1882.
NEW ZEALAND.

CIVIL SERVICE EXAMINATION BOARD

(REPORT OF THE).

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

The CHAIRMAN, Civil Service Examination Board, to the Hon. the COLONIAL SECRETARY.

Office of the Civil Service Examination Board,
Wellington, 16th May, 1882.

SIR,—

I have the honor to submit the following report of the proceedings of the Civil Service Examination Board since the date of my last report (30th May, 1881):—

OCTOBER 1881 EXAMINATION.

JUNIOR EXAMINATION.

Eighty-four candidates were examined, 20 candidates passed, 64 candidates failed.

Of the candidates who failed, 17 failed in 4 subjects, 8 failed in 3 subjects, 18 failed in 2 subjects, 21 failed in 1 subject, 25 failed in English, 33 failed in arithmetic, 49 failed in history, 41 failed in geography, 1 failed in shorthand.

The names of the candidates who passed, placed in order of merit, are as follows:—

Order.	Name.	Residence.	Where Educated.	Compulsory.				Opt'nal.		Total.
				English.	Arithmetic.	History.	Geography.	Shorthand.	Maori.	
			Maximum obtainable ...	600	600	600	600	600	600	
1	McCurdie, William ...	NewPlym'th	Minishant School, 7¾ years ...	479	440	395	475	—	—	1789
2	Buckeridge, Henry	Nelson ...	Private School, 3 years; Nelson College, 4 years	426	498	327	455	—	—	1706
3	Bartel, John George ...	Nelson ...	St. Mary's School, 4½ years; Bridge Street School, 1½ years; Nelson College, 1½ years	303	540	367	340	—	—	1550
4	Adams, Ernest Feltus ...	Thames ...	Church of England Grammar School, Parnell, 5 years; High School, Thames, 1½ years	274	580	379	300	—	—	1533
5	Trotter, Ninian George ...	Nelson ...	Woodlands School, 6 years; Nelson College, 19 months	340	438	411	315	—	—	1504
6	Hodgson, Ernest William ...	Nelson ...	Lower Wakefield School, 4½ yrs.; Upper Wakefield School, 2½ yrs.; Nelson College, 9 mths.	325	395	385	315	—	—	1420
7	Terry, John	Nelson ...	Government School, 9 years; Nelson College, 7 months	394	475	319	225	—	—	1413
8	Sharp, Harry Augustus ...	Nelson ...	Bishop's School, 1 year; Nelson College, 5 years	407	435	287	230	—	—	1359
9	Christie, John Bruce ...	Dunedin ...	Middle District School, 3 years; Normal School, 3 years	309	455	213	355	—	—	1332
10	Harper, Henry Spencer Grey...	Wanganui...	Mr. St. Hill's, 2 years; Christ's College, Christchurch, 3 years; Mr. Godwin's, Wanganui, 2½ yrs.	379	410	288	245	—	—	1322
11	Burns, John Stuart... ...	Thames ...	St. George's Grammar School, 4 years; Kauaeranga School, 2 years; Waiokaraka School, 1½ yrs.; Thames High School, 1½ years	267	483	289	228	—	—	1267
12	Walker, Frederick Joseph ...	Wanganui...	Wanganui Grammar School, 4 years; High School, 2½ years	250	484	250	200	—	—	1184
13	Browne, Francis William ...	Wairoa South	Government School, Wairoa South, 6 years; Church of England Grammar School, Parnell, 1¾ years	305	329	330	205	—	—	1169
14	Fraser, Donald Elliot ...	Parnell ...	Miss Goodingham's, 4 years; Mr. J. Martin's, 2½ years; Auckland College and Grammar School, 3½ years	369	289	266	215	—	—	1139
15	Johnston, Walter Herbert ...	Tauranga ...	Mount Eden School, Auckland, 1¼ years	283	212	226	350	—	—	1071
16	Richmond, James Wilson ...	Nelson ...	Nelson College, 4 years; University College School, London, 1 year; King Edward VI.'s School, Retford, 2 years	239	293	211	305	—	—	1048
17	Baker, William Ward ...	Dunedin ...	Private School, Wellington, 2 yrs.; High School, Wellington, 1¾ years; State School, 4 years	311	280	230	220	—	—	1041
18	Dowden, Charles William ...	Auckland ...	Auckland Grammar School, 4 yrs.; Mr. Pycroft's, 1 year; Ponsonby District School, 8 months	223	294	260	225	—	—	1002
19	Israel, Ernest Augustus ...	Dunedin ...	Collegiate Institute, Launceston, 3 yrs.; Middle District School, Dunedin, 1 year	272	291	203	210	—	—	976
20	Buscke, Alfred Alexander ...	NewPlym'th	Patea Government School, 5 years	216	298	239	200	—	—	953

Senior Examination.

Thirty candidates were examined, 13 candidates passed, 17 candidates failed.

Of the candidates who failed, 4 failed in 5 subjects, 7 failed in 4 subjects, 3 failed in 3 subjects, 3 failed in 2 subjects; 30 examined and 12 failed in English, 30 examined and 10 failed in arithmetic, 30 examined and 5 failed in geography, 21 examined and 1 failed in Latin, 1 examined and none failed in Greek, 17 examined and 5 failed in French, 4 examined and none failed in German, 1 examined and none failed in Maori, 8 examined and 6 failed in trigonometry, 28 examined and 7 failed in algebra, 26 examined and 13 failed in geometry, 5 examined and 4 failed in science, 25 examined and 5 failed in history, 3 examined and 3 failed in book-keeping.

The names of the candidates who passed, placed in order of merit, are as follows:—

Order.	Name.	Residence.	Where Educated.	Compulsory.			Optional.												Total.
				English.	Arithmetic.	Geography.	Latin.	Greek.	French.	German.	Italian.	Maori.	Trigonometry.	Algebra.	Geometry.	Science.	History.	Book-keeping.	Shorthand.	
			Maximum attainable ...	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	9600
1	Colebrook, Horace William	Auckland	Thames Schools, 5 years; Auckland College and Grammar School, 5 years	380 2nd	480 1st	300 2nd	466 1st	—	355 2nd	—	—	—	N.P.	499 1st	293 3rd	—	443 2nd	—	—	3216
2	Kelling, Fedor Kuskop	Nelson ...	Hope School, 3 years; Richmond School, 3 years; Nelson College, 3¾ years	280 3rd	471 1st	260 3rd	444 2nd	—	—	365 2nd	—	—	325 2nd	535 1st	263 3rd	—	228 3rd	—	—	3171
3	Munro, Joseph Mackay	Nelson ...	Westport School, 6 years; Nelson College, 2¼ years	200 3rd	455 1st	390 2nd	398 2nd	—	350 2nd	—	—	—	260 3rd	479 1st	263 3rd	—	295 3rd	—	—	3090
4	Buckeridge, Edward William	Nelson ...	Public Schools, Nelson, 7½ years; Nelson College, 2½ years	430 2nd	414 2nd	330 2nd	450 1st	—	300 2nd	—	—	—	—	434 2nd	368 2nd	N.P.	317 2nd	N.P.	—	3043
5	Dreyer, Joseph...	Nelson ...	Public Schools, Nelson, 7 years; Nelson College, 3 years	230 3rd	335 2nd	380 2nd	399 2nd	—	—	480 1st	—	—	N.P.	479 1st	293 3rd	—	358 2nd	—	—	2954
6	Mueller, Gerhard George	Nelson ...	Hokitika Academy, 3 years; State School, Hokitika, 4 years; Nelson College, 1½ years	200 3rd	348 2nd	395 2nd	294 3rd	—	237 3rd	—	—	—	—	411 2nd	280 3rd	—	368 2nd	—	—	2533
7	Adams, Ernest Feltus	Thames ...	Church of England Grammar School, Parnell, 5 years; High School, Thames, 1½ years	400 2nd	447 2nd	235 3rd	371 2nd	—	247 3rd	—	—	—	—	417 2nd	N.P.	240 3rd	N.P.	—	—	2357
8	Trolove, John William	Nelson ...	Private School, 4 years; Nelson College, 4½ years	245 3rd	324 2nd	240 3rd	410 2nd	—	—	—	—	—	—	467 1st	348 2nd	—	218 3rd	—	—	2252
9	Crombie, Andrew Francis	Wellington	High School, Ballarat, 2 years; Wellington College, 6 years	230 3rd	507 1st	225 3rd	434 2nd	—	356 2nd	—	—	—	—	496 1st	N.P.	—	—	—	—	2248
10	Skerrett, Charles Perrin	Wellington	Missouri College, India, 3 years; Middle Class School, Maidstone, 1 year; Thorndon School, 1 year; Mr. Morton's, 1 year	215 3rd	344 2nd	365 2nd	362 2nd	—	—	—	—	—	—	340 2nd	215 3rd	—	395 2nd	—	—	2236
11	Painton, Edward John	Nelson ...	Wakefield Schools, 8 years; Nelson College, 1¾ years	210 3rd	344 2nd	335 2nd	314 2nd	—	—	—	—	—	—	295 3rd	N.P.	—	245 3rd	—	—	1743
12	Atkinson, Alfred Charles	Wellington	Mr. Richmond's, 6 months; Mr. Adams's, 6 months; Mr. Gammell's, 6 months; Nelson College, 2 years	350 2nd	301 2nd	235 3rd	—	—	241 3rd	—	—	—	N.P.	303 2nd	230 3rd	—	—	—	—	1660
13	Wratt, William John	Nelson ...	Spring Grove School, 8 years; Nelson College, 2½ years	200 3rd	246 3rd	235 3rd	210 3rd	—	—	—	—	—	—	284 3rd	225 3rd	—	200 3rd	—	—	1600

Note.—1st, 2nd, 3rd = passed in 1st, 2nd, or 3rd class of merit. N.P. = not passed. — = did not take up the subject.

Shorthand Examination.

The following candidate passed in shorthand, under Regulation 12: Kennedy, James Price, Treasury, Wellington.

APRIL, 1882, EXAMINATION.

Junior Examination.

Forty candidates were examined, 16 candidates passed, and 24 candidates failed.

Of the candidates who failed, 5 failed in 4 subjects, 8 failed in 3 subjects, 4 failed in 2 subjects, 7 failed in 1 subject; 19 failed in English, 11 failed in arithmetic, 14 failed in history, 15 failed in geography, 1 failed in shorthand, 1 failed in Maori.

The names of the candidates who passed, placed in order of merit, are as follows:—

Order.	Name.	Residence.	Where Educated.	Compulsory.				Optional.		Total.
				English.	Arithmetic.	History.	Geography.	Shorthand.	Maori.	
			Maximum attainable ...	600	600	600	600	600	600	
1	Meek, Alfred Richardson ...	Wellington	English High School, 3½ years; Mr. Gammell's, ½ year; Wellington College, 2½ years	481	510	490	460	—	—	1,941
2	Barnett, Louis Edward ...	Wellington	Upland House School, London, 2 years; Thorndon School, 2 years; Wellington College, 3 years	489	506	515	393	—	—	1,903
3	Colbeck, Edmund Henry ...	Wellington	Tonbridge College, Kent, 2 years; Auckland College, 2 years; Nelson College, 2 years; Wellington College, 6 months	370	443	410	388	—	—	1,611
4	Bolton, Frederick George ...	Wellington	Private School, 1 year 8 months; Thorndon School, 3 years; Wellington College, 2 years 4 months	390	320	445	428	—	—	1,583
5	McCredie, Alfred James ...	Wellington	English High School, 3 years; Terrace School, 1½ years; Wellington College, 1¼ years	338	504	310	300	—	—	1,452
6	Wray, Henry George Harvey	Nelson ...	Patea Government School, 7 years; Nelson College, 1 year	287	283	405	428	—	—	1,403
7	Condell, Thomas Henry ...	Nelson ...	Stoke School, 8 years; Nelson College, 2 years	284	395	350	368	—	—	1,397
8	Stone, George William ...	Nelson ...	Private School, New Plymouth, 2 years; Terrace School, 2 years; Bridge Street School, Nelson, 2 years; Nelson College, 14 months	382	294	255	325	—	—	1,256
9	Colbeck, Charles Austyn ...	Wellington	Private School, 2 years; Auckland College, 2 years; Nelson College 1¾ years; Wellington College, 9 months	302	327	280	340	—	—	1,249
10	Treadwell, Archibald Hamilton	Wellington	Ayr Academy, 6 months; Private School, Wanganui, 4 years; Wellington College, 2 months	403	282	220	337	—	—	1,242
11	Lewis, Thomas William ...	Wellington	Mr. Bowden's, 1 year; Mr. Curtis's, 1 year; Wellington College, 2½ years; Mr. Morton's, 9 months	308	220	350	305	—	—	1,183
12	Richmond, Alfred ...	Wellington	Nelson College, 2 years; Geneva College, 2 years; Clifton College, England, 1½ years.	335	260	240	343	—	—	1,178
13	Holdsworth, Joseph Godfrey	Wellington	Private Schools, 8 years; Wellington College, 3 years	342	301	225	257	—	—	1,125
14	Hirschberg, Rudolf Sigismund	Wellington	Greytown School, 5 years; Wellington College, 3 years	256	332	230	287	—	—	1,105
15	Maunsell, Herbert	Parnell ...	Church of England Grammar School, 5½ years; Auckland College and Grammar School, 1½ years	338	235	220	285	N.P.	—	1,078
16	Kebbel, Cecil	Wellington	Wellington College, 6 years	290	271	215	205	—	—	981

Senior Examination.

Eight candidates were examined, 2 candidates passed, 6 candidates failed.

Of the candidates who failed, 1 failed in 5 subjects, 4 failed in 4 subjects, 1 failed in 3 subjects; 8 examined and 4 failed in English, 8 examined and 3 failed in arithmetic, 8 examined and 2 failed in geography, 5 examined and 3 failed in Latin, 5 examined and 3 failed in French, 1 examined and none failed in German, 2 examined and none failed in trigonometry, 8 examined and 5 failed in algebra, 5 examined and 1 failed in geometry, 4 examined and 2 failed in history, 1 examined and 1 failed in book-keeping.

The names of the candidates who passed, placed in order of merit, are as follows:—

Order.	Name.	Residence.	Where Educated.	Compulsory.			Optional.												Total.
				English.	Arithmetic.	Geography.	Latin.	Greek.	French.	German.	Italian.	Maori.	Trigonometry.	Algebra.	Geometry.	Science.	History.	Book-keeping.	Shorthand.	
			Maximum attainable ...	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	9600
1	Crombie, Charles Alfred Melville	Wellington	High School, Ballarat, 2 years; Wellington College, 3 years; High School, Wellington, 6 months	550 1st	393 2nd	330 2nd	—	—	215 3rd	—	—	—	285 3rd	426 2nd	463 1st	—	—	—	—	2662
2	Thomson, Andrew Duncan	Wanganui	Mr. Thomson's, 8 years; Mr. Godwin's, 1 year	375 2nd	265 3rd	389 2nd	410 2nd	—	—	—	—	—	—	440 2nd	385 2nd	—	375 2nd	—	—	2639

SUMMARY.

Junior Examination.—124 candidates were examined, 36 passed, 88 failed; 44 failed in English, 44 failed in arithmetic, 63 failed in history, 56 failed in geography, 2 failed in shorthand, 1 failed in Maori.

Senior Examination.—38 candidates were examined, 15 passed, 23 failed; 38 examined and 16 failed in English, 38 examined and 13 failed in arithmetic, 38 examined and 7 failed in geography, 26 examined and 4 failed in Latin, 1 examined and none failed in Greek, 22 examined and 8 failed in French, 5 examined and none failed in German, none examined and none failed in Italian, 1 examined and none failed in Maori, 10 examined and 6 failed in trignometry, 36 examined and 12 failed in algebra, 31 examined and 14 failed in geometry, 5 examined and 4 failed in physical science, 29 examined and 7 failed in history, 4 examined and 4 failed in book-keeping, 2 examined and 2 failed in shorthand.

NUMBER OF CANDIDATES EXAMINED.

At Auckland, 36; Thames, 2; Tauranga, 3; Napier, 4; Gisborne, 1; New Plymouth, 9; Wanganui, 11; Wellington, 52; Nelson, 25; Christchurch, 2; Timaru, 1; Dunedin, 11; Invercargill, 1.

Since the establishment of the Board the number of candidates examined has been as follows:—

Year.	Examined.	Passed.	Year.	Examined.	Passed.
1869	12	6	1877	164	75
1870	16	10	1878	199	96
1871	11	5	1879	211	107
1872	39	18	1880	222	80
1873	57	38	1881	155	41
1874	56	47	1882 (half-year) ...	47	18
1875	65	50			
1876	103	57		1,357	648

RECEIPTS AND EXPENDITURE.

Receipts.	£	s.	d.
Voted by Parliament	200	0	0
Fees	77	11	0
	£277	11	0

Expenditure.	£	s.	d.
Preparation of papers, and valuation of candidate's work	128	6	0
Supervision of candidates	84	0	0
Hire of examination halls, &c. ...	8	17	10
Attendance fee of member of the Board, not being a civil servant ...	25	0	0
	£246	3	10
Balance	31	7	2
	£277	11	0

This statement does not bear any relation to the statement made by the Treasury, inasmuch as the financial years are not coterminous, and in the Treasury books recoveries of all kinds, including fees, are reckoned as miscellaneous revenue, and not credited to separate accounts.

CIVIL SERVICE LITERARY PRIZE.

No essays were sent in during 1881, in response to the offer of a prize of £10 for the best essay on the principles and practice of parliamentary government. The Board has, therefore, with the consent of the donor, added the unexpended amount to the amount given for the present year, and offers a prize of £15 for the best essay on "Freedom of Debate in Parliament," under the following conditions: (1.) Competition to be open to all persons under the age of twenty-five years at this date who have passed either the Junior or Senior Civil Service Examination, and who are in the Service at the time of competition. (2.) The prize to be in books or money, at the option of the prize-taker. (3.) Essays to be legibly written, and on one side of the paper only. (4.) Essays to be delivered to the Secretary of the Civil Service Examination Board, Wellington, by the 31st December, 1882. (5.) No competitor to allow his name to appear on his essay, but to adopt a motto or cypher, which is also to be written on a sealed envelope containing the author's name, and attached to the essay. (6.) The prize will not be awarded unless there is an essay which, in the judgment of the examiners, is of sufficient merit to entitle the author to receive it. (7.) Competitors are advised to keep copies of their essays, as those sent to the Board will not be returned.

EXAMINATION PAPERS.

I append copies of the examination papers set for the October, 1881, and April, 1882, examinations respectively.

I have, &c.,
G. S. Cooper,
Chairman.

The Hon. the Colonial Secretary.

APPENDIX.

Civil Service Examination Papers, April, 1882.

JUNIOR.

ENGLISH.

1. Write the passage dictated to you.
2. Explain the terms "relative" and "antecedent," and the grammatical connection existing between them. Illustrate by an example.
3. Parse all the words in the last sentence of the passage you have written, commencing "But as usurers," &c.
4. State the principal rules concerning English genders.
5. Analyze—

Truth from his lips prevail'd with double sway,
And fools, who came to scoff, remain'd to pray.

6. Take the above passage (Question 5) as your theme, and write an essay on it.

Passage for Dictation.

The physical organization of the native of Bengal is feeble even to effeminacy. He lives in a constant vapour-bath. His pursuits are sedentary, his limbs delicate, his movements languid. During many ages he has been trampled upon by men of bolder and more hardy breeds. Courage, independence, veracity, are qualities to which his constitution and his situation are equally unfavourable. His mind bears a singular analogy to his body. It is weak even to helplessness for purposes of manly resistance; but its suppleness and its tact move the children of sterner climates to admiration not unmingled with contempt. All those arts which are the natural defence of the weak are familiar to this subtle race. Large promises, smooth excuses, elaborate tissues of circumstantial falsehood, equivocation, perjury, forgery, are the weapons, offensive and defensive, of the people of the Lower Ganges. All those millions did not furnish one sepoy to the armies of the Company. But as usurers, as money-changers, as sharp legal practitioners, no class of human beings could bear a comparison with them.

ARITHMETIC.

1. Add together fifty-five millions seven hundred thousand and five, seven hundred millions nine hundred and eight thousand two hundred and five, seventy-six millions fourteen thousand and fifty-nine, eight hundred and seventy-seven millions nine hundred and two thousand and forty-seven, seven millions eight hundred and four thousand five hundred and twelve, five hundred and seventy-five millions eight hundred and one thousand and ninety-nine.
2. If the sum of the above were farthings, how many pounds, &c., would you have?
3. How many inches are there in a *pole*, an *ell*, a *hand*, a *fathom*, and a *chain* respectively?
4. Find the value of $\frac{7\frac{1}{2} + 1\frac{11}{22}}{8\frac{2}{3} + 3\frac{23}{33}} - \frac{3\frac{4}{5} + \frac{29}{45}}{3\frac{3}{4} + 14\frac{1}{36}}$.
5. What decimal of £20 10s. 6d. is £649 2s. $0\frac{3}{4}$d.?
6. Make out an invoice for the following goods:—80 yards cloth, at 14s. 10d.; 348 yards linen, at 2s. 9d.; 420 yards cotton, at $8\frac{1}{2}$.; 480 yards flannel, at 1s. 10d.; 750 yards cotton, at 10d.; 60 yards carpeting, at 2s. 9d. Deduct 10 per cent. for cash payment.
7. The Government Insurance Office distributed reversionary bonuses to persons insured. What is the cash value of a bonus of £63, that of £10 being £3 19s. 10d.? What reduction of annual premium would be made if a reduction of 17s. 10d. were made for every £10?

8. Find the least common multiple of 7, 9, 14, 17, 85.

9. At what rate per cent. will the interest on £543 15s. become 129 17s. 6d. in $7\frac{3}{4}$ years?

10. Find by duodecimals the area of a rectangle who sides are 17yd. 2ft. 9in. 7pt. and 11ft. 9in. 10pt.

HISTORY.

1. Why did Henry V. invade France? Sketch the events of the war which followed, the terms of the treaty which concluded, it and the results to England

2. What do you know of Roger Bigod, Earl of Norfolk; George Canning; Praise-God Barebones; Addison; Daniel O'Connell?

3. Write a short account of the reign of William and Mary.

4. What Englishman would you place in the first rank in poetry, dramatic writing, novel-writing, art, architecture, invention, and discovery of new lands? State your reasons.

5. What led to the Crimean war? Name the chief battles and the results.

GEOGRAPHY.

1. Explain "archipelago," "delta," "landes," "sunderbunds," cyclades," "polders," "pampas," "prairies."

2. On the accompanying map of New Zealand, mark: (Bays) Tasman, Te Waewae, Tolago; (Capes) Colville, Farewell, Foulwind, Saunders; (Lakes) Ellesmere, Waikaremoana, Brunner, Tarawera; (Mountains) Peel, Aspiring, Hikurangi; (Rivers) Waitaki, Clutha, Wairau, Ruamahanga: *and nothing more.*

3. Where are the following places, and for what are they noted: Aldershott, Merve, Callao, Quillimane, Goa, Brindisi, Gallipoli, Chicago, Medina, Chagres?

4. What colonies do the Murray, Darling, and their tributaries water?

5. What possession has Great Britain in South America? Mention rivers, towns, and products, and describe the climate.

6. If you went from Southampton to Bristol by sea, what interesting places would you pass?

SENIOR.

ENGLISH.

Having read the accompanying correspondence,

1. Make a short abstract, schedule, or docket of the several letters.
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; (2) to do this briefly; (3) distinctly; and (4) in such a form as to readily catch the eye.

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 letters 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.

ARITHMETIC.

1. Multiply 931,464 by 39; divide the product by 972, and express the remainder as a fraction in its lowest terms.

2. Explain the various processes you have gone through in the above operation.

3. If A=amount, I=interest, P=present worth, V=value of bill at future time, T=time, D=discount, and R=rate per cent., write out formulæ for finding I, P, V, D, and R.

4. Find a mean proportional to 144 and 289.

5. On the 15th October, 1881, there were 1,304 miles of railway open for traffic in New Zealand. The revenue for the previous four weeks was £58,705 15s. 9d., and the expenditure £38,271 17s. 2d. Find revenue and expenditure per mile, and percentage of expenditure to revenue.

6. If 5A=20B, 10B=12C, 15C=50D, 8D=18E, how many E=90A?

7. The French metre (1·09363 English yards) is the ten-millionth part of the distance from the pole to the equator. Find the earth's circumference in English miles.

8. Extract the square root of 151,807,041.

9. A merchant in San Francisco wishes to remit 5,000 dollars to New Zealand (a dollar=4s. 6d.); for what sum must he draw his bill when bills *on* New Zealand are at a premium of $8\frac{1}{2}$ per cent.?

10. Find the amount of £185 15s. for $1\frac{1}{2}$ years at $5\frac{1}{2}$ per cent., payable half-yearly.

GEOGRAPHY.

1. Describe New Zealand fully with respect to surface, climate, natural, productions, and the industrial occupations of the people.
2. Name the principal islands of the East Indian Archipelago, state to whom they belong, and mention the chief products.
3. Write a general description of the great mountain systems of Asia.
4. Draw an outline map (as large as your paper will admit) of Great Britain and Ireland, and mark on it Liverpool, Hull, Milford Haven, Portsmouth, Plymouth, Aberdeen, Greenock, Belfast, Cork, and Limerick.
5. What, in your opinion, causes earthquakes? Give your reasons fully.

LATIN.

1. Translate—

Cerberus haec ingens latratu regna trifauci
Personat, adverso recubans immanis in antro:
Cui vates, horrere videns jam colla colubris,
Melle soporatam, et medicatis frugibus, offam
Objicit. Ille, fame rabidâ, tria guttura pandens,
Corripit objectam, atque immania terga resolvit
Fusus humi, totoque ingens extenditur antro.
Occupat Aeneas aditum, custode sepulto,
Evaditque celer ripam irremeabilis undae.

2. Who was the "vates" here spoken of? Give some account of her.
3. Scan—
"Et centumgeminus Briareus, ac bellua Lernae."
"Deturbat, laxatque foros; simul accipit alveo."
4. Translate—

Quandoquidem Ausonios conjungi foedere Teucris
Haud licitum, nec vestra capit discordia finem;
Quae cuique est fortuna hodie, quam quisque secat spem,
Tros Rutulusve fuat, nullo discrimine habebo:
Seu, fatis, Italûm castra obsidione tenentur,
Sive errore malo Trojae, monitisque sinistris.
Nec Rutulos solvo. Sua cuique exorsa laborem
Fortunamque ferent: rex Jupiter omnibus idem:
Fata viam invenient.

5. Explain the cases of *foedere*, *discrimine*, *cuique* (both of them), and *omnibus*.
6. Translate—

Contra ea Titurius sero facturos clamitabat, quum majores manus hostium adjunctis Germanis convenissent, aut quum aliquid calamitatis in proximis hibernis esset acceptum; brevem consulendi esse occasionem; Caesarem arbitrari profectum in Italiam; neque aliter Carnutes interficiendi Tasgetii consilium fuisse capturos, neque Eburones, si ille adesset, tanta cum contemptione nostri ad castra venturos esse; non hostem auctorem sed rem spectare; subesse Rhenum; magno esse Germanis dolori Ariovisti mortem et superiores nostras victorias; ardere Galliam, tot contumeliis acceptis sub populi Romani imperium redactam, superiore gloria rei militaris exstincta.

7. Parse fully *adjunctus*, *interficiendi*, *adesset*, and *dolori*.
8. Translate—

In omni Gallia eorum nominum, qui aliquo sunt numero atque honore, genera sunt duo: nam plebes paene servorum habetur loco, quae per se nihil audet et nullo adhibetur consilio. Plerique, quum aut aere alieno, aut magnitudine tributorum, aut injuria potentiorum premuntur, sese in servitutem dicant nobilibus: in hos eadem omnia sunt jura quae dominis in servos. Sed de his duobus generibus alterum est Druidum, alterum equitum.

9. Where was the chief settlement of the Druids, and what doctrines did they teach?

FRENCH.

1. Translate—

Un jour que Charles XII. roi de Suède *dictait* des lettres à un secrétaire, une bombe tomba sur la maison, *perça* le toit, et *vint* éclater près de la chambre même du roi; la moitié du plancher tomba en pièces, et, par un bonheur étonnant, nul des éclats qui sautaient en l'air n'entra dans la chambre, dont la porte était *ouverte*. Au bruit de la bombe et au fracas de la maison, qui semblait tomber, la plume échappa des mains du secrétaire: "Qu'y a-t-il donc?" lui *dit* le roi d'un air tranquille; "pourquoi n'*écrivez*-vous pas?" Celui-ci ne *put répondre* que ces mots: "Eh! sire, la bombe!" "Hé bien," *reprit* le roi, "qu'a de commun la bombe avec la lettre que je vous dicte? *Continuez*."

2. Write the third pers. sing. fut. ind. and third pers. pl. imp. subj. of the verbs in italics in the above passage.
3. Name the tenses formed from the present participle, and show by examples how they are formed in the four regular conjugations.
4. Translate "Next Monday will be Easter Monday, the 10th of April, 1882." (Write the dates in words.)
5. Give the meanings of *croit*, *des*, *doux*, *parti*, *sort*, *sourit*, *suit*, *très*. Write down, with their meanings, words similarly sounded but differently spelt.
6. Write a short letter in French asking that you may receive an appointment in the Civil Service, stating your qualifications, and mentioning the department to which you would like to be attached.

GERMAN.

1. Translate inte English—

Eurystheus befahl dem Hercules, dasz er ihm die goldnen Aepfel der Hesperiden bringen sollte. Hercules wuszte aber gar nicht, wo der Garten de Hesperiden sei, und muszte erst viele Tage umhergehen, bis er denselben finden konnte. Auf dem Wege begegnete ihm Antäus, der war ein Sohn der Erde, und gewaltig stark. Er kämpfte mit Allen, die ihm begegneten, und brachte sie um, denn wenn einer so stark war, dasz er Antäus zu Boden warf, so sprang er gleich wieder auf, weil die Erde seine Mutter war, und ihn immer stärker machte, wenn er sie berührte; und wenn er den Gegner niedergeworfen hatte, so brachte er ihn um. Wie Hercules merkte, dasz Antäus stärker ward, wenn er ihn auf die Erde warf, so hob er ihn zwischen seinen Armen in die Höhe, dasz er die Erde auch nicht mit den Füszen berührte, und drückte ihn mit den Armen so fest, dasz Antäus starb.

2. State the genitive singular and nominative plural of the following substantives, with their respective definite article:—*Knabe, Stadt, Schule, Mann, Haus, Sorge.*

3. Decline in the singular and plural—*Dieser gute Wein, ihr schlechtes Bier.*

4. By which case is duration of time expressed in German? And how would you translate—"He has been away for some months;" "I shall remain here a whole week"?

5. Translate the distinctive numerals: *secondly, thirdly, fifthly*; the variative numerals: *of six kinds, of three kinds, of two kinds*; the multliplicative numerals: *simple fourfold, hundredfold;* and express in words the meaning of $\frac{2}{3}$, $\frac{4}{5}$, $\frac{9}{10}$, $\frac{3}{37}$, 1882.

6. Translate into German (German characters should be used)—

When the town of Numantia was besieged by the Romans, Rhetogenes, who was a very brave man, persuaded five of his friends to take each a slave with him and a horse, and to join him in an attempt to break through the Roman lines. One dark night they crossed the ground between the city and the Roman lines, carrying with them a ladder which could be carried in parts, and might easily be put together. They scaled the Roman rampart, killed the men on guard on eaeh of the lines, and then, sending back the slaves, they managed, by means of their ladder, to lift their horses over the ramparts, and to escape into the open air.

MAORI.

1. Translate into English the following:—

Ko Te Wherowhero Potatau Tawhiao te tino Rangatira o Waikato, a, ko tona rongo e haere ana i roto i nga taki i nga whakapapa o te iwi o tenei motu; he nui no tona matau, he toa nona, he tohunga nona ki te whai korero.

Ko te matua tane o tenei rangatira rongo nui, ko Te Ruaangaanga, ko Te Parengaope te ingoa o te matua wahine, ko Ngatikoura te ingoa o tona hapu; ko te matua o te whaea no Ngatimahuta, ko te ingoa ano hoki tera o te hapu o to tatou hoa aroha o Potatau.

2. Translate into Maori the following:—

There were two other articles of Maori manufacture exhibited by well-known friends of that people which attracted considerable interest. The first was a handsome and curiously-carved stick, carved by Hori Haupapa, and presented by him to Colonel Wynyard. The second was Paewhenua, the famous battle-axe of Te Pehi, chief of the Ngatiawa, with which himself and several other chiefs were murdered at Kaiapoi. It was subsequently recovered by Te Rauparaha, when he stormed the Whangaraupo Pa, and given to Mr. McLean on the 12th of February, 1857, by Ropoama te One, in the presence of the principal Natives of that part of the country, in token of the cession to the Government of Arapaoa, in the Middle Island.

3. Put the following into Maori:—

For whom are those two horses?
Te Kani was a great chief and possessed of much authority.
That man was in your house this morning.
By whom was Pita's raupo house built?
Did he hear you calling him?
Here is some food for you: eat it.

4. Put the following into English:—

Ko te ara tena ki Rotorua.
Tokohia nga tangata kei roto i to koutou whare?
I tae mai a Hori inanahi.
I noho huihui nga tangata ki roto ki te pa.
I konei a Hemi i te wa i tae mai ai Te Kawana.
Kihai i roa kua tae mai a Hori.

5. Write a letter in Maori and in English to the Government offering a block of land for sale, giving its boundaries and the names of the tribes having a claim to the land; also state the price per acre.

TRIGONOMETRY.

1. Define the cosine of an angle, and trace its variation in magnitude and algebraic sign as the angle increases from 0° to 360°.

2. Prove that the angle at the centre of a circle which is subtended by an arc equal to the radius is a constant quantity. What use is made of this angle, and how many degrees does it contain?

3. Prove that $\mathrm{Sin}^2\mathrm{A}+\mathrm{Cos}^2\mathrm{A}=1$. Hence show that the numerical value of the secant or cosecant of any angle cannot lie between $+1$ and -1.

4. Show that $\mathrm{Sin}\ 30^\circ=\frac{1}{2}$, and from this deduce each of the other trigonometrical functions of that angle.

5. Prove the formulæ—
   (1.) $\text{Sin A} + \text{Sin B} = 2 \text{ Sin } \frac{1}{2}(\text{A} + \text{B}) \text{ Cos } \frac{1}{2}(\text{A} - \text{B})$.
   (2.) $\text{Sin } 3\text{A} = 3 \text{ Sin A} - 4 \text{ Sin}^3\text{A}$.
   (3.) $2 + 4 \text{ Cot}^2 2\text{A} = \text{Tan}^2\text{A} + \text{Cot}^2\text{A}$.
   (4.) $(\text{Cot. } 2\text{A} + \text{Cosec } 2\text{A})(\text{Sec A} + 1) = \text{Cot } \frac{\text{A}}{2}$.

6. If $\text{Sin } \theta = \text{Sin } \alpha \text{ Sin } (\phi + \theta)$, find Tan θ in terms of α and ϕ.

7. Find by logs. the value of—

$$\frac{\frac{1}{6}\left(\frac{13}{14}\right)^{\frac{1}{3}} \times \cdot 044 \times (846)^{\frac{1}{7}}}{13 + (152)^{\frac{1}{2}} \div (\cdot 34 + [\cdot 186]^{\frac{1}{9}})}$$

8. What is meant by solving a triangle? Investigate formulæ for solving a right-angled triangle.

9. Solve the right-angled triangle ABC, having given $\text{A} = 53° 19' 37''$, $\text{C} = 90°$, $\text{AB} = 342{\cdot}79$.

10. Solve the triangle ABC when the parts given are, $\text{B} = 39° 15'$, $\text{C} = 13°$, $\text{AC} = 217{\cdot}3$.

11. Wishing to ascertain the breadth of a river, I measured a base line (BC) of 200 yards along its bank, and at the ends of this line I measured the angles between it and an object A on the opposite bank, which I found to be—

$$\text{BCA} = 30° 15',$$
$$\text{CBA} = 22° 17'.$$

What was the breadth of the river?

ALGEBRA.

1. From $(a-b)(a+b)(2a-b)$ take $a^2(a-) \times b^2(a+b)$; and give value of the result when $a+b=7$ and $a-b=3$.

2. Multiply $x^{\frac{3}{2}} - xy^{\frac{1}{2}} + x^{\frac{1}{2}}y - y^{\frac{3}{2}}$ by $x + x^{\frac{1}{2}}y^{\frac{1}{2}} - y$.

3. Divide $a^{2n+1} - a^{n+1} - a^n + a^{n-1}$ by a^{n-1}.

4. Find the highest common factor of $a^3 - a^2 + a - 1$, $a^3 - a^2 - a + 1$, and $3a^2 - 2a - 1$.

5. Simplify $\dfrac{a + \dfrac{b}{1 + \frac{a}{b}}}{a - \dfrac{b}{1 - \frac{a}{b}}} (a^6 - b^6)$.

6. Express with root symbols and positive indices $\dfrac{x^{-2}}{y^{\frac{1}{3}}} + \dfrac{x^{-\frac{1}{3}}}{y^{-1}} + \dfrac{x^{-\frac{2}{3}}}{y^{-\frac{1}{3}}}$; and with fractional indices $\sqrt[3]{a^4} + (\sqrt[3]{a})^5 + a\sqrt{a^3}$.

7. Extract the square root of $\frac{1}{4}a^2 + a(c-3e) + c(c-6e) + 9e^2$.

8. Solve $\begin{cases} \dfrac{4x+3y}{9} + 1 - (y+3) + \dfrac{7x-3}{6} = 10. \\ 4y - \frac{1}{3}x + \dfrac{2x+3y+1}{7} - (x+y-2) = 3. \end{cases}$

9. Solve $\dfrac{x^2}{3} - \dfrac{x}{5} - 70 = 2$.

10. John, you, and I have £40 10s. amongst us. If from half John's and mine yours were taken we should be 30s. in debt; and your money and mine are in the proportion 29:2. How much have we each got?

11. If I go to my office by one route I save 120 yards; if to the post office by one route I save 440 yards. The shorter routes are in the ratio of 2 to 3, and the longer of 1 to 2. What are the distances?

GEOMETRY.

1. Define a point and a line. Is there anything wanting in these definitions, and, if so, what?

2. If two triangles have two sides of the one equal to two sides of the other, each to each, but the angle contained by the two sides of one of them greater than the angle contained by the two sides equal to them of the other, the base of that which has the greater angle shall be greater than the base of the other.

3. To a given straight line apply a parallelogram which shall have an angle equal to a given rectilineal angle, and shall be equal to a given rectilineal figure.

4. 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.

5. If two circles touch each other externally in any point, the straight line which joins their centres shall pass through that point of contact.

6. Inscribe an equilateral and equiangular hexagon in a given circle.

CHEMISTRY.

1. Give the composition and properties of the various oxides of nitrogen.

2. How is nitric acid made? Give formulæ. What are its properties?

3. You have given you potassic carbonate and sulphuric acid. What chemical reactions can you obtain? Give formulæ.

4. How is hydrofluoric acid prepared, and for what is it used in the arts?

5. Describe the properties of ozone, and state in what respects it differs from oxygen, of which it is an allotropic form.

HISTORY.

1. Why were the *Mad, Addled, Long,* and *Rump* Parliaments respectively so called? State what made them memorable.
2. Give an account of the growth of the North American colonies of Great Britain.
3. Compare the condition of the working-classes in England in regard to wages, dwellings, food, and luxuries in 1400, 1600, and 1800.
4. Describe the Irish Rebellion of 1798.
5. What efforts have been made by Great Britain to suppress the slave trade?
6. Assign events to the following dates: 1642, 1707, 1745, 1832, 1848, 1857.

BOOK-KEEPING.

1. Describe the difference between keeping books by "single" and by "double" entry, and give example.
2. What is meant by the terms "debtor" and "creditor"?
3. Prepare properly-ruled accounts for "cash book," "journal," and "ledger," and enter the following transactions by double entry under the proper heads:—

Cash received from Thomas Brown	...	£550
Bought of John Jones 12 half-chests tea, at £4	...	48
Lodged with Union Bank	...	500
Paid John Jones by cheque on Union Bank	...	48

4. State the proper entries to make when a merchant gives a bill in payment for goods, and also the entries when he receives a bill.
5. Commission at 5 per cent., amounting to £861, has been paid me. I have paid charges to the amount of £600, and have received back £360; and for interest I paid £145, and have been paid £720. Pass these transactions through a profit and loss account, and bring out the net result.
6. In mercantile book-keeping what are the usual divisions of the ledger accounts called, and why is any distinction made? Name some of the accounts under each division.
7. When merchandise is sent abroad as an adventure, or consigned to an agent for sale, in what way would you record the transaction?
8. Journalize the following transaction, namely,—Sold Levin and Co. half share in my steamer "Despatch," for the sum of £8,000, and received in payment the following, namely, cash, £1,500; a bill drawn by John Jones in favour of Thomson and Co. for £1,000; my own acceptance in favour of Smith for £3,000; 10 pipes of wine, valued at £500; and 15 hhds. of sugar, valued at £600. For the balance, £1,400, they gave me a promissory note at three months.

CIVIL SERVICE EXAMINATION PAPERS, OCTOBER, 1881.

JUNIOR.

ENGLISH.

1. Write the passage dictated to you.
2. When are letters doubled, changed, or omitted in adding a syllable to a word?
3. Explain and give examples of a phrase, a subordinate sentence, a simple sentence, a complex sentence, and a compound sentence.
4. Parse all the words in "The lawn-tennis ground was well mown yesterday."
5. Analyze the following:—

"This above all: to thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

6. Write me (the Examiner) a letter telling me how you expect to spend the Christmas holidays, and what you intend to do when they are over.

Passage for Dictation.

The stake was but one of many forms of judicial murder. The following story indicates with some detail both the careless audacity of the English, and the treatment to which they were exposed:—During the war between England and France, on the 15th of November, 1563, a fleet of eight merchantmen, homeward bound from the Levant, were lying in the harbour at Gibraltar, when a French privateer, full of men and heavily armed, came in and anchored within speaking distance of them. The sailors on both sides were amusing themselves with exchanging the usual discourtesies in word and gesture, when the Vicar of the Holy Office, with a boat-load of priests, came off to the Frenchman; and, whether it was that the presence of their natural foe excited the English, or that they did not know what those black figures were, and intended merely to make a prize of an enemy's vessel, three or four of the ships slipped their cables, opened fire, and attempted to run the Frenchman down.

ARITHMETIC.

1. Add together—

£	s.	d.
9,416	9	$8\frac{1}{2}$
28,731	2	$5\frac{1}{2}$
1,279	8	$7\frac{3}{4}$
4,610	3	$2\frac{1}{4}$
752	15	$3\frac{1}{2}$
7,187	10	$3\frac{1}{2}$
9,312	8	$5\frac{1}{2}$
10,784	9	$9\frac{1}{4}$
3,276	5	$9\frac{1}{4}$
46	3	$6\frac{3}{4}$
1,287	14	$7\frac{1}{2}$
4,917	10	8
147	0	$6\frac{3}{4}$
360	5	5
1,379	17	$2\frac{3}{4}$
9	9	$10\frac{1}{2}$
1,340	16	$9\frac{1}{4}$
906	10	$7\frac{1}{2}$
2,222	5	1

[Do not write out these figures. Set down answer in figures and words.]

2. How many pounds, ounces, &c., are there in 23,112 grains of gold?

3. What is the value of the above quantity of gold (question 2) at £3 17s. 6d. an ounce?

4. Add together $\frac{5}{8}$, $\frac{7}{16}$, $\frac{3}{4}$, ·09375, and 2·46, and divide the result by 125.

5. Find the simple interest on £5,208 16s. at $7\frac{1}{2}$ per cent., for 11 weeks and 3 days.

6. Reduce 16s. $7\frac{1}{2}$d. to the decimal of £1.

7. A man gained 3 per cent. on his outlay by selling goods for £31 6s. 7d.: what was the cost price to him?

8. How many packets, each 2 lb. 3 oz., can be made out of 3 cwt. 2 qr. 9 lb.?

9. What will it cost to carpet a room, 14 ft. 6 in. by 15 ft. 4 in., at 7s. 6d. a square yard?

10. A man starts at half-past 5 o'clock on New Year's morning to walk 1,000 miles in 1,000 consecutive hours: when will he complete his task?

11. If I receive 5 per cent. interest on an investment in the Four per Cents, what was the price of the stock?

12. What is the present value of £151 17s. 6d., due 4 years hence, at $5\frac{3}{8}$ per cent. per annum?

HISTORY.

1. Give a succinct account of the composition and functions of the Witena-gemôt.

2. Who were the Queen Consorts of William the Conqueror, Richard I., Henry VII., Charles I., George III., and William IV.?

3. What causes led to the Wars of the Roses, who were the chief actors in them, and what were the results? (Do not enumerate the battles.)

4. What made George I. unpopular in England? Who were his ministers?

5. Sketch briefly the chief events in English history during the last half of the last century.

GEOGRAPHY.

1. What separates the Orkney Islands from Scotland, Denmark from Norway, Ceylon from India, Australia from Tasmania, also from New Guinea, Terra del Fuego from Patagonia?

2. What countries are watered by the Nile, the Danube, the Amazon, and the Yang-tse-Kiang respectively?

3. What provinces are included within each of the three Presidencies which constitute British India?

4. Draw a sketch-map of the Middle Island of New Zealand, as large as the paper will admit, and mark on it the capes, lakes, rivers, mountain ranges, and principal towns.

5. What day of the month and hour was it in Sydney and in England when you commenced this paper?

SENIOR.

ENGLISH.

Having read the accompanying correspondence,

1. Make a short abstract, schedule, or docket of the several letters.

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; (2) to do this briefly; (3) distinctly; and (4) in such a form as to readily catch the eye.

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 letters 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.

ARITHMETIC.

1. Explain concrete, abstract, and prime numbers, a measure, a multiple, G.C.M., and L.C.M.

2. How do you prove multiplication by casting out the nines? In what cases will this proof not point out an error in the product?

3. Of the fractions $\frac{8}{33}$, $\frac{39}{161}$, and $\frac{47}{194}$, express the difference of the first two as a fraction of the difference of the last two.

4. Which is the better investment, 3 per cents. at 82, or $3\frac{1}{2}$ per cents at $95\frac{7}{8}$?

5. The Board examined 933 candidates from 1869 to 1879 inclusive; of these, 424 failed. State average number examined and percentage passed each year.

6. The rate of a clock being ·0375 per cent. too fast, how much will the clock gain in a week?

7. A friend of mine and I have the same yearly income from the rent of houses on which we pay the rates. He lives in a town where the rates collected are 2s. in the pound, and I where they are 1s. 4d. He pays £9 3s. 4d. more a year in rates. What is our income?

8. Extract square root of $3\frac{2}{3}+4\frac{1}{2}+5\frac{1}{4}+6\frac{1}{8}$ to four places of decimals.

9. The true length of the year is 365·242264 days, but it is generally taken at $365\frac{1}{4}$ days; how long will it be before the error amounts to a day?

10. In the estimates for the year the following salaries were voted for one of the Government departments: 1 at £700, 2 at £450, 1 at £315, 3 at £275, 5 at £250, 1 at £240, 6 at £215, 2 at £200, 1 at £190, 2 at £180, 1 at £165, 1 at £160, 3 at £130, 2 at £115, 1 at £100, 3 at £90, 1 at £80, 2 at £60. A reduction of 10 per cent. was made in all salaries. What was the average salary actually paid?

11. What will a debt of £4,250 amount to if left standing for $2\frac{1}{2}$ years at 5 per cent. compound interest?

GEOGRAPHY.

1. Describe the southern coast-line of the Continent of Europe, giving the chief capes, bays, rivers, and seaport towns.

2. If you started on a tour through Scotland, what places would you visit, and why?

3. Name as many rivers as you can that form deltas.

4. Name the principal forest trees of New Zealand, and say in what parts of the colony each is chiefly found.

5. Write what you know of monsoons, trade winds, and rotary storms.

LATIN.

1. Translate—

Talibus Aeneas ardentem torva tuentis
Lenibat dictis animum, lacrimasque ciebat:
Illa solo fixos oculos aversa tenebat;
Nec magis incepto vultum sermone movetur,
Quam si dura silex, aut stet Marpesia cautes.
Tandem corripuit sese, atque inimica refugit
In nemus umbriferum; conjux ubi pristinus illi
Respondet curis, aequatque Sychaeus amorem.

2. Scan the first line of the above passage, and the sixth line of the passage in question 4.

3. Give a history of Dido.

4. Translate—

Dixerat; at clypeum, tot ferri terga, tot aeris,
Cum pellis totiens obeat circumdata tauri,
Vibranti medium cuspis transverberat ictu,
Loricæque moras, et pectus perforat ingens.
Ille rapit calidum frustra de vulnere telum:
Unâ eâdemque viâ sanguis animusque sequuntur.
Corruit in vulnus: sonitum super arma dedere:
Et terram hostilem moriens petit ore cruento.

5. In what cases are the following words in the above passages, and why: *Solo, illi*, and *curis* (in question 1); *ferri, vibranti, ingens, viâ*, and *ore* (in question 4)?

6. Translate—

Illi, intermisso spatio, imprudentibus nostris atque occupatis in munitione castrorum, subito se ex silvis ejecerunt, impetuque in eos facto, qui erant in statione pro castris collocati, acriter pugnaverunt: duabusque submissis cohortibus a Caesare, atque his primis legionum duarum, cum hae, perexiquo intermisso loci spatio inter se, constitissent, novo genere pugnae perterritis nostris, per medios audacissime perruperunt, seque inde incolumes receperunt.

7. Why should Caesar have thought it necessary in describing this event to say, "*Atque his primus legionum duarum*"?

8. Translate—

Erat aeger in præsidio relictus Publius Sextius Baculus, qui primum pilum ad Caesarem duxerat, cujus mentionem superioribus proeliis fecimus, ac diem jam quintum cibo caruerat. Hic, diffisus suae atque omnium saluti, inermis ex tabernaculo prodit; videt imminere hostes, atque in summo esse rem discrimine: capit arma a proximis atque in porta consistit.

9. Give the present indicative, the perfect indicative, supine, and infinitive of the verbs in this (8) passage; compare the adjectives; and give nominative and genitive singular of the nouns.

FRENCH.

1. Translate—

Le 3 nivôse (24 Décembre, 1800), comme le Premier Consul se rendait à l'Opéra pour y entendre exécuter un oratorio d'Haydn, sa voiture rencontra vers le milieu de la rue Saint-Nicaise une petite charrette qui embarrassait le passage: cependant son cocher évita l'obstacle avec beaucoup de bonheur et d'adresse. A peine avait-il dépassé un des tournants de la rue qu'une détonation formidable se fit entendre. La force de l'explosion, semblable à la commotion produite par un tremblement de terre, souleva la voiture et ébranla toutes les maisons du quartier. Quatre personnes avaient été tuées sur le coup, une soixantaine étaient blessés plus ou moins grièvement; quarante-six maisons étaient extrêmement endommagées. Le Premier Consul persista néanmoins à se rendre à l'Opéra. Il parut dans sa loge avec Madame Bonaparte encore toute pâle d'effroi; lui-même affectait l'impassiblité, mais l'inquiétude de ses regards trahissait son agitation intérieure. "Les coquins ont voulu me faire sauter," dit-il à Rapp. Il ne resta que peu d'instants à l'Opéra, et se fit reconduire aux Tuileries.—LANFREY.

2. Write, up to twelve, the numeral adjectives, both cardinal and ordinal.

3. When is the article used in French and not in English? Give examples.

4. Translate—

(*a.*) How old are you? I am sixteen and a half.

(*b.*) Where were you going when I stopped you? I had just left my office, and was going home.

(*c.*) Il est difficile de plaire à tout le monde.

(*d.*) Il s'adresse à moi; je ne me fie pas à lui.

5. When are governed pronouns placed after the verb? When before it? What order should they take as regards person and case?

6. Fill up the accompanying form of application in French.

GERMAN.

1. Translate into English—

Eines Tages fragte Friedrich der Grosze einen seiner Pagen, ob er auch seinen Hunden zu gehöriger Zeit ihr Futter gäbe. „O gewisz," antwortete der Page, „erst sorge ich für Ew. Majestät, dann für die Hunde, and dann für mich." Der König lächelte und schwieg. Am folgenden Morgen aber, als der Page zu ihm in das Zimmer trat, sagte er zu ihm: „Kaffee für mich, Brod für meine Hunde, und diese goldne Uhr für dich."

2. Conjugate, in the present and imperfect tenses, *Gelobt werden.*

3. Translate, "Thou eatest too much, my dog."

4. Translate—The twenty-fifth; in the second place; of five kinds; of all kinds; sevenfold; eight times; one-eleventh; nineteen-twentieths; half an hour; three and a half; it is a quarter to four.

5. Correct those of the following clauses and expressions which require correction on account of the preposition employed in them: *Durch der Stadt; mit die Hand; er stand unter den Baum; wir gingen über den Weg; dieses Buch ist für Sie; sie machen eine Reise um der Welt; er kam sammt einen Freund; jenseits des Feusses.*

MAORI.

1. Translate into English the following:—

No te 20 o nga ra o Tihema ka haere atu to matou ope ki Tongariro, i haere matou ki te whakaatu i nga rohe o nga whenua ki o matou uri. No te rua o nga po ka tae matou ki Aukawa. Mahue iho o matou hoiho i reira, a haere waewae atu ana matou. No te wha o nga ra ka whiti atu matou ki tawahi o te awa, a haere tonu ma te tahuna a tae noa ki Whakapipi. Ko etahi o matou i haere i mua ki te wero tuna, ko etahi i whai atu i muri waha atu ai i nga tamariki, i ngenge rawa hoki ratou i te roa o te ara. Tae rawa atu matou kua ka te ahi a o matou hoa, kua maoa hoki he tuna.

2. Translate into Maori the following:—

Te Matenga was a man much liked by his people for his kindness to them, and the interest he took in their welfare. He was seldom heard to utter an angry word, nor did he bear a grudge against any man. He was a great upholder of law and order. He had been ill since the beginning of May last, and on the 25th of July he was, at his own request, brought in a canoe from Wakatane to Te Kaha, his usual place of abode, so that he might die at his own home. His relations all assembled there to see him and hear his dying wish made known to them. Some of them had come from the other side of the mountains, and others had poled up the river in their canoes. There were about 200 of them, including old men and women and grown-up people and children.

3. Put the following into Maori:—

Which way did you come?
We will all go there together to-morrow.
Did you hear him say so?
What is that thing for?
How old is that girl?
Your horse is a better one than mine.

4. Put the following into English:—
E hoa, he aha te mea e iri mai ra?
Ko wai ma anake era e titiro iho ra kia tatou?
I hoki rawa mai koe i hea?
Katahi nei ano au ka tae mai.
Kahore ano kia ata maoa te kai.
I tatari au ki a koe a po noa.

5. Write a letter to the Native Minister in Maori, telling him what Maori tribes you know, and giving a description of the districts in which they live; also what their principal food consists of, and how obtained.

TRIGONOMETRY.

1. What is meant by trigonometry? What difference do we observe between the definitions of an angle in geometry and trigonometry? What are we to understand by the signs + and — when prefixed to the algebraical expression for an angle?

2. Show how to find the number of grades, minutes, and seconds in an angle expressed in circular measure. In a circle whose radius is 3 yards an angle at the centre is subtended by an arc of 3 feet: what is its circular measure, and its measure in grades?

3. The tangent of an angle is $\frac{3}{4}$: find all the other trigonometrical ratios.

4. Find an expression for the tangent of the sum or difference of two angles in terms of the tangents of those angles. If $\tan\theta = \frac{1}{4}$, what is the value of $\cot\left(\frac{\pi}{4} + \theta\right)$?

5. Simplify—

$$\text{Sin}\ (\pi + \theta)\cos(2\pi - \theta) + \cos\left(\frac{\pi}{2} + \theta\right)\sin\left(\frac{3\pi}{2} + \theta\right) + \tan\ (\pi + \theta)\tan\left(\frac{3\pi}{2} - \theta\right).$$

6. Prove the following:—

(i.) $\frac{1}{2}\cos(\text{A} - 2\text{B}) - \frac{1}{2}\cos(2\text{A} + \text{B}) = \sin(\text{A} + \frac{1}{2}\overline{\text{A} - \text{B}})\sin(\text{B} + \frac{1}{2}\overline{\text{A} + \text{B}})$.

(ii.) $\text{Sin A}\cos\overline{\text{A} + \text{B}} - \cos\text{A}\sin\overline{\text{A} - \text{B}} = \cos 2\text{A}\sin\text{B}$.

(iii.) $\text{Cot}\ \frac{3}{2}\text{A}\cot\frac{1}{2}\text{A} = \dfrac{\cos\text{A} + \cos 2\text{A}}{\cos\text{A} - \cos 2\text{A}}$.

(iv.) $\text{Sin (A + B) sin (B + C)} = \text{sin A . sin C} + \text{sin B . sin (A + B + C)}$.

7. Find the area of a parallelogram when the adjacent sides are 35 and 45 feet, and the included angle $37\frac{1}{2}°$.

8. Solve the triangle—
AB = 317·92 feet.
BAC = 32° 17′ 39″.
ABC = 51° 42′ 10″.

9. Two men are surveying, and when each is at a distance of 100 yards from the flagstaff one of them finds the angle between it and the other's position to be $39\frac{1}{2}°$: how far are they apart?

10. The length of a road in which the ascent is 1 in 5 is $1\frac{2}{3}$ miles from the foot of the hill to the top: what will be the length of a road up the same hill in which the ascent shall be 1 in 12?

11. In order to measure the distance between two inaccessible objects, C and D, I measured a base-line, AB., of 200 yards, and at its extremities determined the following angles:—
CAB = 94° 13′, DAB = 62° 20′.
DBA = 84° 58′, CBA = 41° 16′.
Find the distance between C and D.

ALGEBRA.

1. Explain *a simple expression*, a *homogeneous expression, like terms, factors, coefficients, indices, surds.* Give examples.

2. If $a = 2$, and $x = -\frac{1}{2}$, find the value of $\dfrac{2x^2 - ax}{a^3 - x^3}$.

3. Divide $a^{\frac{3}{4}} - b^{\frac{3}{4}}$ by $a^{\frac{1}{4}} - b^{\frac{1}{4}}$.

4. Reduce $\dfrac{3x^2}{a^3 - x^3}$, $\dfrac{2a^2}{a - x}$, and $\dfrac{a^2 + x^2}{a^2 + ax + x^2}$ to their equivalents with common denominators.

5. Extract the square root of $\dfrac{a^2}{4} + 3ab - ac + \dfrac{a}{4} + 9b^2 - 6bc + \dfrac{5b}{4} + c^2 - \dfrac{c}{2} + \dfrac{1}{16}$.

6. Expand $(a+b)^6$.

7. Solve the following equations:—

$$\frac{2}{3x} + \frac{3}{2x} = \frac{1}{6}.$$

$$\begin{cases} \dfrac{11x - 5y}{11} = \dfrac{3x + y}{16}. \\ 8x - 5y = 1. \end{cases}$$

$$\frac{x^2 - 5x}{x + 3} = x - 3 + \frac{1}{x}.$$

8. Eight times a number diminished by 15 is equal to the square of a number: find it.

9. Having spent a third of his life in England, a man travelled on the Continent for 6 months; then went to India, where he spent a twelfth of his life; had another cruise for 6 months, and settled down in Victoria for $7\frac{1}{2}$ years; went to Tasmania for 18 months; and finally came to New Zealand, where he died after being here for as long as he had been in England, on the Continent, and in Victoria. How old was he when he died?

10. Divide 36 into three such parts that $\frac{1}{2}$ of the first, $\frac{1}{3}$ of the second, and $\frac{1}{4}$ of the third shall be equal to each other.

11. Eight persons had to pay a sum of money; but three went insolvent, so the others had to pay £60 each more. What was the total amount to be paid?

GEOMETRY.

1. An equiangular triangle is also equilateral.

2. All the exterior angles of any rectilineal figure, made by producing the sides successively in the same direction, are together equal to four right angles.

3. In every triangle the square on the side subtending either of the acute angles is less than the squares on the sides containing that angle by twice the rectangle contained by either of these sides and the straight line intercepted between the acute angle and the perpendicular let fall upon it from the opposite angle.

4. If in a circle two straight lines cut one another, which do not pass through the centre, they do not bisect each other.

5. Upon a given straight line to describe a segment of a circle which shall contain an angle equal to a given rectilineal angle.

6. Describe a circle about a given square.

7. Trisect a given straight line.

CHEMISTRY.

1. What volume of air is required for the oxidation of that quantity of metallic copper which is reduced from its oxide by 20 grammes of hydrogen? [11·2 litres of hydrogen weigh 1 gramme.]

2. What volume of carbonic acid must be passed over white-hot charcoal for the preparation of 16 litres of carbonic oxide?

3. What is the action of sodium on water? Give formulæ illustrative of your reply.

4. What is the simplest method of procuring sulphuretted hydrogen, and what is its principal application in chemistry?

5. What meaning attaches to the terminals *ide*, *ite*, *ate*, *ous*, *ic*, in chemistry, as in oxide, sulphite, chlorate, sulphurous, phosphoric?

GEOLOGY.

1. Explain what is meant by unconformity, and state what stratigraphical evidence you would seek to determine whether two series of beds were conformable or otherwise.

2. What is the meaning of cleavage, and how is it produced?

3. Give a description of three different classes of faults, and show what conditions would be necessary for these to occur.

4. Describe the different physical conditions under which intrusive rocks occur.

5. What are the main differences between the trachytic and basaltic volcanic rocks?

HISTORY.

1. Describe the condition of Britain under Roman rule.

2. What is the original meaning of the word "Parliament"? Mention the most important constitutional rights which the Commons had acquired in 1500, in 1600, and in 1700.

3. What do you consider the most interesting and important period of English history? Why?

4. Who were the Lollards, Levellers, Covenanters, Pilgrim Fathers, United Irishmen, Chartists?

5. State shortly the principal events in the history of British India, from the days of Clive to those of Clyde.

BOOK-KEEPING.

1. State the special end and aim of book-keeping.

2. Define the term "double entry."

3. Explain the term "debit and credit."

4. Describe the books of account which are necessary in the most simple form of double entry.

5. Prepare specimens of the ruling and headings of such books of account.

6. State the purposes which each book is intended to answer.

7. In the cash-book, state on which folio (right or left hand) the money received is placed, and on which folio the money paid away.

(*a.*) What does the difference between the totals of the transactions on each side show?

8. What is understood by "bills payable"?

(*a.*) If you give a promissory note or accept a bill, on which side of the account should you enter the transaction?

9. Explain what is meant by "bills receivable," and on which side of the account they should be entered.

10. What is meant by the term "assets and liabilities"?

11. Journalize the following transactions:—

Commenced business with a cash capital of £10,000, which I lodged in the Bank of New Zealand.

I bought £3,500 of merchandise from Levin and Co.

Paid for goods £1,750 by cheque.

Sold B. Harris goods to the amount of £1,800, and took his bill at three months.

Paid wages £15 by cash.

Drew cheque for petty expenses, £10.

Discounted Harris's bill at bank, and found I am charged £36 discount.

Paid Levin and Co. cheque for £500, and gave them my promissory note at three months for £3,000, with £60 added for interest.

Bought postage and duty stamps, 10s.

By Authority: George Didsbury, Government Printer, Wellington.—1882.