1887.

NEW ZEALAND.

EDUCATION:
EXAMINATION OF TEACHERS.

[In Continuation of E.-1A, 1886.]

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, 25th April, 1887.

I have the honour to present a statistical report on the examination of candidates for teachers' certificates, held in December, 1886. In addition to the ordinary examination for Classes D and E, a special examination for Class C was held, the candidates being three students of the Wellington Normal School, who had prepared for examination for the first section of the B.A. degree, but through some inadvertence had prepared in subjects in which the University has determined to examine no students who have not done practical work in an affiliated college. Only one of these students passed, but the other two were not very weak in the subjects in which they failed.

For the ordinary examination 786 candidates entered their names, 141 for Class D, 340 for Class E, and 305 for completion of "partial pass." Sixty-eight failed to appear, and the numbers examined were as follows: 128 for Class D, 318 for Class E, and 272 for completion. Of the candidates for completion, 128 (47 per cent.) were successful. The successes and failures for the several districts are shown in the following table:—

TABLE A.—CANDIDATES for COMPLETION of FORMER EXAMINATION.

Total Number entered.	Candidates.	Passed.	Failed.	Absent.	Auckland.	Taranaki.	Hawke's Bay.	Wanganui.	Wellington.	Marlborough.	Nelson.	Grey.	Westland.	North Canterbury.	South Canterbury.	Otago.	Southland.
5	For Class B—Passed	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
	Failed	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Absent	..	..	2	..	..	..	..	..	..	..	..	..	2	..	..	..
2	For Class C—Passed	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
	Failed	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..
139	For Class D—Passed	68	..	..	16	..	2	2	4	..	5	1	1	13	..	21	3
	Failed	..	51	..	14	..	1	1	2	1	1	..	..	12	3	14	2
	Absent	..	..	20	3	..	..	1	3	..	..	..	..	5	..	7	1
159	For Class E—Passed	57	..	..	22	3	2	1	..	..	1	2	2	10	1	10	3
	Failed	..	91	..	30	1	1	9	3	..	5	2	3	17	1	12	7
	Absent	..	..	11	2	2	..	..	..	..	..	1	..	..	1	5	..
305	Totals	128	144	33	89	6	6	14	12	1	12	6	6	60	6	70	17

Of the candidates for Class D a considerable number had already obtained "pass" or "partial pass" for Class E, and 29 of these were among the 37 who failed. The proportion of passes among the 446 examined for D and E was 19·1 per cent., 50 D candidates and 33 E candidates being successful, and 2 of the D candidates passing for Class E, though they failed for D. The proportion of failures among the 446 was 44·6 per cent. The remaining 36·3 per cent. represents those that were partially successful, that is, 36 candidates who will be admitted to Class D on passing in one or two subjects in which they were weak, 124 who will be admitted to Class E on similar terms, and 2, who though they failed for Class D, completed their title to Class E. It is not possible to make a very simple statement of successes and failures, because the candidates that fail are not all regarded simply as failing, but "partial passes" are recognised, and a bare failure for Class D is often treated as a pass for Class E, or as the completion of a "partial pass" in Class

E already registered. The consideration in this way shown to teachers is of more importance than clearness in the statement of results. The results, however, appear with sufficient clearness in the following table :—

TABLE B.—CANDIDATES for FULL EXAMINATION.

Total Number entered.		Candidates.	Passed.	Partially Successful.	Failed.	Absent.	Auckland.	Taranaki.	Hawke's Bay.	Wanganui.	Wellington.	Marlborough.	Nelson.	Grey.	Westland.	North Canterbury.	South Canterbury.	Otago.	Southland.
141	For Class D	Passed	50	..	..	..	8	..	..	1	1	1	1	4	..	17	1	14	2
		Passed for Class E	[2] 2	..	..	..	1	..	..	..	..	..	..	..	..	1	..	[2]	..
		Partially successful for Class D	..	*36	..	..	7	..	..	2	4	..	1	1	1	6	2	11	1
		Partially successful for Class E	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
		Completed exam. for Class E	..	[2] 2	..	..	[1] 1	..	..	..	..	..	..	..	..	[1] 1	..	..	..
		Failed completely	..	..	37	..	11	..	1	1	4	..	..	1	..	7	7	3	2
		Absent	..	..	..	13	3	..	1	1	1	..	1	..	1	..	2	3	..
340	For Class E	Passed	33	..	..	..	10	..	2	3	1	..	..	..	1	4	..	9	3
		Partially successful ..	..	123	..	..	39	1	3	5	10	2	3	2	1	19	5	26	7
		Failed completely ..	..	..	162	..	71	7	5	7	6	1	9	5	1	11	7	22	10
		Absent	..	..	..	22	8	..	1	2	1	..	2	..	..	2	1	3	2
481		Totals	85	162	199	35	159	8	13	22	28	4	17	13	5	68	26	91	27

* Two of these candidates also completed their examination for E, and two passed for Class E. The figures in brackets relate to these four candidates.

Of the 37 candidates who failed for Class D, 29 have either passed for Class E on former occasions or have obtained "partial pass" before, so that 8 only go to swell the list of absolute failures; these added to 162 failures for E make up 170 absolute failures. Many of those who failed have failed once, twice, thrice, or oftener, up to nine times, this being the ninth annual examination. There are 93 cases of first failure, which with the other cases are enumerated in the next table.

TABLE C.—UNSUCCESSFUL CANDIDATES, 1886.—NUMBER of FAILURES.

Number of Failures to Date.	Class E.														Class D.
	Auckland.	Taranaki.	Hawke's Bay.	Wanganui.	Wellington.	Marlborough.	Nelson.	Grey.	Westland.	N. Canterbury.	S. Canterbury.	Otago.	Southland.	Totals for E.	Totals for D.
1	37	2	3	1	4	1	7	4	1	8	2	14	4	88	5
2	21	..	1	2	1	..	..	..	..	1	1	5	4	36	2
3	8	2	..	2	1	..	2	1	..	2	1	1	2	22	..
4	..	1	1	1	..	..	..	..	..	..	1	1	..	5	..
5	2	1	..	..	..	..	..	..	..	..	..	1	..	4	..
6	1	1	..	1	..	..	..	..	..	..	1	..	..	4	..
7	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1
8	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
9	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	71	7	5	7	6	1	9	5	1	11	7	22	10	162	8

The records of the Department now contain the names of 562 candidates that have failed once or oftener, and have not yet passed beyond the stage of failure. Some of them continue year after year to make the attempt to pass.

327	have failed	once only.	
142	"	twice.	
50	"	three times.	
23	"	four "	
11	"	five "	
4	"	six "	
2	have failed	seven times.	
2	"	eight "	
1	"	nine "	
562	"	once or oftener.	

Some of those who have failed appear to have given up the attempt: the records show that—

of 33	candidates the last (or sole) failure was in	1879,
" 67	" "	1880,
" 53	" "	1881,
" 69	" "	1882,
" 27	" "	1883,
" 32	" "	1884,
" 29	" "	1885 (January),
" 82	" "	1885 (December),
" 170	" "	1886.

562 candidates have not passed beyond the stage of failure.

The whole number of persons who have at some time or other been in correspondence with the Department with a view to obtaining certificates is 3,721, as the following list shows.—

1,838 now hold certificates.
222 will have certificates when Inspectors assign marks.
85 will have certificates when they have had two years' experience.
312 (of whom 28 hold licenses) are registered for "partial pass."
49 have qualifications equivalent to "partial pass."
82 (besides 28 referred to above) hold licenses.
7 have district licenses.
12 have surrendered their certificates or had them cancelled.
68 certificated teachers have died.
544 (not counting 18 who have licenses) have failed as yet, and
502 have been rejected or have only made inquiries.

3,721 is the total number of correspondents.

The number of certificates continues to increase at the rate of from 150 to 200 a year. It is believed that about 480 certificated teachers were (so far as the Boards' service is concerned) unemployed in December, 1886. The only way of ascertaining the precise number is to compare the returns furnished by the Board with the Department's list of certificates, and the returns have been so lately received that there has not yet been time to make the comparison. I hope to be able in a few weeks to prepare a statement of the number of certificated teachers who were in the service of the Boards at the end of the year. Eleven certificated teachers are in charge of Native schools, and some are teaching in grammar schools.

Of the teachers holding license, 12 failed at the recent examination, and 12 others who are registered for "partial success" were unsuccessful candidates for completion. At the same examination 12 licensed teachers passed, and 4 obtained "partial pass."

At the last examination 8 candidates were admitted without payment of fee, on their presenting medical evidence of inability to attend former examinations for which they had made due payment. The whole amount of fees received was £461 1s., and the expenses of examination, supervision, stationery, hire of rooms, &c., was £592 12s. 5d.

The next examination is to take place in January instead of in December.

The examination papers are appended to this report.

I have, &c.,
WM. JAS. HABENS,
Inspector-General of Schools.

The Hon. the Minister of Education.

[Extract from *New Zealand Gazette*, 31st March, 1887.]

EXAMINATION OF TEACHERS.

Education Department,
Wellington, 25th March, 1887.

THE following lists contain statements of the principal results of the examination held in the month of December, 1886. It must be understood that the granting of a certificate depends only in part upon the result of an examination, and that candidates who have not had the experience required by the regulations, or who do not receive the necessary marks from a School Inspector, have no claim to a certificate.

The first list contains the names of the successful candidates at the examination for Class D. The second supplies similar information with regard to Class E. The third and fourth lists give the names of candidates who will be allowed to qualify for Classes D and E, respectively, by passing at the next examination in those subjects only in which they have this year been unsuccessful. The fifth is the list of candidates who were partially successful in former years, and have now passed in the additional subjects necessary for a certificate. In the case of the candidates who relied partly upon work done at the matriculation examination, the results of that examination have been taken into consideration in preparing these lists.

Every candidate will receive a private intimation of his success or failure, and those whose names are in the third and fourth lists will be advised as to the subjects in which they will have to be examined again.

An asterisk against a name signifies that the candidate is too young to hold a full certificate.

Teachers already classified who are entitled to promotion as a result of the examination should send in their certificates for indorsement.

The next examination will take place in January, 1888, beginning about the ninth of the month. Notices must be given so as to be in the office of the Department by the thirty-first of October.

ROBERT STOUT.

I. PASSED THE EXAMINATION FOR CLASS D.

Auckland—
Calvert, Kate.
Fraser, Lucy St. Michael McKenzie.
Grierson, James.
Hughes, William George.
Auckland—*continued.*
*McLeod, Jane Eliza.
Murray, Elizabeth Brown.
*Shrewsbury, Elsie.
Stallworthy, John.
Wanganui—
Law, James Kinloch.
Wellington—
*Page, Margaret.
Marlborough—
Wrigley, Mary.
Nelson—
*Ainsworth, Emma Florence.
Grey—
Hicks, Charles.
Pelling, Mary Anne.
Scott, Edward Askew.
Stevenson, Andrew.
North Canterbury—
*Alley, Frederick James.
Bean, William Dallas.
*Bedingfield, Douglas Shelley.
*Craddock, Charles Etheridge.
*Dawber, Florence.
*Deakin, Margaret Lucy.
Friar, Eliza.
*Frizzell, Robert.
Hamilton, Kate.
Harrison, Nellie.
*Laing, Thomas Marshall Morrel.
Marr, Thomas Meldrum.
*Rowley, Francis John.
Smith-Ansted, Frederick William.
Stoddart, Frances.
*Veysey, Hester Anne.
South Canterbury—
*Donn, Agnes Macfarlane.
Otago—
*Farnie, Eleanor Jane.
*Flamank, Oscar Davis.
*Graham, Walter Brown.
*Harrison, Samuel Joseph.
*Haughey, James.
*Hendry, Annie.
*Jamieson, Jane Barbour.

Otago—*continued.*
*Landreth, Robert.
*Mackie, William White.
*McAdam, Evelyn Maud.
*McCarthy, Mary Anne Recknall.
Renton, William.
Rodger, Agnes Walker.
*Whinam, Lois Annie.
Southland—
Hain, James.
*Percy, David.

II. Passed the Examination for Class E.

Auckland—
Atkinson, Thomas Richard.
*Carmichael, Amy Sophia.
*Collins, William.
Courtayne, Mary Edith.
*Day, Thomas.
Hill, Alfred Ernest.
Marsdon, James Nelson.
*Nixon, Elizabeth Ada.
*Simpson, Euphemia.
*Thomson, Annie Cicely.
*Wallis, Sarah Jane.
Hawke's Bay—
*Burden, Louisa H.
*Webb, Mary Flora.
Wanganui—
*Feild, Anna Marion.
Insoll, Thomas Baker.
*Matheson, Alexander.
Wellington—
Feist, Lois Margaret.
Westland—
Howe, Laura.
North Canterbury—
Buck, Susan Anne.
*Chapman, Sarah Elizabeth.
*Humm, Annie.
*Jenkins, Annie Matilda.
Rogers, Amelia.
Otago—
*Brownlee, Jane Markland.
*Cross, Ada Maria.
Don, William George.
*Duncan, Jane Ann Simpson.
*Ellison, Elizabeth Best.
*Ferguson, Catherine.
*Fitzgerald, Grace.
*Fraser, Catherine Graham.
*Greig, David Masson.
*Mackie, Jane Barr.
*Robertson, Christina Duncan.
Southland—
Gilchrist, William.
*Hamilton, Martha.
Shand, Thomas Gray.

III. Partial Success recorded towards Class D.

Auckland—
Boyd, Catherine.
*Gillibrand, Margaret Elizabeth.
Horne, Frank Hubert.
*Judd, Harriett Moreton.
Murray, William Tullibardine.
Nicholson, Maud.
Patterson, Elizabeth Rebecca.
Wanganui—
Victor, James.
Hall, Sheridan Carlisle.
Wellington—
Davis, Caroline.
Lawson, Annie Henrietta.
McIntyre, James.
*Tompkins, Ernest Walter.
Nelson—
Worley, William Frederick.
Grey—
Burt, Harold Penson.
Westland—
*Ward, Esther.
North Canterbury—
Banks, Mary Rose.
Callender, Helen.
*Craighead, Helen.
*Jackson, Martha.
*Meadows, Jeanie Margaret Hesketh.
*Stanton, Edith Emma Fanny.
Watson, Lancelot.
South Canterbury—
Dash, Sarah Ellen.
Pearson, Agnes Aitken.
Otago—
Beattie, John.
*Cross, Ada Maria.
*Fitzgerald, Grace.
*Henderson, John Hunter.
Johnstone, Cecilia.
*Rankin, Agness Finnie.
Smith, James Waddell.
Strong, William James.
Sutherland, Alexander.
*Walden, Janet Johnston.
*Watson, Elizabeth McIsaac.
Southland—
*Robinson, Emily.

IV. Partial Success recorded towards Class E.

Auckland—
*Airey, Eleanor.
Armstrong, Thomas Stockwell.
Bews, Elizabeth.
Bowden, Kate.
*Brown, Francis Hamilton.
Browne, Edward Webb.
*Byrne, Elizabeth.
Clark, Charles William.
*Crooks, Martha.
*Dempsey, Mary Ellen.
*Devin, Annie Marie.
*Duncan, Kate.
Evans, Jessie.
*French, Agnes Simpson.
Greatbatch, Bertha Caroline.
Harper, Eliza Anne.
*Haverfield, Rosa Louisa.
Hill, George Edmund.
Hill, William Wilfred.
*Honan, Mary Frances.
*Keary, Elizabeth.
Macgregor, Helen Ann.
*Macky, Euphemia.
Mayhew, Alice.
Mulgan, Edward Ker.
*Murphy, Francis.
*Newbegin, Annie.
Ormiston, Edward Nicolls.
Pain, John.
Perry, Arthur Mant.
*Shannon, Annie Mary.
*Skudder, Emma.
Spence, Emily Jane.
*Tisdall, Estelle Adelaide Elizabeth.
Webber, Joseph William.
*Wells, Tom Umfrey.
*Wilson, Eleanor.
*Wily, Edith Jenner.
Worsley, George Arthur.
Taranaki—
McLeod, Agnes.
Hawke's Bay—
*Harvey, George.
Izod, Lionel.
Westall, John Chaddesley.
Wanganui—
Harper, Eliza Charlotte.
*Laird, Emma Perfect.
*Laurenson, George Robertson.
Roache, Hannah Theresa.
Templer, Reginald Charles.
Wellington—
*Bowie, Annie.
Brown, Caroline Mary.
*Chatwin, George William.
Davies, Annie.
Davies, Emma.
*Francis, Clara Augusta.
Frethey, Alice Jane.
Martin, William George.
Nicholls, Agnes Cordelia.
Young, Grace Anne.
Marlborough—
*Linton, Mary.
*Matthews, Mary Jessie.
Nelson—
Boswell, Edward Blair Buchanan.
*Haynes, Sarah Ada.
*Tunnicliff, Selina Mary Anna.
Grey—
Batchelor, Bessie.
North, Maria Louisa.
Westland—
Soffa, Adelaide Agusta Maria.
North Canterbury—
*Bean, Emma Madeline.

North Canterbury—*continued.*
*Blackmore, Eliza Jane.
Bourke, Fanny.
Bowler, Frederick Henry
*Campbell, Janet.
Dawson, Mary Elizabeth.
Gibson, Marion Kate.
*Gilling, Julia.
Gordon, James Stewart.
*Harrison, Annie.
*Hirst, Caroline Greaves.
Ingram, Anna Helena.
Nesfield, Frances Emily.
Pirani, Regina Annie.
*Schneider, George.
*Spence, Jessie Wetheral.
*Thomson, Hugh.
Tulley, Katharine Mary.
Wharton, Kate Maria.

South Canterbury—
*Brown, Florence Annie.
*Bruce, Elizabeth.
Fendall, Mary Elizabeth.
Fisher, Marion Elizabeth.
*Jefcoate, Helen.
*McIlroy, Jane.

Otago—
Bethune, Jane Malcolm.
*Beveridge, Elizabeth Scott.
*Bohning, Annie Charlotte.
*Crawford, Alexander.
*Edwards, Mary Bradshaw.
*Ferguson, Grace.
Flamank, Mary Robotham.
Fleming, Ellen Euphemia.
*Gow, Margaret.
Hayes, Emma.
Hegarty, Mary.
*Henderson, John Hunter.
*Hitchcock, Isabella.
*Hutchinson, James Brigten.
*Macarthur, Isabella Turnbull.
*Macdonald, George Charles.
*MacGregor, Agnes Susan Craig.
McLean, Agnes Porteous.
*McNaught, Grace Crawford Simpson.
*Moir, Rodney Barcley Hill.
Polson, Donald.
*Rich, Maurice.
*Strachan, Mary Anderson.
*Sutherland, Jane.
Thompson, Mary Eleanor.
*Wall, Mary Anne Josephine.
*Watson, Elizabeth McIsaac.
*Wright, Willhelmina Isabella.

Southland—
*Cumming, Eliza.
Cumming, Ellen Christina.
Gualter, William Henry.
Inglis, Alexander.
Learmonth, Robert.
*Shaud, Clara Evelyn.
Sutherland, Jane.

. PASSED IN THE SUBJECTS REQUIRED TO COMPLETE FORMER EXAMINATIONS.

Auckland—
Ashman, Emma (E).
Bates, Herbert (E).
Biggs, Elizabeth Emily (E).
Booth, Frederick (E).
*Bull, Effie Sophia (E).
*Calvert, George Meynill (E).
Calvert, Joseph (E).
Christie, James (D).
Coad, Emma Maria (E).
Dunning, Alec Carson (E).
Edmiston, Clara Agnes (E).
Escott, Harriet Elizabeth (D).
*Flavell, Dennis Rupert (D).
French, Jessie Robb (D).
Garner-Jones, Dhalsé (E).
Gray, Wynne Charles Stewart (D).
Hankin, Frederick Stephen MacInnes (E).
Henry, Annie (E).
*Hould, Mary Elizabeth (E).
Jackson, Annie Colquhoun (E).
James, Herbert Louis (B).
*Judd, Harriett Moreton (E).
Kerr, Walter (B).
Kidd, Marion (D).
Larritt, Sophia (E).
Moore, John (E).

Auckland—*continued.*
Mulvany, Kate Pauline (E).
Paterson, Jessie Wood (E).
Purdie, Sarah Jane (D).
Rees, John (D).
Ridings, Kate (D).
Rust, Alexander Mearns (E).
*Scott, Augustus Nixon (D).
Smith, Isabella (E).
Smyth, Charles Thuillier (E).
*Spragg, Nellie (E).
*Steel, Peter Gillies (D).
Stevens, Percy Edward (D).
*Thompson, Rosina Eliza (D).
*Weston, Jessie (E).
*Whitaker, Joseph Robert (D).
Whitelaw, Margaret (D).

Taranaki—
Blair, Isabella (E).
*McLauchlan, Mary (E).
Mills, Fred (E).

Hawke's Bay—
*Arrow, Amy Witherow (E).
Cuthbert, Andrew (D).
Heslin, Charles (E).
Schnackenberg, Katrina Elizabeth (D).

Wanganui—
*Low, David Walker (D).
McDonald, Agnes Lambert (E).
Parkinson, Henry Ainslie (D).

Wellington—
Baty, Mary Alice Jane (D.)
*Lawson, Mary Kate (D).
Payne, Olivia Emma Pellow (D).
Wallace, Ellen (D).

Nelson—
Deck, Charles James (D).
Dencker, Wilhelm Heinrich (D).
Jacobsen, Henrietta (D).
Peart, Alfred (D).
Roby, John (D).
Stanley, Elizabeth Sarah (E).

Grey—
Bromley, John Arrowsmith (D).
*Scott, Elizabeth Askew (E).
Patrick, William Andrew (E).

Westland—
Andrew, William Jeffrey (D).
*De Bakker Leo (E).
*Hirter, Jane Gertrude Bertha (E).

North Canterbury—
Ansley, Annie (D).
Baldwin, Kate (D).
Barclay, Fanny (E).
*Beck, Elizabeth (D).
Catterick, James William (E).
Collins, Edward James Bruges (D).
Dawkins, Maude Mary (E).
Duncan, Mary (D).
Dynes, Martha (D).
Easther, Henry Alfred (E).
Granger, Pressey Edward (E).
Hodgson, Ada (E).
*Kennedy, William Alexander (D).
McCullough, Samuel (D).
*McGallan, Thomas Gibson (E).
McGregor, John Webster (D).
Perkins, Clara Christianna (E).
*Pope, George Henry (E).
Robinson, Sarah Lewis (D).
*Stanton, Edith Emma Fanny (E).
Stout, Thomas (D).
*Tindel, Agnes Elizabeth (D).
Tomlinson, Thomas Ernest (D).
White, George Henry (E).
Williams, Helen Vernon (E).

South Canterbury—
*Cooper, Edith Margaret (E).

Otago—
Anderson, Jane Sangster (E).
Beattie, James Martin (D).
Bott, Amelia (E).
Burnard, John Dufty (D).
*Cameron, Mary (D).
Cowan, Robert (D).
Davidson, George (D).
Fleming, James (D).
*Forbes, Annie (C).
Fraser, Johanna (E).
Gerkens, Teresa Catherine Burgoyne (D).
Gunn, John Egmont (D).
Harrison, Elizabeth Mary (E).
*Henderson, Jessie (D).

Otago—*continued.*
*Highet, Janet (D).
Hooper, Jane Dunlop (E).
Ivens, Edgar de Vils (D).
Jeffery, James (D).
McClelland, William (E).
McDonald, William (D).
MacGregor, Helen (E).
McLean, Alexander (D).
McMillan, Mary Sinclair (E).
*Mathews, Alfred (D).
Murray, Hannah Batey (E).
Park, Isabella Glendinning (E).
Robertson, John Alexander (D).
Ross, Donald (D).
Stewart, George Leighton (D).
Sutherland, James (D).
Thompson, Lillie (D).
White, John (D).

Southland—
Andrews, John Smith (E).
Fullarton, Catherine Isabella (D).
Gilfedder, Michael (D).
Lea, Mary (E).
Lindsay, Alexander (D).
McNaughton, Flora (E).

EXAMINATION PAPERS.

CLASS E.—ENGLISH GRAMMAR.

Time allowed: Three hours.

1. Explain clearly the grammatical relations between a relative pronoun and its antecedent. Parse (supplying where necessary) the relatives and antecedents in—

(*a.*) Who spills the foremost foreman's life,
His party conquers in the strife.

(*b.*) It was not till after a long search that I found the paper I was looking for.

(*c.*) According to the ancient saying, "Whom the gods love die young."

2. Do you think it more correct to write *honour* or *honor*, *favour* or *favor*, *traveller* or *traveler*, *moveable* or *movable*, and why?

3. But now on the open, lit up by the morn,
She flung the white foam-flakes from nostril to neck,
And chased him; I hatless, with shirt-sleeves all torn
(For he may ride ragged that rides from a wreck).

Explain the use in the above passage of the words "open," "all," "ragged," and the construction of "I hatless." What is the force of the termination "-less"? In the last line is "may" a principal or an auxiliary verb? Give reasons for your answer.

4. Hackney'd in business, wearied at that oar,
Which thousands, once chained fast to, quit no more,
But which, when life at ebb runs weak and low,
All wish, or seem to wish, they could forego,
The statesman, lawyer, merchant, man of trade,
Pants for the refuge of some rural shade,
Where, all his long anxieties forgot
Amid the charms of a sequester'd spot,
He may possess the joys he thinks he sees,
Lay his old age upon the lap of Ease,
Improve the remnant of his wasted span,
And, having lived a trifler, die a man.

Comment on the construction of the second line, "Which thousands," &c. Parse the words—Wearied, could, forego, pants, lay, man. What is meant by "hackneyed in business," "chained to the oar"? Give the sense of the passage in simple prose.

5. Punctuate the following, and put capital letters where they are wanted:—

Mr. Stelling she said that same evening when they were in the drawing-room couldn't I do Euclid and all Tom's lessons if you were to teach me instead of him no you couldn't said Tom indignantly girls can't do Euclid can they sir they can pick up a little of everything I dare say said Mr. Stelling they've a great deal of superficial cleverness but they couldn't go far into anything they're quick and shallow Tom delighted with this verdict telegraphed his triumph by wagging his head at Maggie behind Mr. Stelling's chair as for Maggie she had hardly ever been so mortified she had been so proud to be called quick all her little life and now it appeared that this quickness was the brand of inferiority it would have been better to be slow like Tom ha ha miss Maggie said Tom when they were alone you see it is not such a fine thing to be quick you'll never go far into anything you know and Maggie was so oppressed by this dreadful destiny that she had no spirit for a retort.

6. Rewrite *A* and *B*, putting together the unconnected pieces of *A*, with any necessary amendments, so as to form a terse continuous narrative, and breaking up *B* into several sentences:—

A. An old man was upon his death-bed. His sons stood round him. He said he was possessed of a great treasure. He told them it would now be theirs. They drew nearer. The sick man added that it was not in his hands. He said it was deposited in his fields. He told them to dig for it. He said they would be sure to find it. They followed his directions. They had mistaken his meaning. There was no treasure of silver or gold. This culture was extraordinary. The time of harvest came. The land yielded a most abundant crop.

B. It is true that the next year made them full amends by another terrible calamity upon the city; so that the city by one calamity impoverished the country, and by another enriched the country, and made them again amends; for an infinite quantity of household stuff, wearing apparel, and other things, such as come from all parts of England, were consumed in the fire of London the

year after this terrible visitation; it is incredible what a trade this made all over the kingdom, to make good the want and to supply that loss; so that all the manufacturing hands in the nation were set on work, and were little enough for several years to supply the market and answer the demands; all foreign markets also were empty of our goods, by the stop which had been occasioned by the plague, and before an open trade was allowed again; and the prodigious demand at home falling in joined to make a quick vent for all sorts of goods; so that there never was known such a trade all over England for the time as was in the first seven years after the plague and after the fire of London.—DEFOE: "History of the Plague of London."

7. Write not less than 30 lines about some favourite character in any work of fiction; or, on Friendship.

8. As a test of spelling, write a list of words dictated by the Supervisor:—

CLASS E.—EXERCISE IN SPELLING.

[NOTE.—The Supervisor will be so good as to read through once and then slowly dictate the following words, afterwards reading the whole of them again to afford opportunity for correction.]

Words to be dictated by the Supervisor: Nauseous, annihilate, inadmissible, quarrelled, achievement, intriguing, accommodation, wrangler, memoir, yeomanry, feasible, miscellaneous, unsuccessful, grammatically, rhetoric, avaricious, coercion, moneys, penniless, penalties, skilful modified, discipline, dissipate, exorbitant.

CLASS E.—ARITHMETIC.

Morning, 10 to 1.

1. Subtract eighty-eight millions nine hundred and thirty-four thousand one hundred and eighty-seven from two thousand and six millions one hundred thousand and ninety-one. Write out the answer in words.

2. Divide £65,598 6s. 9d. amongst 27 men and 3 boys, giving each boy one-fifth of a man's share.

3. Simplify $13\frac{2}{3} - \frac{2\frac{1}{4} - 1\frac{1}{3}}{3\frac{3}{8} + 2\frac{5}{6}}$ of $3\frac{4}{9}$.

4. Multiply 46·0146 by 6·4; divide 4·34312 by 23·3, and 43431·2 by ·0233; and give in each case the reason for the position of the decimal point in your result.

5. Express $\cdot 02\dot{3}6$ as a vulgar fraction in its lowest terms; multiply it by $14\frac{1}{7}$, and express the product as a decimal.

6. Find, by Practice, the cost of 287 tons 13cwt. 2qr. 8lb. at £240 11s. 8d. a ton.

7. A cistern, 6ft. 3in. long, 2ft. 8in. wide, and 2ft. 3in. deep, is to be covered with lead, which costs 1s. 4d. a square foot: find the total cost, the cistern being supposed to have no cover.

8. A piece of wood 6ft. 3in. long, 1ft. wide, and $1\frac{1}{2}$in. thick, is cut into matches, each 3in. long and having its end a square whose side is $\frac{1}{5}$in. If they are packed in boxes, each containing 100, and sold at 1d. a box, find the amount realised.

9. Find to the nearest farthing the interest on £1,275 10s. at $6\frac{1}{2}$ per cent. from March 8th to October 12th, both days inclusive.

10. A garrison of 2,400 men has enough provisions to last 25 weeks. It is reinforced by 500 men, who bring with them enough provisions for their own consumption for 10 weeks. The whole are now put on short allowance, each man receiving five-eighths of his full rations: find how long the provisions will last.

11. "A well-known estate was recently sold for £15,000. This property changed hands two years ago for £28,800, and in 1876 it realised £45,000." Calculate the loss per cent. of each seller.

12. Find the square root of 2·7 and of $\cdot 00\dot{7}$, each correct to four places of decimals.

13. If a cubic foot of water weighs 1,000oz., and a gallon contains 277·274 cubic inches, find the weight of a pint of water.

CLASS E.—GEOGRAPHY.

Time allowed: Three hours.

1. How is the position of any place on the earth's surface indicated? Explain the meaning of the terms employed for this purpose, and also of the following: "tropics," "ecliptic," "equinox," "Arctic Circle."

2. Define a "bight," "estuary," "delta," "archipelago," and "plateau"; give two examples of each.

3. How are the trade-winds caused, and in what direction do they blow?

4. Mention the principal volcanic districts in the world, and give some account of those that have recently been the scene of eruptions.

5. What oceans, countries, and islands are intersected (*a*) by the Equator, and (*b*) by the First Meridian?

6. Give the names and positions of the chief seats of the following industries in the United Kingdom: the cotton, the woollen, the linen, and the iron manufactures.

7. Name the principalities in south-eastern Europe, and explain their political relations. Give the boundaries of Bulgaria, with its capital and chief port.

8. What waters are joined and what lands divided by the following straits: Straits of Otranto, Ormuz, Magellan, Davis Straits, Palk Strait, and the Hellespont?

9. What and where are the Azores, Cyprus, Batoum, Kars, Corea, Kermadec, Honolulu, Hongkong, Benares, Quito, Candahar, Amour, Tchad, and Rapa?

10. Draw an outline map of the North Island of New Zealand, showing the provincial districts; and insert the names of the capes, rivers, and chief towns.

CLASS E.—ENGLISH HISTORY.

Time allowed: Three hours.

1. Give in tabular form and chronological order the names of the English Sovereigns that have reigned since the union of the Crowns.

2. Into what three parties were the people of England divided at the time of the Union? What were their respective expectations, and what the grounds on which these were based?

3. What was ship-money? By whom and on what occasion was its legality disputed? What were the consequences?

4. State what you know of each of the following: The Court of Star Chamber, the Act of Settlement, the trial of Dr. Sacheverell, the South Sea Bubble, and Catholic Emancipation.

5. What was the last battle fought (1) on English, and (2) on Scottish soil? State briefly the occasion and the results of each.

6. Give a short account of the Solemn League and Covenant, its origin and its object. When was it abolished?

7. In what reign was England's colonial empire founded? Name some of the colonies then established. When and how was Canada acquired?

8. What great reforms are due to the Parliaments of William IV.? Give the names of the statesmen most closely identified with the various measures by which these reforms were effected.

9. Say when and under what circumstances the British and Irish Parliaments were united, and mention any attempts that have been made to repeal the Union.

10. To what periods do the following writers belong: Dryden, Newton, Locke, Dr. Johnson, Burke, Moore, Hume, and Campbell? Name one or two of the chief works of each.

CLASSES D AND E.—SCHOOL MANAGEMENT.

Time allowed: Three hours.

[Candidates are not to answer more than one question in any section.]

SECTION I.

State what work has to be done in the school-registers at the end of each week, and show how the working average is ascertained for the quarterly return.

SECTION II.

Draw the ground-plan for a school of 100 children, representing all classes from P1 to S6. Show on the plan the sitting accommodation to be provided, and the location of each class. Give the probable number of pupils in each class, and show how you would distribute the teaching staff, if the school is to be organized in two departments.

SECTION III.

1. Construct a time-table for the upper department of the school mentioned in Section II.

Or,

2. Show what principles should be kept in view in constructing a general time-table, and write out a summary of the distribution of the pupils' time in the lower department of the school mentioned in Section II.

SECTION IV.

1. State the essentials of good reading. At what stages in the elementary school course would you expect the several essentials to be acquired, and how would you proceed in order to secure them?

Or,

2. "Children must not be taught or allowed to spell before they read." In view of this principle sketch the plan of a lesson for the youngest infant class.

SECTION V.

1. Classify under suitable heads the most common faults of writing, and group the letters according to the difficulty of their formation.

Or,

2. State what special benefits are to be derived from the cultivation of mental arithmetic in schools, and draw up three typical questions in mental arithmetic for each of the Standards III. and V.

SECTION VI.

1. Compare the advantages of teaching composition by means of stories read or matter given in class, with those of teaching it by setting subjects in regard to which the experience of the children is varied.

In correcting composition-exercises written by an upper class, to what mistakes have you most frequently to direct attention?

Or,

2. Under what heads would you draw up preparatory notes on a piece of poetry to be taken by a Sixth Standard class? Write preparatory notes on the following extract:—

"The armaments which thunder-strike the walls
Of rock-built cities, bidding nations quake
And monarchs tremble in their capitals,
The oak leviathan whose huge ribs make
Their clay creator the vain title take
Of lord of thee and arbiter of war;—
These are thy toys, and, as the snowy flake,
They melt into the yeast of waves which mar
Alike the Armada's pride and spoils of Trafalgar."

SECTION VII.

What principles are to be observed in drawing up notes of lessons?
Draw up full notes of a lesson on one of the following subjects:—
(1.) The Metric System;
(2.) The Complex Sentence;
(3.) Dew.

SECTION VIII.

1. Distinguish Induction and Deduction. Illustrate your answer by reference to a lesson on multiplication of decimals, and discuss the advantages and disadvantages of the two methods of procedure.

Or,

2. What is meant by tentative questioning and by Socratic questioning, and what is the specific purpose of each? State the characteristics of good oral questions, and give illustrations.

SECTION IX.

1. Write a short essay on the law of habit, and its bearing on school life and work.

Or,

2. Discuss the comparative merits of individual and collective teaching, and trace briefly the history of the mutual system of school organization.

CLASSES D AND E.—ELEMENTARY SCIENCE.

Time allowed: Three hours.

[NOTE.—Candidates are not to attempt more than ten questions. Female candidates, if proficient in Needlework, may substitute for this paper the paper on Domestic Economy and the Laws of Health; but passing in Science will not exempt them from passing in Needlework also.]

1. What are the laws of gravitation? The sun is about 850,000 miles in diameter; the earth's diameter is about 8,000 miles, the density of the earth four times that of the sun. What would be the weight of a mass of 1lb. on the surface of the sun?
2. What is meant by hardness and by density? Give roughly a scale of hardness, and state its uses; give also a few rough examples of density; and show how to find the specific gravity of a body.
3. Draw a section through a fire-engine, and explain its action.
4. Explain how power is gained in a screw-jack. The screw of a jack has three turns to one inch, and has a handle 3ft. long: what power is gained?
5. What are the laws of falling bodies? Will a sky-rocket take longer going up or coming down? Give reasons.
6. Show how a lens produces an image as in a camera or magic-lantern.
7. How does heat diffuse itself? How are the conductivities of solids and liquids ascertained?
8. When limestone is burned what chemical changes occur, and what when lime is put into water? Describe the changes that take place when a small quantity of carbonic acid is passed through lime-water, and when a large quantity is passed through.
9. Describe a Grove cell, and mention some of the experiments that may be made with voltaic electricity.
10. What are the changes that take place when barley is being converted into vinegar?
11. Make a sketch showing the course of the blood through its entire circulation.
12. Give an outline classification of the animal kingdom.

CLASSES D AND E.—DOMESTIC ECONOMY AND LAWS OF HEALTH.

Time allowed: Three hours.

[NOTE.—This paper is for female candidates who are proficient in Needlework, and, in consideration of this, are allowed, if they prefer it, to be examined in Domestic Economy and the Laws of Health, instead of in the general subject of Elementary Science. See the note on the Elementary Science paper.]

1. What are the uses (in cooking) of yeast, baking-powder, carbonate of soda, and tartaric acid? Explain the action of each.
2. How would you make soup (with and without meat) that would contain mineral, heat-giving, and flesh-forming food?
3. Show how to separate the constituents of flour. What are they, and what purpose do they serve in the body?

4. Name the juices of digestion. What are their composition and uses?
5. Describe the kinds of food suitable for the sick. Name a few easily-prepared foods that contain all the essentials for supporting the body.
6. Describe fully all the advantages to be obtained from perfect cleanliness.
7. What are the best modes of lighting and ventilating a schoolroom?
8. Describe the mode in which the fire heats an oven and boiler in a range, and illustrate your answer by a sketch showing the course of the heated gases.
9. What is the best mode of connecting a house with the drains? Describe the various ways of preventing the ingress of bad gases.
10. What are the most important rules to be observed by mental workers? What are the symptoms of overwork, and what steps should be taken to relieve them?

Class D.—English Grammar and Composition.

Time allowed: Three hours.

[All the questions are to be attempted.]

1. Parse each of the italicised words in the following, without assuming the omission of a word or words, and discuss anything peculiar in its use or in its relations to the other words of the sentence: (*a*) The *gain* of my attempt the least of you shall share his part thereof; (*b*) I hate these *kind of knaves*; (*c*) *Beaten* for loyalty excited me to treason; (*d*) Why I do trifle thus with his despair *is done* to cure it; (*e*) Thy word is current with him for my death, But *dead* thy kingdom cannot buy my breath; (*f*) *Never* a soul took flight to heaven thus; (*g*) Women are angels *wooing*; (*h*) One thing more rests that thyself *execute*; (*i*) And he would manage *you* his piece thus; (*j*) Is she as tall as *me*?

2. Correct, with reasons, or justify the following: (*a*) Of the two cities, Venice has undoubtedly the most impressive effect on the traveller, Florence most attracts him; (*b*) We have given an imaginary description of this monster, whose track, being followed for miles, still eludes the eye of the most experienced hunter; (*c*) He threw the pitcher, full of soapsuds, at the man's head, which he lifted with difficulty from the floor; (*d*) We never went so far in our efforts, eager as we were to do our best, and accomplish so little; (*e*) I had fully intended before I set out to have brought the book to you, in order that you might see for yourself; (*f*) Neither the politician who changes with every wind, nor the demagogue who flatters his audience, are to be trusted; (*g*) Gothic and Byzantine architecture differs so widely that it is difficult to find the common element; (*h*) When one sees a statesman truckling to the prejudices of his public, they cannot resist some natural indignation; (*i*) These are the very men whom we have heard it said and thoroughly believe have no faith, either religious or political.

3. Rewrite the following, so as to avoid its ambiguities, and its awkward constructions, order, and rhythm; the words may be omitted or changed, but no idea is to be omitted or changed: "The Lord Wilmot had with him fifteen hundred horse, and no more, and two small field-pieces, which he shot off, to give the town notice of his coming; having it in his hopes that, it being a fair champaign about the town, when the enemy should rise from before it, he should be able in spite of them to join with the foot and so to have a fair field for it; which would be still disadvantageous enough, the enemy being superior by much in horse, very few of those who had broken away from Devizes, except the prince himself, the earl of Carnarvon and some other officers, being come up with them, partly because they were tired and dispersed and partly because it was not desired to have many of those who might have their old terror still upon them."

4. Point out the merits of the following passage, and explain the sources of its beauty. Can you suggest any slight changes that would improve it?—"I came out presently on the edge of the ravine: the solemn murmur of its waters rose suddenly from beneath, mixed with the singing of the thrushes among the pine boughs; and, on the opposite side of the valley, walled all along as it was by grey cliffs of limestone, there was a hawk sailing slowly off their brow, touching them nearly with his wings, and with the shadows of the pines flickering upon his plumage from above; but with a fall of a hundred fathoms under his breast, and the curling pools of the green river gliding and glittering dizzily beneath him, their foam globes moving with him as he flew."

5. Write a brief essay on any amusing character you have met in life, in history, or in imaginative literature, and pay special attention to making a natural introduction and close, to dividing into paragraphs, to preserving the sequence, and to making the English correct, idiomatic, and unambiguous.

6. Correct what is wrong in the punctuation of the following: (*a.*) "Mercutio? Who is that lady? The daughter of old Capulet; by her stature: and he that dances with her, Paris a kinsman to Can Grande della Scala? Her lover! One of them: she has others. Enough to make a squadron, only the blind and aged are exempt." (*b.*) "Who are you? Sir! she cried, at last, that speak our tongue, with feigned accent! A stranger! An idler in Verona though not a gay one, a black butterfly; our Italian sun will gild your wings for you: Black edged with gilt goes gay? I am already, not so sad coloured, as I was, I would fain see your face! Sir! If it match your voice it needs must be a kindly one, I would we could change faces; so we shall at supper; and hearts, too? Nay! I would not give a merry heart for a sorrowful one, but I will quit my mask, and you, yours yet, and she spoke under her breath, if you are, as I think, a gentleman of Verona; a Montague do not unmask; I am not of Verona lady! no one knows me here: and Hamlet threw back the hood of his domino."

7. Spell correctly the words dictated by the Supervisor.

Class D.—Exercise in Spelling.

[Note.—The Supervisor will be so good as to read through once and then slowly dictate the following words, afterwards reading the whole of them again to afford opportunity for correction.]

Words to be dictated by the Supervisor: Anomalous, besiege, colossal, fusillade, homogeneous, obituary, theocracy, veterinary, posthumous, hypocrisy, irresistible, picturesque, rendezvous, chimera, worshipped, eligible, incendiary, proffered, archæology, correlative, synonymous, aerated, rhapsody, hygiene, surfeit.

Class D.—Arithmetic.

Time allowed: Three hours.

1. Reduce ten millions sixty thousand and eight square feet to acres.
2. If 5 cubic feet of iron weigh 1 ton, find the volume in cubic inches of a 10lb. iron weight.
3. Multiply 5 miles 10 poles 2 feet by $16\frac{2}{7}$.
4. Find, by Practice, the value of 242 acres 3 roods 32 perches at £2 14s. 8d. per acre.
5. Find the average number of gallons of water falling monthly on an acre of ground at a place where the annual rainfall is 34 inches; having given that a gallon of water weighs 10lb., and that a cubic foot of water weighs 1,000oz.
6. Simplify $\frac{(3\frac{1}{5}-2\frac{5}{6}) \text{ of } \frac{4}{13}}{2\frac{2}{9} \text{ of } (3\frac{1}{6}-2\frac{4}{5})} \div \frac{3}{7} \text{ of } 4\frac{1}{5}$.
7. Find the difference between 1·516 of 1dwt. and ·028 of 2oz. 11dwt. 1gr.; and express it as the decimal of an ounce avoirdupois.
8. Divide the difference between the squares of ·26 and ·26 by the square root of ·006241.
9. Standard gold consists of 22 parts by weight of pure gold and 2 parts of an alloy worth 5s. 2d. per oz. troy, and 1lb. troy of this composition is coined into $46\frac{29}{40}$ sovereigns. What is the value of the pure gold contained in a sovereign?
10. When the barometer stands at 30 inches the pressure of the atmosphere is 2,120lb. per square foot: hence find the pressure in dynes per square centimetre, when the height of the barometer is 75 centimetres.

[1ft. = 30·48 centimetres; 1lb. = 453·6 grammes; weight of 1 gramme = 981 dynes.]

11. A bill of £425 falls due on the 24th August: find its value on the 16th of May preceding, allowing interest at 6 per cent.
12. Find the amount of £1,200 in two years at 8 per cent. compound interest, the interest being payable half-yearly.
13. A person offered a section of land at an upset price which would have yielded him a profit of 24 per cent., but, being obliged to take £70 less than the upset price, he lost 16 per cent.: what did he receive for the section?
14. Brown sells his goods 20 per cent. cheaper than Black Brothers, and 20 per cent. dearer than White and Grey: how much would a customer of Black Brothers save by taking five hundred pounds' worth of goods (1) from Brown, (2) from White and Grey?
15. What is the meaning of *par* of exchange and *course* of exchange? If a sovereign be worth 25·14 francs, and a dollar be worth 4s. 1½d., what is the rate of exchange between Paris and New York?

Class D.—Geography.

Time allowed: Three hours.

1. Explain the meaning of the terms "equinox," "solstice." At what periods of the year do they respectively occur?

At a place in latitude 43½° South, what is the meridian altitude of the sun at an equinox and at each solstice?

2. Explain the principal causes which affect the climate of a place, and give illustrations.
3. Describe the situation of as many volcanic regions as you can.
4. Draw a map of Asia; mark the names of the chief capes, and insert the following towns: Batoum, Mecca, Rangoon, Bokhara, Madras, Tokio, Colombo, Shanghai, Delhi, Petropaulovski.
5. Describe the position of each of the following towns in the United Kingdom, and mention anything for which any of them is famous: Chester, Limerick, Perth, Norwich, Shrewsbury, Galway, Berwick, Aberdeen, Lewes, Canterbury, Stirling, Cork.
6. Describe the mountain and river systems of South America.
7. Enumerate the various countries in the German Empire, and the chief towns of each country.
8. Give a brief account of the main physical features of the North Island of New Zealand.

Class D.—English History.

Time allowed: Three hours.

[All the questions are to be attempted.]

1. Show how slavery disappeared in England.
2. Sketch the character and reign of Stephen.
3. What great measures did Simon de Montfort initiate?
4. Give an account of Lollardism. Had it any connection with the peasant revolt?

5. What part did England take in the discoveries and adventures of the fifteenth and sixteenth centuries?

6. Compare Thomas Cromwell and Oliver Cromwell as to character, work, position, and influence on the history of England.

7. Describe and explain the rise and fall of Strafford.

8. What attempts have been made to invade England since the reign of Elizabeth, and why did they fail?

9. How did Continental affairs affect English politics during the last twenty years of the eighteenth century?

10. What do you know of ship-money, Pride's Purge, the Darien scheme, and John Wilkes?

CLASS D.—LATIN.

Time allowed: Three hours.

1. Decline *eadem domus.*

Give the nominative singular masculine of the superlative of *facilis, aeger, superior, propior, dubius, beneficus.*

Write down in Latin—Twenty-four, twenty-fourth, twenty-four times, twenty-four apiece.

2. Give the first person singular of the perfect active, the infinitive, and the supine of *lego, adimo, venio, cupio, veto, pello, adjicio.*

Give the first person singular of the future and future perfect of *adsum, adeo, aufero, fio.*

Distinguish between *occĭdo* and *occīdo, conditus* and *condītus, oblĭtus* and *oblītus, rĕfert* and *rēfert.*

3. Express in Latin, according to Roman usage, all the days from August 28 to September 2, both inclusive.

4. Translate into Latin—

All of us have suffered the same evils as you are now suffering.

I do not know what to do, or what is likely to happen.

He promised to do whatever Cæsar ordered.

I wish I could persuade you that these things are true.

I am afraid he will not be able to help us.

Such was his boastfulness, he was believed by no one.

5. Translate—

Idem, cum Epaminondas Spartam oppugnaret, essetque sine muris oppidum, talem se imperatorem praebuit ut eo tempore omnibus apparuerit nisi ille fuisset Spartam futuram non fuisse. In quo quidem discrimine celeritas ejus consilii saluti fuit universis. Nam cum quidam adolescentuli, hostium adventu perterriti, ad Thebanos transfugere vellent et locum extra urbem editum cepissent, Agesilaus, qui perniciosissimum fore videret si animadversum esset quemquam ad hostes transfugere conari, cum suis eo venit atque, ut si bono animo fecissent, laudavit consilium eorum, quod eum locum occupassent, et se quoque id fieri debere animadvertisse. Sic adolescentes simulata laudatione recuperavit, et adjunctis de suis comitibus locum tutum reliquit.

CLASS D.—ALGEBRA (Optional).

Time allowed: Three hours.

1. Explain the use of brackets in algebraical expressions. What rules must be attended to in removing brackets? Give reasons for these rules.

Simplify the expression,—

$$x-[2x-y-(3y+z)]+[4z-(5z-x)].$$

2. Define a *power*, a *factor*, and a *coëfficient.*

Find the value of the expression $\frac{a^3-a^2b+bc^2}{a^2+b^2-c^2}$, when $a=2$, $b=-2$, $c=\frac{1}{2}$.

3. Find the continued product of $(a+x)^2$, a^2+ax+x^2, and x^2-ax+a^2.

4. Divide $a^4-a^2(x^2-y-z)-a(xy-xz)+yz$ by a^2-ax+z.

5. Resolve the following expressions into their simplest factors, and write down their G.C.M. and L.C.M.: a^4-ab^3, $(a^3-ab^2)^2$, and $(a^2-ab)^3$.

6. Simplify the following expressions:—

(*a.*) $\frac{3a^3-3a^2b+ab^2-b^3}{4a^2-5ab+b^2}$;

(*b.*) $\frac{3+2x}{2-x}-\frac{2-3x}{2+x}-\frac{x^2-16x}{x^2-4}$;

(*c.*) $\left\{a+\frac{b-a}{1+ab}\right\}\div\left\{1-a\cdot\frac{b-a}{1+ab}\right\}$.

7. Find the relation that must exist between the coefficients p, q, and r, in order that the expression px^2+qx+r may be a complete square.

8. Solve the equations,—

(*a.*) $\frac{6x+7}{15}-\frac{2(x-1)}{7x-6}=\frac{2x+1}{5}$;

(*b.*) $\frac{x+a}{x-a}-\frac{x-b}{x+b}=\frac{2(a+b)}{x}$;

(*c.*) $x=\cdot2+\cdot2y$, $y=5-x$.

9. The express trains from Dunedin and Christchurch start at the same time and pass one

another at Studholme Junction 6 hours afterwards: if the train from Christchurch travels 3 miles an hour faster than the Dunedin one, and the whole distance between the two places is 230 miles, find the distance from Christchurch to Studholme Junction.

10. A grocer, having purchased two kinds of tea, finds that if he mixes them in the proportion of 7lb. of the better kind to 3lb. of the inferior, and sells the mixture at 2s. per lb., he will make a profit of only 2d. per lb.; but that if he mixes them in the reverse proportion, and sells at the same price, his profit will be $33\frac{1}{3}$ per cent. Find the cost per lb. of each kind of tea.

CLASS D.—EUCLID (Optional).

Time allowed: Three hours.

1. Define a plane, an angle, a circle, parallel straight lines, a parallelogram.

Cite Euclid's axiom with reference to parallel straight lines.

2. If two triangles have two sides of the one equal to two sides of the other, each to each, and have likewise the angles contained by those sides equal, their bases or third sides shall be equal, and the triangles shall be equal, and the other angle of the one shall be equal to the remaining angle of the other, each to each—namely, those to which the equal sides are opposite.

State exactly what is meant by the expression "the triangles shall be equal."

3. Given three straight lines, any two of which are together greater than the third, show how to construct a triangle with its sides severally equal to the three straight lines. Where does the necessity for the limitation, that any two of the straight lines must be together greater than the third, appear in the construction?

4. What is meant by a regular polygon? How does Euclid enable us to find the magnitude of an angle of a regular polygon? Give the necessary proof.

How many degrees are there in an angle of a regular octagon, and how many in that of a regular polygon of fifteen sides?

5. Show how to describe a square on a given finite straight line. Construct a square which shall be three times a given square.

6. If a straight line be divided into two equal parts and likewise into two unequal parts, the rectangle contained by the unequal parts together with the square on the line between the points of section is equal to the square on half the line.

When is the rectangle contained by the two segments of a given line greatest?

7. Divide a straight line into two parts such that the rectangle contained by the whole and one part may be equal to the square on the other part.

CLASS D.—CHEMISTRY (Optional).

Time allowed: Three hours.

1. Describe experiments to show the chief properties of oxygen.

2. A jar is full of one of the following gases; Oxygen, nitrogen, chlorine, carbon dioxide, hydrogen, ammonia. How would you find out which of these gases it is?

3. The chief constituents of coal are carbon, hydrogen, oxygen. What becomes of these when the coal is burnt?

4. What is atmospheric air? Is it a *mixture* or a *compound?* Give reasons for your answer. How is the air affected by plants and animals?

5. What are the constituents of water? How many ounces of each do one hundred ounces of water contain?

6. Describe two experiments to show how water can be formed from its elements.

7. Explain how ammonia can be made from any of its compounds.

8. Describe a process for the manufacture of sulphuric acid.

9. Describe the various modifications (allotropic forms) of carbon.

10. What weight of hydrogen can be made by the action of sulphuric acid on 100 ounces of zinc? (Atomic weight of Zn = 65.)

11. Give the names and formulæ of all acids that contain (*a*) chlorine, (*b*) sulphur, (*c*) phosphorus.

CLASS D.—ELECTRICITY (Optional).

Time allowed: Three hours.

1. What is the distribution of a charge of electricity on a sphere, a cube, and a cone respectively? What effect have points and flames on the discharge of electricity? Describe the action of a lightning-conductor.

2. How would you prove the electricity of the clouds, of an electric machine, and of a galvanic battery to be identical?

3. How is a gold-leaf electroscope charged by induction? Describe some form of electrometer.

4. Describe and explain Holtz's electric machine.

5. Make a section showing the arrangement of a Grove cell. Describe the chemical changes that occur, and show how you would join a battery up when there was a large and a small external resistance respectively.

6. How is an electro-magnet made? What experiments can be performed with it?

7. Explain the advantages of an astatic galvanometer over an ordinary multiple galvanometer.

8. Describe the process of electro-plating and electrotyping, and state the changes that occur when sulphate of copper is decomposed by platinum electrodes. State the changes that occur when the current is reversed.

9. Describe a thermo-electric pile and galvanometer. Do you know of any other apparatus for indicating temperature by means of electricity?

10. How would you make an experiment to show the phenomena of magnetic induction? Describe Gramme's ring dynamo.

CLASS D.—SOUND AND LIGHT (Optional).

Time allowed: Three hours.

1. How has the velocity of sound in glass and in hydrogen been determined? It is greater in both of these substances than in air: why?

2. Explain the production of beats. What is supposed to be their relation to discord and concord?

3. Explain how sound may be brought to a focus by refraction and reflection respectively.

4. What are the rates of overtones of strings, and of open and closed organ-pipes respectively? Upon what does the "character" of a sound depend?

5. Describe two methods of determining the velocity of light dependent upon astronomical, and two dependent upon terrestrial, observations.

6. In what several ways may light be analysed?

7. Describe Helmholtz's and Clerk Maxwell's apparatus for showing combinations of colours. Why do yellow and blue pigments produce green when mixed?

8. What are the various modes of producing interference of light? Describe and explain one in detail.

9. Give a general account of spectrum analysis. How may the black lines in the solar spectrum be imitated?

10. In what several ways may light be polarized? Explain the depolarization of light when a piece of selenite is placed between crossed Nicol's prisms.

CLASS D.—HEAT (Optional).

Time allowed: Three hours.

1. Describe Roy and Ramsden's method for determining the coefficient of expansion of metals. How are the cubic, superficial, and linear coefficients of substances related to one another?

2. State some of the advantages and disadvantages arising from expansion that occur in the practice of the arts. Explain how expansion is compensated for in timekeepers, and make a sketch of a gridiron pendulum.

3. Define specific heat. What are its laws? How is specific heat usually determined?

4. In what various ways does heat diffuse itself? How has the absolute coefficient of conductivity been determined?

5. Describe all the different ways in which clouds are formed. How is snow formed?

6. How has the tension of aqueous vapour been determined? State approximately the tension at 0° C., at 100° C., and at 200° C.

7. Show by a diagram the distribution of energy in the solar spectrum. How is this energy modified by passing the ray through iodine, rock salt, and alum respectively?

8. Classify the varieties of energy. Give illustrations of the transformation of the energy of heat into mechanical work, into chemical affinity, and into electricity respectively.

9. What is a unit of heat? What is the mechanical equivalent of heat, and how has it been determined? If a ball of iron were to fall two miles, and all the energy developed were spent in heating it, what would be the increase in temperature?

10. What are the latent heats of steam and of water? How have they been determined? What would be the resultant temperature if 5lb. of steam at 100° C. and 30lb. of ice at 0° C. were mixed?

CLASS D.—BOTANY (Optional).

Time allowed: Three hours.

1. What are fibro-vascular bundles? How are they arranged in the stem and leaves of Monocotyledons and Dicotyledons respectively?

2. Describe the principal forms of inflorescence, illustrating your descriptions with diagrams.

3. Draw diagrams of an apocarpous ovary; of a syncarpous trilocular ovary; and of a syncarpous unilocular ovary formed of three carpels.

4. What is the difference between a seed and a fruit? and what are the different parts found in a grain of wheat and in a pea?

5. Explain the differences between simple fruits, spurious fruits, and aggregate fruits, giving examples of each kind.

6. Describe the plant in a young pea, a young cabbage (or mustard), and young wheat (or grass), when the leaves first appear above the ground.

7. Describe fully the flower in any three plants that you have studied.

8. Give the characteristics of any three of the following orders: Compositæ, Onagrarieæ, Cruciferæ, Liliaceæ, Leguminosæ, Scrophularineæ.

9. What is meant by insect fertilisation? Describe some flower adapted for this.

10. Explain why the leaves of a plant are coloured green, while the flowers are almost always of some other colour.

11. Describe the process of transpiration, and contrast it with respiration in plants.

12. What constitutes the food of plants, and how do they absorb it?

Class D.—Geology (Optional).

Time allowed: Three hours.

1. Give the physical characters by which the following minerals are recognized: Mica, olivine, augite, quartz, felspar, hornblende.
2. By what characters do you distinguish sedimentary (or aqueous) rocks from eruptive (or igneous) rocks? Draw a diagram showing the characteristic features of each kind.
3. Explain the following terms: Strike, synclinal, unconformity.
4. Draw a diagram representing faulted strata, the fault not being vertical; and state the law about the downthrow of faults.
5. By what differences are cleavage, lamination, jointing, and foliation distinguished? How is each of these conditions supposed to have been produced?
6. Give proofs of the land having been moved out of its position with relation to the sea-level.
7. Give an account of the phenomena commonly attending a volcanic eruption, and enumerate the materials emitted from the crater.
8. What are the different kinds of lava, and how are they distinguished?
9. Give an account of the geographical distribution of active volcanoes.
10. Draw up a table of the geological periods and mark on it the first appearance of fishes, birds, amphibians, reptiles, and mammals.
11. Give as good descriptions as you can of Ichthyosaurus and Plesiosaurus.
12. Describe the origin of coal, and the processes through which the materials composing it pass until coal is formed.

Class D.—French (Optional).

Time allowed: Three hours.

1. When are the participles *couté* and *valu* variable, and when invariable?
2. In what cases is *ne* used before a second verb?
3. When are *quel que, quels que*, &c., to be used?
4. What is the difference between *il est mieux* and *il est meilleur?*
5. What is the difference between *qui* and *que*, relative pronouns, and *qui* and *que*, interrogative pronouns?
6. Give the disjunctive pronouns corresponding to *je, tu, il, elle, nous, vous, ils, elles.*
7. Translate—the half, the third part, the fourth part, the double, the treble, fourfold, once, twice, three times.
8. Give in full the impers. verb *il s'agit de.*
9. When does the pronoun *le* remain invariable?
10. From the following nouns form adjectives: *courage, monde, aile, passage, bosse.*
11. Correct the sentence, *il aime et obéit à ses parents.*
12. Translate—I saw a man *smoking*. *Smoking* spoils the teeth. He spoke to me *smoking* his pipe. I cannot get it without *going* to town. On *seeing* his aged parent, he, &c.
13. To what is the use of *ravoir* (to have again) restricted?
14. The verb *vouloir* has two imperatives; give them, and state the exact meaning of each.
15. Translate—I have written two exercises. The two exercises which I have written. This woman sings well; I have heard her sing. This ballad is pretty; I have heard it sung. State the reason why the participle varies in two of the above examples.
16. Translate into English—

Au milieu de ces réflexions désolantes, la parole de son vieux compagnon de captivité se fit entendre encore: " Cher monsieur, lui disait avec son accent paternel le bon vieillard, baissant la voix en courbant son front jusqu'aux derniers barreaux de sa grille pour se rapprocher, autant que possible, de celui auquel il s'adressait, si elle meurt—et elle mourra, je le crains—que ferez-vous ici, seul, tout seul? Quelles occupations pourront vous distraire après celle-là, qui avait tant de charmes pour vous? L'ennui vous tuera à votre tour: la solitude interrompue redevient si lourde! Vous n'y pourrez résister; c'est comme moi, si maintenant on me séparait de ma fille, de ma Teresa, de cet ange gardien dont le sourire sait me consoler de tout! Quant à votre plante, le vent des Alpes vous en avait sans doute apporté le germe, ou peut-être, en passant, un oiseau en laissa-t-il tomber une graine dans cette cour; mais, maintenant, une même circonstance vous enverrait une autre Picciola, ce ne serait que pour renouveler le regret laissé par la première, car d'avance il faudrait vous attendre à la voir mourir comme elle. Croyez-moi, cher monsieur, laissez agir mes amis; fléchissez enfin. La liberté vous sera plus facile que vous ne pensez.... On cite déjà plusieurs traits de clémence et de générosité du nouvel empereur. Dans ce moment il est à Turin, et Joséphine l'accompagne." Il prononça ce dernier nom comme si la certitude du succès y était attachée.

17. Translate into French—

In the following year the first conspiracy of Catiline occurred. The circumstances of the times were favourable to a bold and unprincipled adventurer. A wide-spread feeling of disaffection extended over the whole of Italy. The veterans of Sulla had already squandered their ill-gotten wealth, and longed for a renewal of those scenes of blood which they had found so profitable. The multitudes whose estates had been confiscated and whose relations had been proscribed were eagerly watching for any movement which might give them a chance of becoming robbers and murderers in their turn. The younger nobility, as a class, were thoroughly demoralised, for the most part bankrupts in fortune as well as in fame, and eager for any change which might relieve them from their embarrassments. The rabble were restless and discontented, filled with envy and hatred against the rich and powerful.

CLASS D.—GERMAN (Optional).

Time allowed: Three hours.

1. Give in full the pres. ind. and also the various meanings of *dürfen.*
2. Decline *welcher* in full.
3. Give the principal parts of *treten, beginnen, gleiten, verlieren, tragen.*
4. Give in full the imperf. ind. of *sich befleissen.*
5. Translate—it suffices; it depends; it wearies me; it is a question; it concerns.
6. Translate—out of doors, backwards, close by, all around, asunder.
7. Distinguish between *wann, wenn,* and *als.*
8. Give the German for—one, the first, in the first place, of one kind, simple (onefold); two, the second, in the second place, of two kinds, twofold.
9. Decline *sie,* she.
10. How are passive verbs formed in German?
11. Substantives with the prefix *ge* are neuter. Give some exceptions to this rule.
12. Turn the following intransitive verbs into the corresponding transitive verbs: *Fallen, ertrinken, sinken, liegen, wiegen.*
13. Write out from memory any short piece of poetry not exceeding 15 or 16 lines.
14. Translate into English—

In Belfast fanden in der Nacht vom 13. auf den 14. ds. anlässlich eines Umzugs der Orangisten ernste Ruhestörungen statt. Die Orangisten wurden von ihren Gegnern mit Steinwürfen angegriffen und erwiederten dieselben. Der Kampf dauerte nahezu eine Stunde. Der Polizei gelang es erst, nachdem sie ansehnlich verstärkt worden war, die Menge zu zerstreuen. In einem andern Theile der Stadt fanden gleichzeitig ähnliche Ruhestörungen statt, bei denen sogar Gewehrschüsse gewechselt wurden. Mehrere Häuser sind fast vollständig zerstört, eine grosse Anzahl von Personen ist verwundet. Die Strassen der Stadt sind gegenwärtig von Infanterie- und Cavallerie-Abtheilungen besetzt. Zwei Gendarmen und zwei Unruhestifter wurden getödtet, ferner zwölf Personen schwer verwundet. Auch in Limerick kam es zu ernstlichen Ruhestörungen, wobei die Polizei, da die Menge sich weigerte auseinanderzugehen, gezwungen wurde, von der Waffe Gebrauch zu machen. Mehrere Personen sind hierbei verwundet worden.

15. Translate into German—

Have you read Goethe's poems?
Everybody admires the banks of the Rhine.
The houses of the city of Paris are mostly very high.
This woman is very sad because she has just lost a child.
If they were not extravagant they might be very rich.
I shall soon write a letter to my uncle who lives in Vienna.
How few people obey the command, Love thy neighbour as thyself!
Will you be so kind as to lend me a florin? I will return it to-morrow.
In summer I rise at six o'clock, and in winter at seven or even later.
I knocked at the door, and somebody said, "Come in." I do not, however, know who it was.
At what o'clock did you fall asleep? I was so tired that I could not sleep for a long time.
It does not seem to me that you will ever finish your work.
Do you remember the name of the gentleman who called here this afternoon?
It is raining now, so you had better run home as fast as you can.
How far is it from London to York? I do not know; so you had better look in your Geography.

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