already seen the substance of the Agent's letter published in the newspapers.

I have, &c.,

The Hon. the Premier, Queensland.

ROBERT STOUT.

No. 4.

The AGENT-GENERAL to the PREMIER.

SIR,—

7, Westminster Chambers, London, S.W., 10th March, 1887.

The French company interested in the acquisition of land made for some time past in the New Hebrides has just decided to send out a number of families to that group of islands. This is only another step in the policy which has long been steadily pursued in

France, and which can only end, unless soon met by some reasonable arrangement, in her taking virtual if not formal possession of the group.

Lord Harrowby has given notice in the House of Lords to call attention to the state of affairs in the New Hebrides, and to ask what course is proposed to be taken by Her Majesty's Government.

I have, &c.,

The Hon. the Premier, Wellington.

F. D. BELL.

No. 5.

The MODERATOR, Presbyterian Church of New Zealand, to the PREMIER.

DEAR SIR,—

Remuera, Auckland, 12th March, 1887.

I have been requested by the General Assembly of the Presbyterian Church of New Zealand to write you, as Premier, *re* the threatened annexation of the New Hebrides by the French, and to again urge that the influence of the Government of the colony may be used to prevent any such attempt. We are exceedingly grateful for your courtesy and interest as manifested in your letter last year; but our missionaries are anxious that another and even stronger protest should be given against any encroachment by France upon the New Hebrides. The devoted and successful labours of Presbyterian missionaries in those islands during many years are well known, and anything like an annexation by France would, we fear, mean destruction—at least, very great injury—to our missions. The missionaries do not seem to put much emphasis upon the assurances of France that protection would be given to Protestant missions, and believe that French annexation would mean the establishment of Romanism. Be this as it may, there are political reasons why France should not be permitted to annex the New Hebrides. If France owned those islands they would doubtless soon become convict-settlements, and this would be a great calamity to the whole of the Australasian Colonies.

As a Church we have been earnestly watching the course of events, and feel encouraged by the favourable aspect of affairs at present; but it may be at such a juncture that a firm and decided protest by the New Zealand Government against any attempt to take possession of the New Hebrides would strengthen the position of the Home Government.

Thanking you for your former interest, and trusting you will again use your influence in this important matter,

I have, &c.,

G. B. MONRO,

Moderator of the Presbyterian Church of New Zealand.

Sir R. Stout, Premier of New Zealand.

No. 6.

The PREMIER to the MODERATOR, Presbyterian Church of New Zealand.

REVEREND AND DEAR SIR,—

Premier's Office, Wellington, 21st March, 1887.

I have to acknowledge the receipt of your letter of the 12th March, dealing with the New Hebrides question. I need not say that I exceedingly regret the position into which the New Hebrides question has drifted. I do not see any chance of the islands being annexed to Great Britain, and the solution I think possible now would be for the English Government to try and obtain those islands that have been the seat of the Protestant English mission, leaving to France the other islands.

The way in which British statesmen have during the past fifty years allowed the Pacific Islands question to drift shows that it is hopeless now to expect any vigorous action without provoking hostilities from European Powers.

I have, &c.,

The Rev. G. B. Monro, Moderator, Presbyterian Church
of New Zealand, Remuera, Auckland.

ROBERT STOUT.

No. 7.

The PREMIER, Queensland, to the PREMIER, New Zealand.

SIR,—

Colonial Secretary's Office, Brisbane, 25th July, 1887.

With reference to the letter addressed to you by the Acting Chief Secretary on the 18th of February last, in which was enclosed a copy of the report of Mr. Cecil, the Government Agent of the Queensland labour-vessel "Helena," as to the movements of the French in the New Hebrides, I have the honour to inform you that I have just received the following cable message on the subject of Mr. Cecil's report from our Agent-General in London; "London, 20th July, 1887.—New Hebrides. Flourens told Lyons statements Cecil's letter must be inaccurate, and is inquiring into their truth."

I have, &c.,

The Hon. the Premier, New Zealand.

S. W. GRIFFITHS.

No. 8.

The PREMIER to the PREMIER, Queensland.

SIR,—

Premier's Office, Wellington, 23rd August, 1887.

I have the honour to acknowledge, with thanks, the receipt of your letter No. 5649, of the 25th July, forwarding copy of a telegram from the Queensland Agent-General in London on the subject of the New Hebrides.

I have, &c.,

The Hon. the Premier of Queensland, Brisbane.

P. A. BUCKLEY,
In absence of the Premier.

English.—For Senior Civil Service. Time allowed: Three hours.

Paper No. II.—Literature of Age of Queen Anne, Shakespeare's "Henry IV." and "Henry V.," Lamb's "Elia," and Grammar.

[All the Questions are to be attempted.]

1. Note the chief characteristics of the Queen Anne literature, and connect them with the history of the era.

2. Who is the author and what is the character of each of the following?—"The Hermit," "Essay on Criticism," "Battle of the Books," "Cato," "The Shepherd's Week," "The Shortest Way with the Dissenters," "The Rape of the Lock," "The Christian Hero," "The Beaux' Stratagem," "The Theory of Vision."

3. Comment upon the following passages from "Henry IV." and "Henry V.," and refer them to their contexts:—(a) "My old lad of the castle;" (b) "Didst thou never see Titan kiss a dish of melted butter?" (c) "He ambled up and down with shallow jesters and rash bavin wits;" (d) "A rascally yea-forsooth knave;" (e) "Thou honey-seed rogue, thou art a honey-seed;" (f) "A would have clapped i' the clout at twelve score;" (g) "He whose brow with homely biggen bound snores out the watch of night;" (h) "A made a finer end, and went away an it had been any christom child;" (i) "This roaring devil i' the old play that every one may pare his nails with a wooden dagger."

4. Sketch briefly the characters of Nym, Pistol, Shallow, Silence, and Fluellen.

5. Give the leading idea or humorous turn in each of the following essays of Elia:—"The two races of men;" "Grace before meat;" "Distant correspondents;" "A dissertation on roast pig;" "Poor relations;" "The old Margate hoy;" "The child angel."

6. Characterize the style and the humour of Charles Lamb, and refer to passages that illustrate their salient features.

7. Correct, with reasons, or justify:—(a) We have neither forgot his past nor despair of his future success; (b) He died a martyr to Christianity; (c) The opinion gains ground among everybody; (d) Duncan comes here to-night; (e) Who were utterly unable to pronounce some letters, and others very indistinctly; (f) He will in no wise cast out whomsoever cometh unto Him; (g) He is really the person who he appeared to be; (h) I distinguish these two things from one another; (i) Health and plenty cheers the labouring swain; (j) Neither the general nor his officers showed himself; (k) Neither you nor I am going; (l) He shows himself antagonistic in all his measures against what his rival has said; (m) He knows that this remark is founded in truth.

8. Parse the *underlined* words:—(a) *More* and less came in with cap and knee; (b) Our argument is *all too* heavy to admit much talk; (c) England from Trent and Severn *hitherto*; (d) I fear *nothing*, what can be said against me; (e) A white head and *something* a round belly; (f) In faith, my lord, you are *too wilful blame*; (g) But this our purpose now is *twelve month* old; (h) O thou fond *many*! (i) And such a flood of greatness fell on you *What* with our help, what with the absent king; (j) If *that* rebellion came like itself; (k) Will you be so good as *eat* it; (l) I *must* a dozen mile to-night.

English History.—Optional for Senior Civil Service. Time allowed: Three hours.

[All the Questions are to be attempted.]

1. Sketch the character of William the Third, and show how it affected the politics of his reign.

2. What part did England play in the Seven Years' War?

3. Give an outline of the conquest of India in the eighteenth century.

4. What progress was made in England during the eighteenth century towards religious liberty and freedom of speech, and what retrograde steps were taken in this latter respect at the close of the century?

5. Estimate the effect of the Napoleonic wars on the social and political state of England.

6. What reforms immediately followed the Reform Bill of 1832? Show why they were necessary.

7. Name the Premiers that held office during the first thirty-seven years of our century, and state the causes that led to the fall of the Ministry of each.

8. State briefly the occasion and purpose of each of the following measures: Act of Settlement, Mutiny Bill, Septennial Act, Regulating Act, Berlin Decree.

9. What do you know of the Siege of Londonderry, the Peace of Ryswick, the Cato Street Conspiracy, and the Battle of Navarino?

Euclid.—Optional for Senior Civil Service. Time allowed: Three hours.

1. Prove that any two sides of a triangle are together greater than the third side.

Given two points A and B on the same side of a given line, find a point P in the line that the sum of AP and PB may be the least possible.

2. Prove that all the interior angles of any rectilineal figure together with four right angles are equal to twice as many right angles as the figure has sides.

How many degrees are there in the angle of a regular pentagon, and of a regular octagon?

3. If a straight line be bisected and produced to any point, prove that the rectangle contained

by the whole line thus produced and the part produced, with the square on half the line, is equal to the square on the line made up of the half and the part produced.

4. Prove that the angle at the centre of a circle is double the angle at the circumference on the same arc.

Show also that this proposition is true when the angle at the centre is greater than two right angles.

5. If a straight line touch a circle, and from the point of contact a straight line be drawn cutting the circle, the angles which this line makes with the tangent are equal to the angles in the alternate segments of the circle.

Two circles touch each other internally in A, and through the point of contact two chords AB and AC are drawn to the extremities of a diameter of either circle: AB and AC (produced if necessary) cut the other circle in P and Q: prove that PQ is a diameter of the second circle, and that it is parallel to BC.

6. If the sides of a triangle be bisected, and through the points of bisection perpendiculars be drawn to the sides, prove that these perpendiculars meet in a point.

7. Construct an isosceles triangle having each angle at the base double the third angle.

Show that your figure contains two triangles which satisfy the required condition, and that the third triangle has one angle three times as great as each of the others.

Trigonometry.—Optional for Senior Civil Service. Time allowed: Three hours.

1. Investigate a formula connecting the circular measure of an angle with its measure in degrees.

A Volunteer is shooting at a target 6ft. high, from a distance of 300 yards: calculate the number of seconds in the angle which the target subtends at his eye.

2. Express all the trigonometrical ratios of an angle in terms of the cosecant

If $\operatorname{Cosec} \theta = \frac{a^2}{b^2}$, and $\tan \theta = \frac{b}{2a}$, find the ratio of a to b .

3. Prove that $\cos(x+y) = \cos x \cos y - \sin x \sin y$.

Show that $\cos(A+2B) \tan A + \sin(A+2B) - \sin A \cdot \sec 2(A+B) = \frac{\cos(3A+2B) \sin(A+2B)}{\cos A \cdot \cos 2(A+B)}$.

4. What is meant by the *logarithm* of a number to a given base? and what by the *characteristic* of the logarithm?

Prove the rule for finding the characteristic by inspection.

Having given $\log. 2 = .3010300$, $\log. 3 = .4771213$, $\log. 7 = .8450980$, find the logarithms of

.006, 14.7, $\left(\frac{3}{14}\right)^{\frac{1}{2}}$, $(.015)^2$.

5. Prove that, in any triangle, $a = b \cos C + c \cos B$.

Apply this to prove $a(b^2 + c^2) \cos A + b(c^2 + a^2) \cos B + c(a^2 + b^2) \cos C = 3abc$.

6. A surveyor finds that the sides of a quadrilateral field ABCD are, AB = 70 chains, BC = 60 chains, CD = 80 chains, DA = 90 chains, and that the diagonal AC is 110 chains. Calculate the area of the field, having given the logarithms in question 4, and also

Log. 1.8973 = .2781360

Log. 3.5496 = .5501794

Log. 1.8974 = .2781589

Log. 3.5497 = .5501917.

7. Solve the equations—

$$\tan \theta + \cot \theta = \frac{4}{\sqrt{3}};$$

$$\tan 3\theta - \tan 2\theta + \tan \theta = 0.$$

Maori.—Optional for Junior or Senior Civil Service.

1. Translate into English the following:—

E mihi ana hoki au e pouiri ana ki te ngaronga whakareretanga o nga manu kua kore nei, hei whakaahuareka i a tatou ki tona reo pai ina korero ratou i runga i nga rakau. Nga manu ataahua, whai tohu o te tau, kei hea ra? Me te riroriro, e waiata nei i tana waiata pai ina tae ki te aroaro mahanatanga o te tau—e ngarongaro katoa ana. E puta mai ana te aroha ki nga tangata kua riro; ko te ritenga ia o nga manu tohu o te tau e whakarongo tahi ai i a matou ki te tangi o aua manu te hunga kua mate atu ra. Kua riro ratou, ko te aroha kua waiho ki te hunga ora ngau kino ai i roto i te ngakau; he aroha mamae rawa e kore e taea e nga takuta te rongoa kia kore ai te aroha. He maha nga mate e ora i a ratou, tena ko te mamae aroha i roto i te ngakau e kore e ora i a ratou.

2. Translate into Maori the following:—

But the stars which marked the seasons of the year still abide and twinkle in the heavens, the stars which guided our fathers in the planting of their kumaras. There were four of these stars, Matariki (Pleiades), Tautoru (Orion), Puanga (Rigel), and Whakaahu. If the appearance of these betokened a favourable season, our fathers planted in September; if otherwise, they put off planting till October. I have alluded to the stars because we regard them with feelings of sadness, as having been the guides of our parents and our ancestors, who have passed away from this world. The birds of the forest which marked the seasons were the riroriro, the pipitori, the wharauora,

and the kawekawea. But the song of the ririro and the pipitori were heard before the wharauoa made its appearance.

3. Put the following into Maori:—

There was a great gathering of people at Uawa on Friday. The guests had been invited by the people of the place to celebrate the finishing of a large house which they had built. The house is a Native house, with one door and one window. As one goes towards the front of the house, the door is on the left hand, and the window on the right. This is the custom in all the Native houses. The window has no glass, but is closed with a window-shutter.

4. Put the following into English:—

I konei ranei to teina i te ata nei?

Na wai i korero ki a koe kua pau a taua riwai i te poaka.

I noho huihui nga tangata i mua ki roto ki te pa.

Ko nga pa o mua i hanga ki runga ki te maunga ki te pukepuke.

Ko Pita kua riro ki Waiapu.

E haere ana ia ki te tiki i a Pita hei hoa monaki te whakawhiti i tana hoiho ki tawahi o te awa.

E kiia ana he whawhai te putake i heke ai o matou tupuna ki enei motu.

Ka makona a Hori kahore ona hiahia ki te kai.

Tenei te taura mo te hoiho, i kitea e ahau e takoto ana i ko.

5. Give examples in Maori, with translation into English, of the difference between *a* and *o*; *na*, *no*; *ma*, *mo*; *ta*, *to*; *taku*, *toku*.

6. Translate into Maori—

This deed, made the _____ day of _____, one thousand eight hundred and ninety-nine, between Paora, Pita, Matiu, Maaka, Ruka, and Hoani, of Nohearanei (hereinafter called the vendors), of the one part, and Her Majesty Queen Victoria (hereinafter called the Queen) of the other part, witnesseth that, in consideration of the sum of _____ pounds (the receipt of which they do hereby severally acknowledge), the vendors do and each of them doth hereby convey and assure unto the Queen, her heirs and successors, all that piece or parcel of land, containing _____ acres more or less, bounded towards the north-east by boundaries of Native lands, four thousand three hundred links, and the Rere-tonu stream; towards the east by the Pai-rawa Block, four thousand links, and the Kino stream; towards the south-east by the Papaku stream to the sea; and towards the north and north-west by the sea. To hold the said block of land, with the appurtenances thereof, unto the Queen, her heirs and successors, for ever. In witness whereof the said vendors have hereunto subscribed their names the day and year first above written.

PAORA, x his mark.

PITA, x his mark.

MATIU, x his mark.

MAAKA, x his mark.

RUKA, x his mark.

HOANI, x his mark.

Signed by the said Paora, Pita, Matiu, Maaka, Ruka, and Hoani, by making their mark in the presence of—

JOHN JENKINS,

Licensed Interpreter.

Witness—Jeremiah Evans.

SUMMARY OF RESULTS.

The INSPECTOR-GENERAL of SCHOOLS to the Hon. the MINISTER of EDUCATION.

SIR,—

Education Department, Wellington, 19th April, 1888.

I have the honour to submit the following summary of the results of the certificate examination held in January.

There were 155 candidates for the full examination for Class D, including two who were candidates also for Class C by university examination. Thirteen of them were absent, 48 passed, 42 obtained partial success (among them 27 admitted to Class E), and 51 failed. There were also 118 candidates who were already partially qualified for Class D (two among them being also partly qualified for Class C): 16 of these were absent, 55 completed their examination for Class D, and 47 failed.

For the full examination for Class E, 399 candidates entered: 31 were absent, 98 passed, 136 obtained "partial pass," and 134 failed. Of 188 candidates who entered to complete the examination for Class E, 106 passed, 69 failed, and 13 were absent.

More minute statistics of passes and failures are shown in the appended tables, and the names of the successful and partially successful candidates, as also of the winners of prizes and the candidates who received "special mention" from the examiners, are set forth in the accompanying lists. These lists contain more names than the *Gazette* notice of the 22nd February. At that date there were several undecided cases of candidates who sat both at the certificate examination and the matriculation examination, and who have been allowed to pass on full consideration of their work at both examinations; and the examiners had not all reported the names of candidates deserving of special mention. Special mention was awarded in some cases to candidates who did not pass, and in every such case the name is published, and the candidate, although unsuccessful on the whole, will receive a letter testifying to his creditable work in the special subject for which he was mentioned.

An unusually large addition to the number of certificated teachers will be one result of this examination. Some of those who have passed have not yet served for two years, and many others have not yet had marks assigned to them by the Inspectors. Assuming that these causes of delay will in due time be removed, the number of new certificates will be 300. Besides this, 35 teachers are promoted to a higher class, and 163 candidates who had no status before are now credited with

“partial success.” Only 12 of those who passed and only 14 of the partially successful are persons not actively connected with the public schools.

The cost of this examination, including all charges connected with the simultaneous examination for the Civil Service, has been £717 19s. 6d. The fees (including £202 13s. from Civil Service candidates) amounted to £751 18s., so that there has been no expense to the department, but a gain of £33 18s. 6d.

I have, &c.,

WM. JAS. HABENS,

Inspector-General of Schools.

The Hon. the Minister of Education.

TABLE I.—CANDIDATES for COMPLETION of FORMER EXAMINATION.

Total Number entered.	Candidates.	Passed.	Failed.	Absent.	Auckland.	Taranaki.	Wanganui.	Wellington.	Hawke's Bay.	Marlborough.	Nelson.	Grey.	Westland.	North Canterbury.	South Canterbury.	Otago.	Southland.
2	For Class C—Passed	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
	Absent .. ..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..
116	For Class D—Passed	54	..	..	10	..	2	3	1	2	1	1	1	13	3	16	1
	Failed .. ..	..	47	..	12	..	1	4	..	..	..	..	..	9	3	17	1
	Absent .. ..	..	..	15	4	..	1	1	..	..	1	..	..	..	..	4	..
188	For Class E—Passed	106	..	..	33	1	7	5	1	2	5	1	3	15	7	*15	11
	Failed .. ..	..	69	..	26	1	5	7	1	..	2	2	..	8	2	11	4
	Absent .. ..	..	..	13	2	1	1	..	1	..	2	..	..	..	..	6	..
306	Totals	161	116	29	87	3	17	20	4	4	11	4	4	50	16	69	17

* Of whom 3 have also partial pass for D through matriculation examination.

TABLE II.—CANDIDATES for FULL EXAMINATION.

Total Number entered.	Candidates.	Passed.	Partially Successful.	Failed.	Absent.	Auckland.	Taranaki.	Wanganui.	Wellington.	Hawke's Bay.	Marlborough.	Nelson.	Grey.	Westland.	North Canterbury.	South Canterbury.	Otago.	Southland.
	For Class C { Passed	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	Class C { Partially successful .. ..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	For Class D { Passed	48	..	..	..	7	..	1	3	1	..	..	..	..	20	..	16	..
	Class D { Partially successful for Class D .. ..	..	14	..	..	7	..	..	..	..	2	..	..	..	3	..	2	..
153	For Class D { Passed for Class E and partially successful for Class D .. ..	..	19	..	..	3	..	..	1	..	..	..	..	..	10	..	4	1
	Class D { Completed Class E examination .. ..	..	8	..	..	2	..	..	1	..	..	..	..	1	2	..	2	..
	Class D { Failed completely .. ..	..	..	51	..	19	..	1	6	1	..	1	..	..	8	..	8	..
	Class D { Absent .. ..	..	..	..	13	3	2	..	1	..	..	..	1	..	4	..	1	1
399	For Class E { Passed	98	..	..	..	38	1	3	12	4	1	1	..	1	14	3	13	2
	Class E { Partially successful .. ..	..	136	..	..	51	2	3	10	2	2	5	..	1	17	2	23	13
	Class E { Failed completely .. ..	..	..	134	..	37	1	5	13	10	1	9	4	1	18	4	20	11
	Class E { Absent .. ..	..	..	..	31	6	3	2	3	..	3	4	..	..	2	..	3	5
554	Totals	147	178	185	44	174	9	20	50	18	9	20	5	5	98	16	92	38

EXAMINATION OF TEACHERS.

LIST I.—PASS.

PASSED THE EXAMINATION FOR CLASS C (taking University Examination into account).

Westland—
Ecclesfield, Isabel.

South Canterbury—
Bilton, Ellen Eleanor.

PASSED THE EXAMINATION FOR CLASS D.

Auckland—
Berry, Clara Goodman.
Blackett, George.
Boyd, Catherine.
Burton, Alfred Fordyce.
Calvert, George Meynell.
Gill, Esther Marcella.
Harden, Henrietta.
Higginson, Frank.
Horne, Frank Hubert.
Knight, Eveline Minett.
Mulgan, Charlotte Augusta.
Mulgan, Edward Ker.
Poland, Hugh.
Proudfoot, John William.
Semadeni, Casper Alexander.
Tanner, Thomas Bird.
Wilson, Janet.

Wanganui—
Espiner, George Henry.
Hall, Sheridan Carlisle.
Matheson, Alexander.

Wellington—
Chatwin, George W.
Chatwin, Georgina E.
Hulke, Charles.
Levy, Ellen J.
McIntyre, James.
Tompkins, Ernest Walter.

Hawke's Bay—
Burt, Harold Penson.
Westall, John Chaddesley.

Marlborough—
Bary, Mary.
Twisleton, Henry Lea.

Nelson—
Knapp, Frederick V.

Grey—
Malcolm, Alexander S.

Westland—
Ward, Esther.

North Canterbury—
Aschman, Christopher.
Baker, Catherine Adelia.
Banks, Mary Rose.

North Canterbury—*continued.*

Barlow, Jane.
 Bowler, Frederick Henry.
 Bull, Benjamin Samuel.
 Buxton, Alice.
 Craighead, Helen.
 Dalby, John Sayle.
 Duncan, Robena.
 Garrard, Charles Wilson.
 Guise, Frances Jane.
 Humm, Annie.
 Jack, David.
 Jackson, Martha.
 Kennedy, John Samuel.
 Lawrence, Grace.
 McGallan, Thomas Gibson.
 McGillivray, John.
 McKee, Letitia.
 Morland, Sarah Rose Ann.
 Olliver, Mary Ede.
 Purchas, Harold.
 Rogers, Amelia.
 Saunders, Sarah.
 Schneider, George.
 Spence, Jessie Wetherall.
 Starkiss, Harriet Eleanor.
 Thomson, Hugh.
 Todd, David Thomas.
 Voss, Johann.
 Watson, Lancelot.
 White, George Henry.

South Canterbury—

Cowan, Jane Reed.
 FitzGerald, John Annandale.
 Pearson, Agnes Aitken.

Otago—

Bohning, Annie Charlotte.
 Burnside, William.
 Campbell, Jane.
 Carrington, George William.
 Crawford, Alexander.
 Don, William George.
 Evans, Emma Jane.
 Faulds, Catherine.
 Faulks, Elizabeth.
 Ferguson, Grace.
 Fitzgerald, Grace.
 Gray, William.
 Griffin, Thomas Joseph.
 Hegarty, Mary.
 Henderson, John Hunter.
 Hislop, James.
 Jack, Elizabeth.
 Kelly, John.
 Low, Jessie.
 Macarthur, Isabella Turnbull.
 Mackie, Jane Barr.
 McLeod, Hughina Isabella.
 Moore, Mary Emilia.
 Piper, Ebenezer.
 Rankin, Agnes Finnie.
 Robertson, Christina Duncan.
 Rutherford, John Robert.
 Stewart, Robert.
 Sutherland, Alexander.
 Torrence, Wilhelmina.
 Walden, Janet Johnston.
 Wall, Mary Anne Josephine.

Southland—

Robinson, Emily.

PASSED THE EXAMINATION FOR CLASS E.

Auckland—

Airey, Eleanor.
 Akers, Elizabeth.
 Arey, Sarah Beatrice.
 Best, Margaret McCormick.
 Bowden, Kate.
 Brown, Alice Agnes.
 Brown, Francis Hamilton.
 Browne, Edward Webb.
 Browne, Lillian Mabel.
 Burgess, Harriet Hannah.
 Burlinson, George Melville.
 Campbell, Robert.
 Carse, Harry.
 Cato, Eva Priscilla.
 Chambers, Walter Lawrence Frederick.
 Clark, Charles William.
 Cleveland, Dorcas Elizabeth.
 Colhoun, John Smith.
 Cooke, Edward Fortescue Whittle.

Auckland—*continued.*

Crookes, Frank Clement Jenkins.
 Davidson, George Adam.
 Davis, Jessie Frances Parradine.
 Dean, James.
 Dempsey, Mary Ellen.
 Edwards, Arthur.
 Edwards, Maria.
 Evans, Jessie.
 Fletcher, Florence Elizabeth.
 Fortune, Mabel Helen.
 French, Agnes Simpson.
 Gledhill, Eunice Anderton.
 Graham, James.
 Hall, Sarah Anna Jane.
 Harling, Lucy Jane.
 Harper, Eliza Anne.
 Hill, George Edmund.
 Hill, William Wilfred.
 Honan, Mary Frances.
 Hooper, William.
 Jones, Thomas Augustus.
 Kelly, Margaret McMillan.
 La Prelle, John.
 McInnis, Flora Anne.
 McIntyre, Susan Bruce.
 Macky, Euphemia.
 Mill, Sarah Ann.
 Moses, Annie.
 Murrish, Charlotte.
 Oldham, Alfred.
 Ormiston, Edward Nicolls.
 Ormiston, Susan Jane.
 Parry, Robert Jones.
 Patterson, Elizabeth Rebecca.
 Picken, Frances Elizabeth.
 Pooley, William Harper.
 Reid, Eliza.
 Reid, Robert Daniel.
 Robb, Helen.
 Roberts, Isabella Mary.
 Russell, David.
 Salmon, Leonora Elizabeth.
 Shortt, Helena Thomasine.
 Smart, David Lowson.
 Smith, Harriet.
 Steel, Agnes Gillies.
 Stone, Mary.
 Taylor, Alfred.
 Tinling, Alexandrina J.
 Tristram, Ada Mary Cecily.
 Tristram, Margaret Elizabeth May Teresa.
 Walker, William Robert Cooper.
 Walter, Charles Alfred William.
 Webber, Joseph William.
 Wilson, Eleanor.
 Wolff, Rosabell.
 Worsley, George Arthur.

New Plymouth—

McKay, Margaret.
 McLeod, Agnes.

Wanganui—

Astbury, Henry Edward.
 Harper, Eliza Charlotte.
 Hobbs, Annie Clara.
 Laurenson, George Robertson.
 McDougall, Annie.
 Martin, William George.
 Prendergast, Joanna.
 Rockel, Robert Hermann.
 Sanson, Herbert.
 Strachan, Samuel.

Wellington—

Bacon, Mary Ann.
 Bannister, Matilda Emma.
 Booth, Frances Eleanor.
 Brown, Caroline Mary.
 Chatwin, Frances Annie.
 Dakin, Lewis William.
 Dempsey, Walter Norgrove.
 Duncan, Annie.
 Flannagan, Eleanor E.
 Francis, Clara.
 Francis, Clara Augusta.
 Helyer, Elizabeth.
 Matheson, Dugald.
 Page, Elizabeth.
 Pringle, Graham Speedy.
 Ryder, Maud Harriet.
 Watson, Phoebe.
 Welch, Laura Ann.
 Young, Grace Anne.

Napier—

Andrews, Helen Bird.
Bibby, Constance Ruth.
King, Elizabeth.
Palmer, Mary.
Williamson, John.

Blenheim—

Hughes, Leonard Sonstadt.
Linton, Mary.
Matthews, Mary Jessie.

Nelson—

Dencker, Eugene Ferdinand.
Ellis, Harold Lewis.
Evans, Harrison.
Manson, Janette Charlotte.
Sheppard, Alexa Isabella.
Tunnicliff, Selina Mary Anna.

Grey—

Robinson, Elizabeth Mary.

Westland—

Forster, Mary Jane.
Hogg, Susan.
Mackay, William Donald.
Robertson, Fred Henry.
Williams, Henry.

North Canterbury—

Baldwin, Ada.
Ball, Rebecca Louisa.
Bean, Emma Madeline.
Blackmore, Eliza Jane.
Bourke, Fanny.
Budden, Mary Maud.
Chaplin, Emily Anne.
Dalglish, Gilbert.
Dick, Fanny.
Doherty, William James.
Ewing, Ellen.
Forrester, Elizabeth.
Gibson, Marion Kate.
Gilling, Julia.
Gillman, Alfred Inkson.
Gordon, James Stewart.
Grant, David.
Harrison, Annie.
Harvey, George.
Hirst, Caroline Greaves.
Hunte, Julie Aimée.
Johnson, Oscar.
Keand, Annie.
McBratney, Minnie.
Malcolm, Agnes.
Martin, Kate McLellan.
Maule, Mary.
Mitchell, Thomas.
Pickering, Elizabeth Alice.
Plumridge, Francis Harry.
Restell, Evelina Frances.
Ross, Elizabeth Phoebe.
Shailer, Alice Mary.
Smith, Sarah Ellen.
Smith, William James.
Taylor, Elizabeth.
Todd, Avis.
Wallace, Mary.
Webster, Betsy.
Wharton, Kate Maria.

South Canterbury—

Anderson, George.
Brown, Florence Annie.
Bruce, Elizabeth.
Erskine, Albert.
Fisher, Marion Elizabeth.
Gardner, Ida Louisa Guilbert.
Gray, Joseph Henry.
Jefcote, Helen.
Kalaugher, James Patrick.
Lewis, William John.
Mellroy, Jane.
McLeod, Murdoch.
Morton, Isabella.
Shirtcliffe, Mary Sissons.
Smith, Harry.

Otago—

Anderson, Margaret Wallace.
Beveridge, Elizabeth Scott.
Brewer, Edith Harriette.
Chapple, Emma Josephine.
Davies, Isabella.
Edwards, Mary Bradshaw.
Geddes, Emilie Sophia.
Harland, Margaret.
Hayes, Emma.
Hilgendorf, Henrietta Frances.

Otago—continued.

Hitchcock, Isabella.
Hutchinson, James Brighten.
Livingston, Catherine.
Macdonald, George Charles.
MacGregor, Agnes Susan Craig.
McGrogan, Mary.
McIntyre, Isabella.
McNaught, Grace Crawford Simpson.
McNab, Alexander Fulton.
Moir, Rodney Barclay Hill.
Murray, Henry Esson.
Nicoll, Margaret.
Polson, Donald.
Reith, Ella.
Rennie, William Hay.
Rich, Maurice.
Ridland, William.
Sutherland, Isabella.
Sutherland, Jane.
Taylor, Margaret Elizabeth Kirkland.
Watson, Elizabeth McIsaac.
White, Janet Anne.
Wright, Wilhelmina Isabella.
Yorston, Caroline Selina.

Southland—

Cumming, Eliza.
Cumming, Ellen Christina.
Dryburgh, Isabella.
Gualter, William Henry.
Hardie, Mary.
Inglis, Alexander.
Joyce, Lucy Jane.
Learmonth, Robert.
McIvor, Johanna Margaret.
Millard, Arthur James.
Robertson, George Edward.
Rout, Frances Susanna.
Sutherland, Jane.
Young, Henry Paterson.

LIST II.—PARTIAL.

PARTIAL PASS FOR CLASS C (taking University Examination into account).

Auckland—

Hill, Mary Lilian.

PARTIAL PASS FOR CLASS D.

Auckland—

Hould, Mary Elizabeth.
Jones, Dhalsé Garner.
Macky, Euphemia.
Nixon, Elizabeth Ada.
Ormiston, Edward Nicolls.
Phillips, Henry William Cosboy
Rennick, James William.
Rust, Alexander Mearns.
Tisdall, Estelle Adelaide.
Walker, William Robert Cooper.

Wellington—

Brown, Caroline M.

Marlborough—

Prichard, Gladys.
Stratford, Edythe Adeline.

North Canterbury—

Baldwin, Ada.
Banks, Charlotte Maud.
Budden, Mary Maud.
Burns, Trevethan.
Doherty, William James.
Ellison, Elizabeth Best.
Gilling, Julia.
Harvey, George.
Johnson, Oscar.
Kitson, Eleanor.
Martin, Kate McLellan.
Taylor, Elizabeth.
Wharton, Kate Maria.

Otago—

Brownlee, Jane Markland.
Hutchinson, James Brighten.
Livingston, Catherine.
Macdonald, George Charles.
McNaught, Grace Crawford Simpson.
Nicoll, Margaret.
Polson, Donald.
Rich, Maurice.
Speight, Eliza Mary.

Southland—

Learmonth, Robert.

PARTIAL SUCCESS RECORDED TOWARDS CLASS E.

Auckland—

Akers, Margaret.
 Allely, Eliza Anne.
 Ashman, Margaret Helen.
 Barry, Catherine Elizabeth.
 Bedlington, Blanche.
 Bollard, John Ganly.
 Broun, Janet Stewart.
 Brown, Daniel Chadwick.
 Caldwell, Amelia.
 Cameron, Jane Ann.
 Cox, William Lomis.
 Currie, Mary Helen.
 Davies, Annie.
 Edwards, Mary Elizabeth.
 Elmsly, Frederick.
 Gillespie, Catherine Elizabeth.
 Gordon, Margaret Beatrice.
 Hammond, Augusta.
 Havell, Matilda Staple.
 Hawkins, Agnes.
 Hayle, Clara.
 Hill, Elizabeth.
 Hill, Lydia Mary.
 Hume, Jane Henrietta.
 Jackson, Ellen Martha.
 Jameson, Frank.
 Jones, David William.
 Keaney, Annie.
 Kidd, Matilda Kathleen.
 Krippner, Emily Mary Louisa.
 Lewis, Mary Miriam.
 McKay, Norman Donald.
 Maclean, Charles.
 Nettleship, Charles.
 Owen, Mary Ethel.
 Phillips, John Stephens.
 Quinn, Elizabeth Conway.
 Robertson, Mary Isabella.
 Rugg, Annie.
 Slator, Mary Stapleton.
 Slator, Minnie.
 Somerville, Frances Ada.
 Starrat, Rosanna.
 Tidmarsh, Henry Herbert.
 Udy, Annie.
 Vos, James Alphonso.
 Wallnutt, Charlotte.
 Wilson, George.
 Wilson, Isabella Munro.
 Wrigley, Agnes Anna.
 Wyllie, Janet.

Taranaki—

Bell, Alfred.
 Young, Ada.

Wanganui—

Keeble, Elizabeth.
 Lock, Matilda.
 Prendergast, Ellen.
 Thomson, Nellie.
 Thomson, Roberta Mary Jane.
 Williams, Daniel James.
 Woodhead, Ambler.
 Wright, James.

Wellington—

Brown, Helen Mary.
 Garratt, Frances Mary.
 Hopkirk, John Brown.
 Hudson, Priscilla.
 Johnston, Nita.
 Leighton, Lucy J.
 McBain, Alexander.
 Wallace, Jane Allman.
 Watson, Paulina Emma.
 Willis, James.

Hawke's Bay—

Cooper, Mary Letitia.
 Ferguson, Phebe.

Marlborough—

Jeffries, Laura.
 Simson, Charles.

Nelson—

Alexander, Elizabeth Mary.
 Bolton, Pamela Elizabeth.
 Bond, Jane Alice.
 Bradley, Lydia Mary.
 Sunley, Georgiana Fanny.

Westland—

Macfarlane, Margaret Isabella.

North Canterbury—

Cooper, Fanny Louisa.
 Craig, Sarah Margaret.

North Canterbury—*continued.*

Crosbie, Fannie Adelaide.
 Douds, Maria.
 Evans, Francis Thomas.
 Fechney, Jessie.
 Hatton, Venetia Emma Douglas.
 Johnston, Gertrude Hilda.
 Le Cocq, Walter Alfred.
 McGallan, Janet.
 Meredith, Mary.
 O'Callahan, Elizabeth Annie.
 Reston, Mary Magdalene.
 Roberts, Georgina.
 Russell, Janet Angus.
 Spensley, James Reid.
 Sutherland, Mary Ann.

South Canterbury—

McLeod, John.
 Roskrige, Charles Glynn.

Otago—

Alexander, Annie Macfarlane.
 Cameron, Hugh MacLeod.
 Cousins, Annie.
 Cusack, James.
 Diack, William Alexander.
 Fell, Mary Justice.
 Grenfell, Alfred Fitchett.
 Gunn, Elizabeth Martha.
 Hall, Mary Fleming.
 Heckler, Louisa Anne.
 Johnstone, Margaret.
 King, Rosetta Ralston.
 Lawrence, Dora Smith.
 McGregor, Jessie Ford.
 McLauchlan, Marion Ferguson.
 Mason, Isabella.
 Reaks, Henry James.
 Richards, Louisa Lawrence.
 Smith, William, ii.
 Speight, Eliza Mary.
 Stevenson, Elizabeth McDonald.
 Stewart, Peter Grassack.
 Tily, Ada Rebecca.
 Walker, Isabella.

Southland—

Carnahan, Jessie McPherson.
 Christie, Jean Cunningham.
 Featherstone, Arthur Eversfield.
 Harvey, James.
 Hassing, George Magnus.
 Hiddleston, John Frederick Crombie.
 Jackson, Elsie Maud.
 Kelly, Thomas.
 McKenzie, Duncan.
 McKinnon, Charles.
 McLeod, John Willis.
 Nisbet, Robert John.
 Stevenson, Robert.

LIST III.—PRIZES.

Drawing—

McLeod, John, South Canterbury, first prize.
 Burnside, William, Otago, second prize.
 Taylor, Alfred, Auckland, third prize.

Elementary Science—

Bull, Benjamin S., North Canterbury, first prize.
 Don, William G., Otago, second prize.
 Thomas, Taliesin, Wanganui, third prize.

LIST IV.—SPECIAL MENTION.

CLASS D.

English—

Barlow, Jane, North Canterbury.
 Carrington, George William, Otago.
 Chatwin, George William, Wellington.
 Ecclesfield, Isabel.

Arithmetic—

Burns, Trevethan, North Canterbury.
 Chatwin, George William, Wellington.
 Ecclesfield, Isabel, Westland.
 Garrard, Charles Wilson, North Canterbury.
 Pearson, David, Otago.

Geography—

Aschman, Christopher, North Canterbury.
 Barlow, Jane, North Canterbury.

History—

Ecclesfield, Isabel, Westland.
 Westall, John Chaddesley, Hawke's Bay.

Latin—

Doherty, William James, North Canterbury.
 Ecclesfield, Isabel, Westland.
 Walker, William Robert Cooper, Auckland.

French—

Fortune, Mabel Helen, Auckland.
Jones, Thomas Augustus, Auckland.
Mulgan, Charlotte Augusta, Auckland.
Westall, John Chaddesley, Hawke's Bay.

German—

Hulke, Charles, Wellington.

Algebra—

Barlow, Jane, North Canterbury.
Berry, Clara Goodman, Auckland.
Burns, Trevethan, North Canterbury.
Campbell, Jane, Otago.
Ferguson, Grace, Otago.
Garrard, Charles Wilson, North Canterbury.
Harvey, George, North Canterbury.
Hitchcock, Isabella, Otago.
Humm, Annie, North Canterbury.
Knight, Eveline Minett, Auckland.
McKee, Letitia, North Canterbury.
Mackie, Jane Barr, Otago.
Olliver, Mary Ede, North Canterbury.
Purchas, Harold, North Canterbury.
Rennick, James William, Auckland.
Schneider, George, North Canterbury.
Thomson, Hugh, North Canterbury.
Walker, William Robert Cooper, Auckland.

Euclid—

Berry, Clara Goodman, Auckland.
Ellison, Elizabeth Best, North Canterbury.
Garrard, Charles Wilson, North Canterbury.
Harden, Henrietta, Auckland.
Knight, Eveline Minett, Auckland.
Piper, Ebenezer, Otago.
Robertson, Christina Duncan, Otago.
Walker, William Robert Cooper, Auckland.

Chemistry—

Bussell, Henry.
Jones, Dhalsé Garner.
Stewart, James.

Experimental Science—

Bull, Benjamin S., North Canterbury, first prize.
Don, William G., Otago, second prize.
Thomas, Taliesin, Wanganui, third prize.
Hulke, Charles, Wellington, highly commended.
Moore, Mary E., Otago, highly commended.
Benge, Alfred, Auckland.
Burnside, William, Otago.
Burns, Trevethan, North Canterbury.
Ecclesfield, Isabel, Westland.
Edwards, Charles T., Auckland.
Jones, Dhalsé Garner, Auckland.
Robertson, Christina D., Otago.
Shand, Thomas G., Southland.
Wells, Harry W., Wellington.
Westall, John Chaddesley, Hawke's Bay.

CLASSES D AND E.

Art of Teaching and School Management—

Browne, Lillian Mabel, Auckland.
Dalby, John Sayle, North Canterbury.
Grant, David, North Canterbury.
Guise, Frances Jane, North Canterbury.
Hill, Mary Lillian, Auckland.
Kennedy, John Samuel, North Canterbury.
Lawrence, Dora Smith, Otago.
Macarthur, Isabella Turnbull, Otago.
Olliver, Mary Ede, North Canterbury.
Reston, Mary Magdalene, North Canterbury.
Spence, Jessie Wetherall, North Canterbury.
Todd, David, North Canterbury.

Drawing—

McLeod, John, South Canterbury, first prize.
Burnside, William, Otago, second prize.
Taylor, Alfred, Auckland, third prize.
Anderson, George, South Canterbury.
Best, Margaret McCormick, Auckland.
Brown, Daniel, Auckland.
Colhoun, John Smith, Auckland.
Hassing, George Magnus, Southland.
Hill, Elizabeth, Auckland.
Jameson, Frank, Auckland.
McLeod, Murdoch, South Canterbury.

Drawing—continued.

Rugg, Annie, Auckland.
Smith, Harry, South Canterbury.
White, Janet, Otago.

CLASS E.

English—

Campbell, Robert, Auckland.
Carse, Harry, Auckland.
Lawrence, Grace, North Canterbury.

Arithmetic—

Chaplin, Emily, North Canterbury.
Featherstone, Arthur Eversfield, Southland.
Forster, Mary Jane, Westland.
Francis, Clara, Wellington.
Johnston, Gertrude Hilda, North Canterbury.
Kalaugher, James Patrick, South Canterbury.
Keaney, Annie, Auckland.
McNab, Alexander, Fulton, Otago.
Plumridge, Francis Harry, North Canterbury.
Pringle, Graham Speedy, Wellington.
Robertson, George Edward, Southland.
Smith, William (No. ii.), Otago.
Steel, Agnes Gillies, Auckland.
Taylor, Alfred, Auckland.
Webster, Betsy, North Canterbury.

Geography—

Allely, Eliza Anne, Auckland.
Barry, Catherine Elizabeth, Auckland.
Broun, Janet Stewart, Auckland.
Browne, Lillian Mabel, Auckland.
Chaplin, Emily Anne, North Canterbury.
Colhoun, John Smith, Auckland.
Cooke, Edward Fortescue Whittle, Auckland.
Dakin, Lewis William, Wellington.
Dalglish, Gilbert, North Canterbury.
Dean, James, Auckland.
Forster, Mary Jane, Westland.
Francis, Clara, Wellington.
Grant, David, North Canterbury.
Gray, William, Otago.
Griffin, Thomas Joseph, Otago.
Harling, Lucy Jane, Auckland.
King, Elizabeth, Hawke's Bay.
McLeod, Murdoch, South Canterbury.
McNab, Alexander Fulton, Otago.
Moore, Mary Emilia, Otago.
Murray, Henry Esson, Otago.
Page, Elizabeth, Wellington.
Pringle, Graham Speedy, Wellington.
Shailer, Alice Mary, North Canterbury.
Webster, Betsy, North Canterbury.
White, Janet Anne, Otago.
Williamson, John, Hawke's Bay.
Wright, James, Wanganui.

History—

Dean, James, Auckland.
Kalaugher, James Patrick, South Canterbury.
Mill, Sarah Ann.

Elementary Science—

Astbury, Henry Edward, Wanganui.
Crawford, Alexander, Otago.
Dalglish, Gilbert, North Canterbury.
Graham, James, Auckland.
Gray, William, Otago.
Hooper, William, Auckland.
Kennedy, John Samuel, North Canterbury.
Lewis, William John, South Canterbury.
Livingston, Catherine, Otago.
McLeod, Murdoch, South Canterbury.
McNab, Alexander Fulton, Otago.
Matthews, Mary Jessie, Marlborough.
Oldham, Alfred, Auckland.
Parry, Robert Jones, Auckland.
Spensley, James Reid, North Canterbury.
Taylor, Alfred, Auckland.
Taylor, Margaret, Otago.
Webber, Joseph William, Auckland.

Domestic Economy—

Lawrence, Grace, North Canterbury.
Leighton, Lucy J., Wellington.
Mill, Sarah Ann, Auckland.
Taylor, Elizabeth, North Canterbury.
Webster, Betsy, North Canterbury.

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