

1893.  
NEW ZEALAND.

## EDUCATION: TEACHERS' AND CIVIL SERVICE EXAMINATIONS.

[In continuation of E.—1A, 1892.]

*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, 23rd February, 1893.

I have the honour to report that the annual examination of candidates for teachers' certificates took place in the month of January at the time prescribed by regulation, and that, as usual, the senior and junior examinations for the Civil Service were conducted under the same management and supervision.

The fees received amount to £738 10s. 6d., and the expenses of the examinations (including prizes for drawing and elementary science) to £680 18s. 5d.

The number of candidates entered for examination was 975. The candidates for the teachers' examinations were 675: 167 for Class D, 116 "partial pass" candidates to complete the examination for Class D, 264 for Class E, and 128 "partial pass" candidates to complete the examination for Class E. Of these 675 candidates, 162 had already passed for Class E, and were seeking promotion to Class D, and one other held a provisional certificate which she desired to exchange for a full certificate. Of the remaining number—512—there were 120 teachers in the service of the Boards of Education; 231 pupil-teachers; 52 normal-school students in training; 47 persons who had ceased to be connected with the public-school system as teachers, pupil-teachers, or normal school students; and 62 who had not been in any such way connected with the system.

Of the whole number of 675 candidates, 420 have improved their status through this examination, one having passed for Class C, 106 for Class D, and 132 for Class E, while 68 (including 5 of those who passed for Class E) obtained a "partial pass" for Class D, 117 obtained a "partial pass" for Class E, and one full certificate was obtained in exchange for a provisional one. I enclose a list of passes and "partial passes."

The following table exhibits at one view the facts already stated with respect to the success of the candidates at the examination for teachers' certificates:—

Status before Examination.	Number of Candidates.	Results of the Examinations.					
		Pass for D.	Pass for E.	Pass for E, and Partial Pass for D.	Partial Pass for D.	Partial Pass for E.	Total.
Passed before E ...	163	57	1†	...	28	...	86
Not passed before—							
Teachers ...	120	9*	29	...	1	15	54
Pupil-teachers ...	231	18	69	2	14	76	179
Normal students ...	52	13	14	2	11	6	46
Retired ...	47	8	8	1	2	6	25
Outside candidates ...	62	2	7	...	7	14	30
Totals ...	675	107	128	5	63	117	420

\* Including one pass for Class C.

† Provisional certificate exchanged for a full one.

The examination has added 47 names to the list of "failed" candidates, and has removed 20 from the list, increasing the number from 594 to 621.

Four candidates availed themselves of the opportunity afforded to pupil-teachers to take up one branch of drawing in each year of their course, and satisfied the examiner.

For the Senior Civil Service 64 candidates entered, 14 of them to complete examination partially passed in a previous year, and one for shorthand only. There were 231 candidates for the Junior Civil Service examination, of whom one entered for shorthand only. The results are published in the *Gazette* of this day.

I enclose copies of the examination papers.

The Hon. the Minister of Education.

I have, &c.,

WM. JAS. HABENS.

## EXAMINATION LISTS.

### I.—PASSES.

PASSED FOR CLASS C.  
(University status being taken into account.)

Wanganui—  
Smith, William Charles.

PASSED FOR CLASS D.

Auckland—  
Barclay, Rachel Gordon.  
Bayly, Jessie Jane.  
Benge, Alfred.  
Brown, Daniel Chadwick.  
Campbell, Robert.  
Cousins, Herbert Glanville.  
Cox, William Lomis.  
Davidson, George Adam.  
Davies, William Charles.  
Dean, James.  
Dixon, Joseph Francis.  
Durham, Henry James.  
Edwards, Charles Thomas.  
Francis, Norah Lillias.  
Kay, William.  
Macky, Samuel Henry.  
McNaughton, James Daniel.  
Mahon, Harold James Del Monté.  
Newman, Margaret Slingsby.  
Robb, Helen.  
Walters, Amelia Jane.  
Taranaki—  
Wyllie, Samuel.  
Wanganui—  
Matheson, Dugald.  
Payne, Henry Marriott.  
Watkin, Leonard James.  
Wellington—  
Dransfield, Elvina.  
Hopkirk, John Brown.  
Pope, Robert James.  
Pringle, Graham Speedy.  
Rountree, William Walter.  
Stuckey, Frederick George Albert.  
Worboys, Joseph Harrison.

Hawke's Bay—  
Magill, Mary.  
Marlborough—  
Howard, Harry Jerome.  
Matthews, Mary Jessie.  
Millington, Emily Helen.  
Stratford, Edythe Adeline.

Nelson—  
Creswell, Ellen Lavinia.  
Deck, Annie Bertha.  
Manson, Janette Charlotte.  
Warnock, Selina Maude.

Grey—  
Gloy, John Frederick.  
O'Flynn, Francis Edward.

Westland—  
Jack, Marion Bain.

North Canterbury—  
Atkinson, St. George.  
Baldwin, Myra.  
Banks, Alice Gertrude.  
Craig, Sarah Margaret.  
Dixon, Emma (ii.).  
Dyson, Sarah Elizabeth.  
Edkins, Catherine Grace.  
Flesher, Margaret Maud Elizabeth.  
Gilmour, Ruth.  
Grainger, Martha Elizabeth.  
Hefford, Elizabeth.  
Johnston, William Henry.  
Kain, Wolsey.  
Leversedge, Eliza Norton.  
Lorimer, Elizabeth.

Pilliet, Francesca Anna.  
Ritchie, Eliza Jane.  
Shrimpton, Edith Amelia.  
Simpson, Katrina.  
Thompson, Ethel.  
Weastell, John Arthur.  
Wilson, Francis Prendeville.  
South Canterbury—  
Baxter, Robina Margaret.  
Bruce, Elizabeth.  
Burn, Edgar Huie.  
Campbell, Eliza.  
Fifield, Amy Elizabeth.  
Gillespie, James.  
Hawkes, Emma.  
Meredith, Eva.  
Rowley, Lillie Maud.

Otago—  
Allan, Jessie Johnston.  
Anderson, Elizabeth Jane.  
Anderson, Margaret.  
Andrew, Alice Mary.  
Barnett, Annie Hamilton.  
Bee, John Guthrie.  
Bowie, Agnes Nicholson.  
Bowling, Alice Gertrude.  
Burke, Julia.  
Christie, Elizabeth Gow.  
Clark, Hugh.  
Cooper, Isabella Orr.  
Cruickshank, Christina Murray.  
Dawson, Maud Eyre.  
Dench, Violet Eliza Martha.  
Evans, Ellen.  
Hay, Elizabeth Rennie.  
Jones, Constance Emma.  
Macarthur, Grace Christina.  
McCallum, Maria Menzies.  
MacDonnell, Muriel Thomasine.  
MacKellar, Sarah Elizabeth.  
McKinlay, Parker.  
McLean, Grace.  
Martin, Donella.  
Matthews, Margaret.  
Murray, Lewis Henry.  
Ralston, Mary.  
Riddell, Jessie Mathieson.  
Robertson, Alexander George.  
Robertson, Charles Rule.  
Robertson, James.  
Smith, Edward (ii.).  
Smith, William (iii.).  
Stenhouse, Robert Anderson.  
Turner, Maude McKenzie.  
Turton, Lillian Audrey.  
Waddell, Elizabeth.  
Wilkinson, Elizabeth Jane.  
Wilson, Sarah.

Southland—  
Greenslade, May Gidley.  
McKinnon, John.  
McLean, Elizabeth.

### PASSED FOR CLASS E.

Auckland—  
Aickin, Eleanor Kathleen Elizabeth.  
Andrew, Maria.  
Angove, Beatrice Mary.  
Ballantine, Agnes Jane.  
Bear, Arthur Daking.  
Bower, Jessie.  
Bruce, Mary.  
Chappell, William.  
Collis, William Francis.  
Cossey, Mary May.  
Cox, Eliza Mina Jane.

Crisp, Rose Gertrude.  
Crosbie, Margaret Hunter.  
Cunningham, Agnes Jane.  
Darby, Edward Joseph.  
de Montalk, Marguerite.  
Gibbons, Hilda Kate.  
Hall, Florence Lillian.  
Harris, Samuel.  
Hill, Edith Amy.  
Hudson, John Holmes.  
Hutchinson, Frances Sarah.  
Ingram, William Nelson.  
Jackson, Mary Bertha.  
Jones, Esther Mary.  
Jowitt, Mabel.  
Kingsford, Violet.  
Lamb, William Oliver.  
Lorking, Walter Harry.  
Lough, Frederic.  
Mackenzie, Flora.  
Mathieson, Joann.  
Mellsop, Florence Lillian.  
Munro, Colin Robert.  
Roberts, Mary Emma.  
Sheppard, Albert Lewin.  
Shroff, Kate Sherin May.  
Smith, Sylvia Graco.  
Wilson, Evelyn.

Taranaki—  
Daveney, William Alfred James.  
Gayne, Violet Emily.  
Innes, Thomas.  
Mills, Sarah Ann.  
Sadler, Agnes Annie.  
Wanganui—  
Brunette, Amy Florence.  
McCaul, George William.  
McDonald, Isabella.  
McIntyre, Jessie.  
Mason, Frederick William.  
Mounsey, Sarah.  
O'Dea, Patrick.  
Phyn, Margaret Helen.  
Williamson, Marjory Elizabeth Jane.

Wellington—  
Alexander, Theresa.  
Armstrong, Winifred.  
Barron, Isabella.  
Benbow, Elizabeth Louise.  
Boulcott, Henrietta.  
Evans, Henrietta Mabel.  
Hutchen, Jessie Kinmond.  
Kenny, Ida Grace.  
Newton, Mary.  
Olson, Agnes Mary.  
Ranwell, Annie Preston.  
White, Mary.  
Williams, Kate (ii.).

Hawke's Bay—  
Burdett, Harriet Grace.  
Denholm, Lily Harriet.  
Garry, Edith Helen.  
Jones, Mary.  
Kuhtze, Miriam.  
Mills, Annie.  
Palmer, Helen.

Nelson—  
Dent, Alice Maude.  
Giblin, Elizabeth Maude.  
Hall, William Arthur.  
Lander, Thomas.  
Maloney, John William.  
Morrison, Catherine Ann.  
Phillips, Eliza Alford.  
Poole, Annie Harman.

Ross, Helen Bruce.  
 Sadd, Eliza Harriett.  
 Stanley, Hester Margaret.  
 Thompson, Katie Eliza.  
 Virtue, Mary Elizabeth.  
 Grey—  
 Robinson, Jeanette.  
 Rundle, William Arthur.  
 Westland—  
 Fendall, Mary Elizabeth.  
 Sullivan, Mary Margaret.  
 Ward, Margaret.  
 North Canterbury—  
 Alcorn, Ethel.  
 Bowbyes, Alfred Clarence.  
 Douds, Thomas.  
 Howes, Edith Annie.  
 Little, Marguerite Jane.  
 Morrison, Margaret Paterson.

Richardson, Henry Hay.  
 Taylor, Mary Isabella.  
 Tulley, Gertrude Emily.  
 Webb, Fanny Aurelia.  
 South Canterbury—  
 Brown, Gertrude Alice.  
 Henderson, Mabel Ellen.  
 Irwin, Robert.  
 Lindsay, James.  
 McLean, Alexander (ii.).  
 Oliver, Elizabeth.  
 Otago—  
 Don, Helen.  
 Downes, Ada Helena.  
 Dunlop, Margaret.  
 Fish, Kate Edith.  
 McLeod, Helen Lundie.  
 Morton, Minnie.

Reid, Wilhelmina Robertson.  
 Slater, Jemima.  
 South, Moses.  
 Stenhouse, Christina.  
 Thomson, Jane Hamilton.  
 White, Eliza.  
 Wilson, Annie.  
 Young, Jane Morris.  
 Southland—  
 Browne, Marie Stuart.  
 Clarke, Alexander.  
 Gray, Agnes.  
 Hiddleston, Archibald Hutton.  
 Merrie, Thomas.  
 Miller, James.  
 Pattison, Helen.  
 Stockwell, Thomas Goldsborough  
 Thompson, Mary Eleanor.

## II.—PARTIAL PASSES.

OBTAINED PARTIAL PASS FOR CLASS C.  
 (University status being taken into account.)

Otago—  
 Heatley, Joseph.

OBTAINED PARTIAL PASS FOR CLASS D.

Auckland—  
 Bishoprick, Charles.  
 Clark, Charles William.  
 Edenborough, Edith Vane.  
 Gaudin, Frederic Edward Norman.  
 Gillies, John Henry.  
 Graham, James.  
 Hall, Alfred Joseph Charles.  
 Hammond, Thomas William George Howard.  
 Hansen, Henrietta Louisa.  
 Hill, Arthur John.  
 Keane, Emma Hilda.  
 Oldham, Alfred.  
 Phillips, Amy Constance.  
 Russell, David.  
 Shroff, Kate Sherin May.  
 Wilson, George.

Wellington—  
 Armstrong, Winifred.  
 Kean, Annie Walker.  
 Watson, Caroline Cudmore.  
 Young, Mabel Florence.

Hawke's Bay—  
 Faram, Frank Coe.  
 King, Walter Junius.  
 Martin, William George.

Marlborough—  
 Douslin, Eugenie Minnie.

Nelson—  
 Boyes, William Henry.  
 Enright, Margaret Helena.  
 Hill, Annie.  
 Jordan, Fanny Sarah.  
 Kennedy, John Arthur.  
 Langford, Herbert.  
 Lloyd, William.  
 Street, Emily.

Grey—  
 Anderson, James William.  
 Rundle, William Arthur.

Westland—  
 Butler, Annie.  
 Growley, Annie Mechtildes Josephine.

North Canterbury—  
 Alexander, Anne Elizabeth.  
 Armstrong, Isabella.  
 Braven, Minnie Mary Hannah.  
 Colthart, Agnes Eliza.  
 Curd, Frank Burley.  
 Ewenson, Sara Jamieson.  
 Ferguson, Samuel Hay.  
 Howie, Isabella.  
 Livingstone, Hugh Alexander.  
 McKee, Helen.  
 Morrison, Margaret Paterson.  
 Newell, Eliza.  
 Newell, Mary.  
 Rutledge, Mary Woods.  
 Smith, Lena Rachel.  
 Thomas, Walter.  
 Tulley, Gertrude Emily.

Webb, Fanny Aurelia.  
 Williamson, Marjorie Ann.  
 South Canterbury—  
 McLean, Alexander (ii.).  
 Otago—  
 Aldrich, Bertha Christina.  
 Anderson, David Dow.  
 Crawford, James Melville Balfour.  
 Davis, Edward.  
 Dickie, Margaret Denny.  
 Don, Helen.  
 Fegans, Frances Magdalene Stewart.  
 Hamilton, Thomas Bennett.  
 Johnson, Minnie.  
 Jordan, Ethel Augusta Percival.  
 King, Jane.  
 Macdonald, Sophia Elizabeth.  
 Mackenzie, Margaret.  
 McClelland, William.  
 McLean, Alexander (iii.).  
 McLeod, Helen Lundie.  
 Marryatt, Florence Mary.  
 Morton, Minnie.  
 Murray, Ethel May.  
 Reid, Wilhelmina Robertson.  
 Smith, Annie Jane.  
 Traves, Catherine Isabella.  
 Turner, William Wilson.  
 White, Mary Eliza.  
 Young, Jane Morris.  
 Southland—  
 Browne, Marie Stewart.  
 Cowie, James Alexander.

## PARTIAL PASS FOR CLASS E.

Auckland—  
 Aickin, Florence Geraldine.  
 Boxall, Jane Eleanor.  
 Brown, Albert John.  
 Brown, William.  
 Campbell, Hugh John Joseph.  
 Davis, Albert William Bulmer.  
 Gillespie, William Rollo.  
 Harris, Mildred Wilson.  
 Haszard, Moore Fenwick.  
 James, James David.  
 Jamieson, Robert Edward.  
 Jones, Herbert John.  
 Krippner, Annie Barbara Christina.  
 Latta, Robert Sanderson.  
 Lindsay, Alice Margaret.  
 McGee, Maxwell.  
 McGibbon, Helen Margaret Stuart.  
 McKay, Annie Isabella.  
 Maclaurin, Kenneth Campbell.  
 Moor, William James.  
 Morison, Jessie.  
 Newton, Edith Mary.  
 Niccol, Sarah Kate.  
 Nixon, Mary Hannah.  
 Perkins, Edward.  
 Pilkington, William Andrew.  
 Pitwood, Florence Maude.  
 Ramson, Marrianna Gertrude.  
 Reid, Sarah Ann.  
 Revitt, Effie Marion.  
 Selby, Mary Rebecca.  
 Stewart, Sarah.  
 Sturtévant, Mary.  
 Taylor, Kate Alice.  
 Woods, Francis David.

Taranaki—  
 Lisle, Frank.  
 Reed, Laura.  
 West, Isaac Moody.

Wanganui—  
 Casey, Mary Gertrude.  
 Chapple, Eleanor Cole.  
 Ecclesfield, Esther.  
 Farr, Martha Mary.  
 Law, Henry.  
 Mowbray, Edith.  
 Peat, Janet Harriet.  
 Sarjeant, William Eugene.  
 Slattery, Julia Cecilia.

Wellington—  
 Cook, Amelia Ann.  
 Cook, Eleanor Nugent.  
 Foss, Reginald John.  
 Gregory, Frederick William.  
 Jones, George Adams.  
 Letham, Sarah.  
 Manning, Alice Mary.  
 Meager, Ellen Ann.  
 Mitchell, Janet.  
 Prouse, Woodley Armstrong.

Hawke's Bay—  
 Faram, Edith Hope.  
 Lambert, Harriet.  
 Leslie, David Ernest.  
 Montgomery, Annie Eliza.  
 Reid, Elisabeth.  
 Wahl, Louisa Marie Theresa.  
 Witherow, Elizabeth Annie Josephine.

Wright, Esther.  
 Nelson—  
 Baigent, Gertrude Nicol.  
 Carter, Elizabeth.  
 Eves, Esther.  
 Franklyn, Florence Agnes.  
 Salmond, Andrew.

Grey—  
 Turnbull, Elizabeth.  
 Walsh, John.

Westland—  
 Aitken, Williamina Innes.  
 Evison, John Crouchley Murray.  
 Jamieson, Maria Annie.  
 Mouatt, Margaret Anne Thompson.  
 Seddon, Mary Stuart Charleston.  
 Ward, Ellen Emma.

North Canterbury—  
 Anderson, Caroline Violet.  
 Banks, Ada Florence.  
 Banks, James.  
 Edwards, Mazzie Pierrepont.  
 Graham, Charles Henry Edger.  
 McDonald, Janie.  
 McLennan, Duncan.  
 Osborn, Emily Maria.  
 Rayner, Henry Hirst.  
 Revell, Martha Evelyn.  
 Seaton, Blanche Winifred.  
 Shrimpton, Arnold Wilfrid.  
 Taylor, Julia.

South Canterbury—  
 Campbell, Emma Gilmore.  
 Cooke, Montague Percy.  
 Oxby, Annie Elizabeth.  
 Strachan, Barbara.

Otago— Aldrich, Bertha Christina. Anderson, David Dow. Boyd, Annie. Brown, Jane Laura Hastie. Cameron, Louisa Fortescue.	Cassidy, Margaret. Dickie, Margaret Denny. Graham, Amy Frances de Longueville. Marryatt, Florence Mary.	Neil, Lydia. White, Katherine. Southland— Clark, Margaret Isabella. Mail, Margaret.
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## III.—PRIZES.

*Classes D and E.*

Drawing—  
Atkinson, St. George, North Canterbury, first prize.  
Jones, Esther Mary, Auckland, second prize.  
Campbell, Eliza, South Canterbury, third prize.

*Class D.*

Experimental science—  
Kay, William, Auckland, first prize.  
Hill, Arthur John, Auckland, second prize.  
Lloyd, William, Nelson, third prize.

## IV.—SPECIAL MENTION.

*Class D.*

English—  
Deck, Annie Bertha, Nelson.  
Smith, Lena Rachel, North Canterbury.  
Williamson, Marjorie Ann, North Canterbury.  
Arithmetic—  
Hammond, Thomas William George Howard, Auckland.  
Weastell, John Arthur, North Canterbury.  
History—  
Banks, Donald, North Canterbury.  
Campbell, Eliza, South Canterbury.  
Cruickshank, Christina Murray, Otago.  
Curd, Frank Burley, North Canterbury.  
Hill, Arthur John, Auckland.  
Mahon, Harold James Del Monté, Auckland.  
McLean, Alexander (ii.), South Canterbury.  
Ralston, Mary, Otago.  
Webb, Fanny Aurelia, North Canterbury.  
Elementary Experimental Science—  
Atkinson, St. George, North Canterbury.  
Enright, Margaret Helena, Nelson.  
Gaudin, Frederic Edward Norman, Auckland.  
Hamilton, Thomas Bennett, Otago.  
Hill, Arthur John, Auckland.  
Kay, William, Auckland.  
Kennedy, John Arthur, Nelson.  
Lloyd, William, Nelson.  
Mahon, Harold James Del Monté, Auckland.  
McKinlay, Parker, Otago.  
McLean, Alexander (ii.), South Canterbury.  
Latin—  
Bowie, Agnes Nicholson, Otago.  
Campbell, Eliza, South Canterbury.  
Curd, Frank Burley, Otago.  
Algebra—  
Banks, Alice Gertrude, Otago.  
Barnett, Annie Hamilton, Otago.  
Bowie, Agnes Nicholson, Otago.  
Campbell, Eliza, South Canterbury.  
Edkins, Catherine Grace, North Canterbury.  
Enright, Margaret Helena, Nelson.  
Ralston, Mary, Otago.  
Rutledge, Mary Woods, North Canterbury.  
Smith, Lena Rachel, North Canterbury.  
Turner, William Wilson, Otago.  
Williamson, Marjorie Ann, North Canterbury.  
Biology—  
Manson, Janette Charlotte, Nelson.  
Chemistry—  
Anderson, James William, Greymouth.

*Class E.*

English—  
Anderson, David Dow, Otago.  
Anderson, Elizabeth Jane, Otago.  
Baigent, Gertrude Nicol, Nelson.  
Bowling, Alice Gertrude, Otago.  
Bowbyes, Alfred Clarence, North Canterbury.  
Brown, Gertrude Alice, South Canterbury.  
Christie, Elizabeth Gow, Otago.  
Cooper, Isabella Orr, Otago.  
Davis, Edward, Otago.  
Dawson, Maud Eyre, Otago.  
Hay, Elizabeth Rennie, Otago.  
Latta, Robert Sanderson, Auckland.  
McKinlay, Parker, Otago.  
McLeod, Helen Lundie, Otago.  
Marryatt, Florence Mary, Otago.  
Oxby, Annie Elizabeth, South Canterbury.  
Reid, Wilhelmina Robertson, Otago.  
Riddell, Jessie Mathieson, Otago.  
Strachan, Barbara, South Canterbury.  
Wahl, Louisa Marie Theresa, Hawke's Bay.  
White, Eliza, Otago.  
Young, Jane Morris, Otago.  
Arithmetic—  
Anderson, David Dow, Otago.  
Bowbyes, Alfred Clarence, North Canterbury,

Boyd, Annie, Otago.  
Cooper, Isabella Orr, Otago.  
Crosbie, Margaret Hunter, Auckland.  
Davis, Edward, Otago.  
Dawson, Maud Eyre, Otago.  
Downes, Ada Helena, Otago.  
Harris, Samuel, Auckland.  
Johnson, Minnie, Otago.  
Latta, Robert Sanderson, Auckland.  
McKinlay, Parker, Otago.  
McLeod, Helen Lundie, Otago.  
Moor, William James, Auckland.  
Mulligan, Michael Philip, Auckland.  
Murray, Louis Henry, Otago.  
O'Dea, Patrick, Wanganui.  
Riddell, Jessie Mathieson, Otago.  
Stewart, Sarah, Auckland.  
Wilson, Annie, Otago.  
Geography—  
McKinlay, Parker, Otago.  
Ranwell, Annie Preston, Wellington.  
History—  
Bowbyes, Alfred Clarence, North Canterbury.  
Brown, Albert John, Auckland.  
Graham, Charles Henry Edger, North Canterbury.  
Hall, William Arthur, Nelson.  
Henderson, Mabel Ellen, South Canterbury.  
Jones, George Adams, Wellington.  
McCauley, George William, Wanganui.  
McKinlay, Parker, Otago.  
Morrison, Margaret Paterson, North Canterbury.  
Murray, Louis Henry, Otago.  
O'Dea, Patrick, Wanganui.  
Oxby, Annie Elizabeth, South Canterbury.  
Ranwell, Annie Preston, Wellington.  
Ross, Helen Bruce, Nelson.  
Elementary Science—  
Bowbyes, Alfred Clarence, North Canterbury.  
Harris, Samuel, Auckland.  
Mulligan, Michael Philip, Auckland.  
Domestic Economy and Laws of Health—  
Cunningham, Agnes Jane, Auckland.  
Newton, Edith Mary, Auckland.  
Peat, Janet Harriet (Mrs.), Wanganui.  
Smith, Sylvia Grace, Auckland.

*Classes D and E.*

The Art of Teaching and School Management—  
Allan, Jessie Johnston, Otago.  
Anderson, Elizabeth Jane, Otago.  
Cooper, Isabella Orr, Otago.  
McKinlay, Parker, Otago.  
Seddon, Mary Stuart Charleston, Westland.  
Slater, Jemima, Otago.  
Stuckey, Frederick George Albert, Wellington.  
Wilson, Francis Prendeville, North Canterbury.  
Drawing—  
Atkinson, St. George, North Canterbury, freehand and model.  
Brown, Gertrude Alice, South Canterbury, freehand.  
Burdett, Harriet Grace, Hawke's Bay, geometrical.  
Burn, Edgar Huie, South Canterbury, geometrical.  
Campbell, Eliza, South Canterbury, perspective.  
Chappell, William, Auckland, freehand.  
Faram, Frank Coe, Hawke's Bay, geometrical.  
Hassell, Margaret Jane Letitia, South Canterbury, freehand and model.  
Jones, Esther Mary, Auckland, freehand.  
King, Edmund Arthur, Hawke's Bay, freehand.  
Kingsford, Violet, Auckland, freehand.  
Krippner, Annie Barbara Christina, Auckland, freehand.  
Law, Henry, Wanganui, freehand.  
Moor, William James, Auckland, model.  
Morison, Jessie, Auckland, freehand.  
Paterson, Crissie Steele, Auckland, freehand.  
Scott, Annie, South Canterbury, freehand.  
Somerville, George Arthur, Auckland, freehand.

## EXAMINATION PAPERS.

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

[N.B.—Only one question is to be answered in each section. Candidates should attempt at least FIVE of the sections, and may not omit any one of the first three sections.]

1. (a.) Construct a time-table for an upper division of a school, S.IV., S.V., S.VI., S.VII. Staff: Headmaster, and pupil-teacher of the third year.

(b.) Draw up a time-table for a small country school of four standard classes and an infant class. Staff: Master and sewing-mistress, or mistress unassisted except by occasional monitors.

(c.) [For female candidates only.] Plan a time-table for an infant-room of three classes—P1, P2, S.I.—under a mistress having the assistance of a monitor occasionally.

(d.) [Only for candidates in sole charge of schools.] Reproduce your own time-table, and state also (1) the name of your school, (2) the number of pupils in each class, and (3) any special circumstances bearing on the construction of your time-table.

2. (a.) The section of a register given you by the Supervisor is supposed to be from the register of a school with a fairly good attendance. Mark the probable attendance, providing for a very wet day, a holiday, and a half-holiday, and otherwise complete the entries so as to show the appearance of the register at the end of the fourth week of the quarter.

(b.) Compile the quarterly return of attendance from the following particulars: Roll-number at end of last quarter, 101 m., 80 f., of whom one boy has not attended at all this quarter; admissions, 7 m., 5 f.; withdrawals, 3 m., 4 f.; average roll for quarter, 103 m., 82 f. School open 53 mornings and 52 afternoons. Total attendances, 9,147 m., 7,116 f. Highest attendance, 96 m., 76 f.

(c.) From the following statistics find the class averages for the quarter: School open 11 weeks, with three occasional half-holidays; 7 pupils made full attendances, 6 others were only absent half a day, and 8 others a whole day; remaining attendances, 101, 98, 97, 84, 47, 43, 38. Roll-number for the first four weeks, 26; for next two, 25; and for rest of quarter, 27.

3. Draw up notes for one of the under-mentioned lessons, showing not only what you would teach, but how you would teach it. State also the class for which the lesson is intended, and the time to be taken in teaching it:—

A lesson on form; on a piece of string; or on a plant in flower. An *introductory* lesson on the motions of the earth; on proportion, by the unitary method; or on the circulation of the blood.

4. (a.) How would you teach English spelling to a child who found it exceptionally difficult?

(b.) Name, in order of importance, what you deem the characteristics of good penmanship. State your reasons for so placing them, and explain how you would endeavour to secure them in the penmanship of your school.

(c.) Explain fully how you would treat the following, as an English lesson to Standard VI.:—

“The curfew tolls the knell of parting day,  
The lowing herd winds slowly o’er the lea,  
The ploughman homeward plods his weary way,  
And leaves the world to darkness and to me.”

5. (a.) Show the value of geography, or of history, as a colonial school-subject.

(b.) How would you try to develop systematically the imaginative faculty of your pupils? Show the importance of this branch of school work.

(c.) How may the patriotic spirit be best cultivated in our schools, and how might our school text-books be rendered more helpful in this matter?

6. (a.) If, on taking charge of a school, you found the pupils rude and deceitful, how would you endeavour to raise the tone of the school in these respects?

(b.) How may regular attendance be promoted? Show its importance.

(c.) Suppose you had to select a pupil-teacher: state in order of importance the qualifications you would look for, and give your reasons.

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

1. How would you illustrate to a class the various transformations of energy?

2. Describe all the experiments you can suggest that may be made with a pair of grooved laths (used as inclined planes) and marbles.

3. Describe experiments to illustrate the principles that underlie the structure of the diving-bell.

4. Describe the experiments you could make to illustrate the fact that a sounding body vibrates, and that pitch depends on the rate of the vibrations.

5. Draw diagrams illustrating the passing of rays through a prism, and also the course of rays that, passing through a convex lens, form an image.

6. Describe the experiments you would make to illustrate heat-convection in liquids and gases.

7. Describe the more important experiments for which a gold-leaf electroscope might be used.

8. Give an account of the experiments you would make to illustrate the action of carbonic acid in nature.

9. How are nitric and hydrochloric acids made? Give an account of experiments that may be performed with them.

10. Give an outline of a lesson on potatoes and flour, and describe the experiments you would make to illustrate it.

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

[Women that are proficient in needlework may substitute for this paper the paper on Domestic Economy.]

1. What is meant by centrifugal force? Describe experiments to illustrate it.
2. Describe the various methods of finding specific gravities.
3. Describe experiments illustrating the pressure of the air.
4. A screwjack has three turns to 2in., and the handle is 4ft. long. What is the theoretical gain of power?
5. Describe some simple experiments to illustrate the interference of sound.
6. Of what kind is the energy in a moving cannon-ball, in a head of water, in gunpowder, and in a coiled spring?
7. Describe a galvanic battery, and state some of the experiments that may be made with it.
8. Describe the decomposition of water, and state generally the effect of sending an electrical current through various chemicals.
9. Describe the preparation and properties of nitric and hydrochloric acids.
10. State fully how the human body is kept at a constant temperature.

*Domestic Economy and Laws of Health.—For Class E. Time allowed: 3 hours.*

[Alternative with Elementary Science,—for women only.]

1. What is the effect of heat upon air? How would you make an experiment to illustrate it?
2. Various substances are used in cooking to make pastry, &c., light. Name the substances and describe their action.
3. Describe the various means used for the preservation of fruit.
4. What are the essential constituents of food? Describe a vegetable diet that contains them all.
5. Describe the chief stimulants and narcotics; explain their action and the disadvantages connected with the use of them.
6. Describe the skin, and give a full account of its functions.
7. Describe the eye. What is shortsightedness, and how is it corrected? Draw a diagram of a shortsighted eye, with the lens in position.
8. Give a general account of the nervous system.
9. Discuss generally the conditions of a healthy site for a house.
10. Describe the various methods of connecting a sink with a drain. Illustrate your answer by sketches.

*Elementary Knowledge of Agriculture.—For Class D. Time allowed: 3 hours.*

[Alternative with Elementary Science.]

1. Describe any seed which you have examined, and give an account of the changes which occur during germination. What conditions are necessary for germination?
2. Describe experiments which you could use to illustrate the composition of plants.
3. How do plants obtain the carbon required for their growth? Describe fully an experiment which you would use to illustrate the subject. Point out the conditions necessary to insure success, and give a rough sketch of the apparatus you would use.
4. What do you understand by the mechanical condition of the soil, and how does this condition affect its fertility?
5. What is the value of drainage in the soil? Describe experiments which illustrate your answer.
6. What elements necessary for the growth of plants are most frequently wanting in the soil, and what artificial manures could you use to supply them?
7. What is superphosphate, and what is the real object of its use? Describe how you could make a sample of superphosphate, and the precautions you would take. Give the composition of the materials you would employ, and explain the changes which would occur.
8. Why is it important that good seed should be used by the farmer? Why are some plants propagated by seed, and others by division of the plant?
9. What are bacteria, and what part do they play in Nature? In what way may they be said to aid agriculture?

*Elementary Knowledge of Agriculture.—For Class E. Time allowed: 3 hours.*

[Alternative with Elementary Science.]

1. Describe the flower of the bean, or any other plant. Which parts of the flower are essential to the formation of seed, and what is the purpose of the other parts?
2. Give an account of the composition of plants. Distinguish between the organic and inorganic materials of the plant; mention some of the commoner organic substances of the plant, and state what elements they are composed of.
3. What is air composed of, and what do plants obtain from the air? Describe experiments in support of your answer.
4. What are root-hairs, and how could you show them most satisfactorily? What is their use?
5. Give some account of the formation of soil. Why do soils differ so much in their characters?
6. What do you understand by the exhaustion of the soil? To what causes may it be due, and how may it be remedied?

7. For what reasons is a rotation of crops advantageous? Suggest a possible rotation, and show in what respects it is good.

8. Give the life-history of an insect which is injurious to crops, describing the changes which it goes through.

9. What are the objects to be attained by tillage? It is stated that tillage partly replaces manure: what is meant by this statement, and how far is it true?

*English Grammar and Composition.—For Class D. Time allowed: 3 hours.*

1. Write short grammatical notes on the words "out," "never," and "well," as used in the following sentences:—

Out, brief candle. He was quite out of it. Out upon it! He was beaten out and out. He is an out-and-out deceiver.

Never a word he said. What, never? Never is a long day.

I am very well. I hope I see you well. Well, I told you so. You had better leave well alone.

2. "A pronoun is a word used to avoid the repetition of a noun in a sentence." Is this a satisfactory definition of a pronoun? If not, show in what respects it is inaccurate or insufficient. Explain the origin and use of "what." Point out traces of pronominal forms in the words "here," "hence," "how."

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

Bell placed the telegram in my hands it was as follows have set out by huntingdon and york for edinburgh shall follow the real old coach road to scotland and am certain to find much entertainment for man and beast struck in the lieutenant I know of a friend of mine travelling in your country who went into one of those small inns and put up his horse and when they brought him in his luncheon he only looked at it and said very good waiter this is very nice but where is the entertainment for the man I continued to read the telegram aloud shall probably be in edinburgh before you but will telegraph or write to each big town along your route that you may let me know where you are it is very obliging says the lieutenant with a shrug of his shoulders.

4. In each of the following sentences a word is incorrectly used. Point it out, explain why it is wrong, and substitute the right word:—

(a.) The Premier wound up the debate with an eloquent and powerful address, in which he literally pulverised the arguments of the Opposition speakers.

(b.) The object of cross-examination is, not to confuse and terrify the witness, but to eliminate the real facts of the case.

(c.) He astonished a literary friend by repeating without hesitation a lengthened passage from Virgil.

(d.) The meeting of the two Sovereigns was an event of the utmost political importance, but what transpired at their interview has never become known.

(e.) The old courtier approached the ladies and saluted them with his accustomed grace, quite oblivious of the fact that in taking off his hat he had also removed his wig.

\* 5. Write *A* in three well-constructed sentences, beginning with "The attention of," and ending with "the public."

Rewrite *B* in a lively interesting style of narrative, breaking it into sentences as you think necessary.

*A.* In the history of mankind the greatest scene is the decline and fall of the Roman Empire. It is, perhaps, the most awful scene. A history of it will excite the attention of every reader. The importance and variety of his subject will be applauded by the historian. He will be conscious of his own imperfections. The deficiency of his materials will be often blamed by him. I first conceived the idea of this work among the ruins of the Capitol. Nearly twenty years of my life have been amused and exercised by this work. It is inadequate to my wishes. But to the curiosity of the public and to their candour I finally deliver it.

*B.* But chiefly the boatswain showed himself valiant above the rest, for he fared among the Turks like a lion; for there was none among them that durst stand in his face, till at last there came a shot which smote him on the breast, so that he fell down, bidding them farewell, and to be of good comfort, encouraging them likewise to win praise by death, rather than to live captives in misery and shame, which they hearing, indeed, intended to have done; but the press of the Turks was so great that they were not long able to endure, but were so overpressed that they could not use their weapons, by reason whereof they must needs be taken, which none of them intended to have been, but rather to have died, except only the master's mate, who shrunk from the skirmish, like a notable coward, esteeming neither the value of his name, nor accounting of the present example of his fellows, nor having respect to the miseries whereunto he should be put; but in fine, so it was that the Turks were victors, whereof they had no great cause to rejoice or to triumph.

\* 6. Give the sense of the following passage in your own words, so as to show that you understand the meaning and follow the argument:—

Although we are not of opinion, as some are, that nature in working hath before her certain exemplary draughts or patterns, which subsisting in the bosom of the Highest, and being thence discovered, she fixeth her eyes upon them, as travellers by sea upon the pole-star of the world, and that according thereunto she guideth her hand to work by imitation; nevertheless, forasmuch as the works of nature are no less exact than if she did both behold and study how to express some absolute shape or mirror always present before her; yea, such her dexterity and

\* These are partly alternative. Question 6 may be substituted for either *A* or *B* in Question 5.

skill appeareth, that no intellectual creature in the world were able by capacity to do that which nature doth without capacity or knowledge; it cannot be but that nature hath some director of infinite knowledge to guide her in all her ways.

7. Write an essay on the qualities of a good historian or biographer, illustrating by reference to any noted work of history or biography with which you are acquainted; or—

It has been said, "Let me have the training of a child for the first twelve years of life, and I care not who takes it in hand afterwards." Discuss this sentiment, giving your own views, and your reasons for assenting to or disputing it.

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

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*Part of a Paper on English Grammar and Composition.—For Class D.*

*Words for Spelling.*—Accommodating, polytechnic, porcelain, cashiered, diocese, dynamics, inauspicious, galaxy, hemorrhage, logarithms, cynically, pachydermatous, ophthalmia, syllogism, phaeton, manœuvring, surfeited, anarchical, euphonious, utopian, rhythmical, bivouac.

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

1. As a test of spelling, write the words dictated by the Supervisor.  
2. Explain and illustrate the following statement: "English was originally an inflected and unmixed language, but is now an uninflected and composite language."

3. Analyse the following passage; and parse the words in italics:—

"He will come *straight*. Look you *lay home* to him:  
Tell him his pranks have been too broad to bear with,  
And that your *grace* hath screen'd and *stood* between  
*Much* heat and him. I'll sconce *me* even here;  
*Pray* you, be round with him."

4. Give the rules (1) for the use of *shall* and *will*, and (2) for the use of *who*, *which*, and *that*; and write a sentence under each of these words, to show that you can employ them correctly.

5. Correct the following sentences; and point out the nature of the blunder in each case:—

(a.) "Being one of the principal churches in Sydney, it was not unnatural to look for some degree of intelligence in the preaching department."

(b.) "Between each plane-tree are planted box-trees."

(c.) "These errors become so powerful that their authority over the reasoning faculty is absolute, and from which there is no appeal."

(d.) "I always delight in overthrowing those kind of schemes, and cheating a person of their premeditated contempt."

(e.) "I am neither an ascetic in theory or practice."

6. Re-write the following passage in modern English prose, using as simple language as you can:—

"But the mortallest enemy unto knowledge, and that which hath done the greatest execution upon truth, hath been a peremptory adhesion unto authority; and more especially the establishing of our belief upon the dictates of antiquity. For (as every capacity may observe) most men, of ages present, so superstitiously do look upon ages past, that the authorities of the one exceed the reasons of the other. Those persons indeed being far removed from our times, their works, which seldom with us pass uncontrolled, either by contemporaries or immediate successors, are now become out of the distance of envies; and, the farther removed from present times, are conceived to approach the nearer unto truth itself. Now hereby methinks we manifestly delude ourselves, and widely walk out of the track of truth."

7. Write an essay on *one* of the following subjects:—

(a.) Plot of one of Shakespeare's plays.

(b.) Natural beauties of New Zealand.

(c.) Society and solitude.

[Great attention to expression, punctuation, and neatness of form is expected in the essay.]

8. Punctuate the following passage; and put capitals where they are required:—on sunday mornings I went with the rest of my family to church it was a church on the ancient model of england having aisles galleries organ all things ancient and venerable and the proportions majestic here whilst the congregation knelt through the long litany as often as we came to that passage so beautiful amongst many that are so where god is supplicated on behalf of all sick persons and young children and that he would show his pity upon all prisoners and captives I wept in secret and raising my streaming eyes to the upper windows of the galleries saw on days when the sun was shining a spectacle as affecting as ever prophet can have beheld.

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*Part of a Paper on English Grammar and Composition.—For Class E, and for Junior Civil Service.*

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

Malleability, abridgment, believing, metonymy, parallelogram, rhetoric, hypochondriac, infanticide, embezzlement, accommodation, spontaneity, pharisaical, roguish, cruciform, isosceles, scythe, scansion, terraqueous, siege, ecstatic.



*English.—For Senior Civil Service. Time allowed : 3 hours.*

PAPER No. 1.—COMPOSITION AND PRÉCIS.

1. Point out and correct anything you see wrong in the following sentences :—

(a.) They even claimed property in anonymous authors, and in particular obtained an injunction against printing *The Whole Duty of Man*, the sex of which author was even to this day unknown.

(b.) By waiting till he saw the force of his rival begin to abate, he recovered not only all that he had lost, but made new acquisitions.

(c.) The new Italian bank-note is adorned in the two lower corners with portraits of Cavour and of Christopher Columbus.

(d.) I saw nothing of interest in the town, and, not knowing what time there was to spare, I made no endeavour to do so.

(e.) Dickens as a reporter was the ablest of all his colleagues.

2. Write an essay on one of the following subjects :—

The character of Polonius, showing how it was such as to excite the dislike and contempt displayed by Hamlet.

Pope's lines on Bacon :—

“If parts allure thee, think how Bacon shined,  
The wisest, brightest, meanest of mankind.”

The benefits of cheap postage.

3. Make an abstract of the accompanying correspondence. [An abstract serves the purposes of an index. It should give, with respect to each letter, the date, the writer, the person addressed, and, in as few words as possible, the subject.]

4. Make a *précis* of the same correspondence. [The *précis* should give the substance of the correspondence in narrative form, so that any one who had not read the letters might get full information from the *précis*. Nothing immaterial should be inserted, but great care must be taken not to omit anything of any consequence. The merits of a *précis* consist of a combination of brevity, distinctness, and completeness.]

No. 1.

SIR,—

Premier's Office, Wellington, 25th June, 1891.

I have to acknowledge receipt, through our Agent-General, of your letter, dated the 2nd April last, referring to the position of debenture-holders of the New Plymouth Harbour Board. Our Parliament being in session, and the matter contained in your communication being of so much importance, I have deemed it advisable to refer the correspondence to the Public Accounts Committee of the House for their consideration. Upon their report being received by the Government, I shall do myself the pleasure of sending you a reply.

I have, &c.,

The Right Hon. Sir John Lubbock, Bart, M.P.,

J. BALLANCE.

Chairman, Council of Foreign Bondholders, 17, Moorgate Street, London, E.C.

No. 2.

SIR,—

Premier's Office, Wellington, 3rd December, 1891.

I have the honour to enclose herewith a reply to Sir John Lubbock's letter, of the 2nd April last, on the subject of the default of the New Plymouth Harbour Board in payment of interest on their loan, which I shall be obliged by your handing to Sir John Lubbock. I also enclose a copy of the reply, for your information.

I have, &c.,

The Agent-General for New Zealand, London.

J. BALLANCE.

Enclosure in No. 2.

SIR,—

Premier's Office, Wellington, 3rd December, 1891.

Referring to my letter of the 25th June last, wherein I promised to advise you of the result of the deliberations of Parliament (which was then in session) in connection with the claims of the New Plymouth Harbour Board debenture-holders, on account of the default made by that Board in the payment of interest upon bonds held in London, the claims being more particularly set forth in your letter dated the 2nd April last, addressed to my Government, as Chairman of the Council of Foreign Bondholders, I am now able to inform you of the decisions which were arrived by the Committees appointed to investigate the matters arising out of the default made by the Harbour Board as previously mentioned.

The New Plymouth Harbour Committee presented their report to the House of Representatives on the 19th August last, and recommended “the Government to open negotiations with the Council of Foreign Bondholders with the view of replacing the debentures of the New Plymouth Harbour Board with New Zealand stock on equitable terms.” On the same day the Public Accounts Committee reported that, “having considered the correspondence relating to the payment of interest by the New Plymouth Harbour Board, resolved to report that the Committee cannot recommend Parliament to take any action in the matter.”

The reports of the Committees were fully and exhaustively debated by the Government and members in the House, and the conclusion arrived at was that it could not be admitted for one moment that the colony could accept liability for any local loan. The terms of the Act, and of the debentures issued by the Board thereunder, expressly provided that the revenues of the colony should not be made liable for the principal or interest of the money borrowed by the Board.

The Government have very carefully considered the various points raised in your letter now under reply, and have come to the conclusion that, without direct instructions from Parliament, they are unable to give effect to the proposals contained in your letter under consideration, for, if the colony once decided to accept liability in connection with any local loans, it would, without doubt,

have to bear the burden of all the local indebtedness, as it would be scarcely possible to make any distinction or discrimination.

I enclose copies of the reports of the Committees, and of the debates which took place on the subject.

I have, &c.,  
J. BALLANCE.

The Right Hon. Sir John Lubbock, Bart, M.P.  
Chairman, Council of Foreign Bondholders, 17, Moorgate Street, London, E.C.

No. 3.

Westminster Chambers, 13, Victoria Street, London, S.W., 22nd January, 1892.

IN accordance with the instructions received by Treasury letter No. 59, of the 3rd December last, I handed the letter therein enclosed to Sir John Lubbock immediately on its receipt, and I have received acknowledgment of the same from the Secretary of the Council of Foreign Bondholders on behalf of Sir John Lubbock.

The Hon. the Premier.

W. B. PERCEVAL.

No. 4.

Council of Foreign Bondholders, 17, Moorgate Street, London, E.C.,

SIR,—

8th February, 1892.

I have the honour to acknowledge the receipt of your letter of the 3rd December, in which you inform me of the decision come to by your Government on the subject of the New Plymouth Harbour Board default—namely, “That without direct instructions from Parliament they are unable to assume responsibility for the loan in question, as, if the colony once decided to accept liability in connection with any loans, it would have to bear the burden of all local indebtedness, for it would be scarcely possible to make any distinction or discrimination.”

I would here point out that the arguments on which the claims of the debenture-holders are chiefly based have remained unanswered.

Your communication has been considered at a meeting of the principal bondholders, and after some discussion the following resolution was passed:—

“*Resolved*, (1.) That this meeting have heard with regret the letter from the Premier of New Zealand, and that in their opinion the treatment received by the subscribers to the New Plymouth Harbour Board Loan justifies an opposition to the quotation of any New Zealand loan. (2.) That this resolution be communicated to the Council of Foreign Bondholders, and that they be requested to give the bondholders their valuable support.”

The Council would be very loth to take such an extreme measure in the case of so important a colony as New Zealand, bound, moreover, to the Mother-country by so many honourable ties and traditions, and they desire me once more to ask your Government to reconsider their decision, and to point out that the claims of the debenture-holders of the New Plymouth Harbour Board Loan rest on special facts and circumstances applying exclusively to that loan, and which have no application whatever to other local loans.

My letter of the 2nd of April contained a very full statement of the case. As already mentioned, these arguments are not in any way dealt with in your letter, and it has never been suggested that they have any application to the circumstances of any other local loan, so as directly or indirectly to constitute a precedent for the Government being called on to assume the responsibility of other loans if they met that which, in the special circumstances, the State has, by its acts, come under—by depriving these debenture-holders, for purposes of public utility, of the revenues pledged to them by the State.

In the absence of any further explanations, the Council cannot but consider that, as the debenture-holders have suffered through the act of the Legislature, they are entitled to relief from the same source.

The Council, therefore, confidently hope that your Government will reconsider this matter, believing that a settlement of the question will be alike in the interest of the colony and of the bondholders.

I have, &c.,  
JOHN LUBBOCK, Chairman.

The Hon. J. Ballance,  
Colonial Treasurer and Minister of Native Affairs, New Zealand.

No. 5.

Premier's Office, Wellington, 21st April, 1892.

SIR,—

I have the honour to acknowledge the receipt of your letter dated the 8th of February last, wherein you ask, on behalf of the Council of Foreign Bondholders, for a reconsideration of the claims of the holders of debentures issued by the New Plymouth Harbour Board.

You also mention that at a meeting of the principal bondholders a resolution was passed expressing their opinion that “the treatment received by the subscribers to the New Plymouth Harbour Board Loan justifies an opposition to the quotation of any New Zealand loan,” and “That this resolution be communicated to the Council of Foreign Bondholders, and that they be requested to give the bondholders their valuable support.” In connection with these resolutions, I am glad to be informed that your “Council would be very loth to take such an extreme measure.”

I am surprised to read that you consider that the arguments contained in your letter of the 2nd of April, 1891, were not in any way dealt with in my letter of the 3rd of December last. You will remember that in my letter of the 25th of June, 1891, I stated that, Parliament being in session, I deemed it advisable to refer the correspondence to the Public Accounts Committee of the House of Representatives for their consideration, and that upon their report being received I would send you a reply. Your letter, as promised, was duly referred to the Committee, besides which a special Committee was appointed to deal with the same subject. The Chairman of this special Committee represented constituents who were ratepayers of the New Plymouth Harbour Board. Both Committees reported to the House of Representatives, and considerable discussion by

prominent members of both sides of the House took place upon these reports. The Colonial Treasurer expressed the opinions of the Government and of the country, and in these opinions the leader of the Opposition coincided. Members coming from the Harbour Board district also expressed their views very fully; and you will observe that the result of the discussion in the House was substantially the same as the recommendation of the Public Accounts Committee—namely, “The Committee cannot recommend Parliament to take any action in the matter.” I was careful to send you with my last letter the *Hansard* reports of the debate, together with the reports of the two Committees, and other papers, to which I directed your attention; and this was done with the object of your being placed in possession, as fully as possible, of the mind of Parliament and of the Government upon the subject of the claims of the New Plymouth Harbour Board bondholders. All this information was intended as a reply to your communications, and leaves no room, I submit, for the remark that your arguments had not been dealt with. So far as I can see, no more complete reply could have been furnished at the time, and nothing has since transpired which leads me to hold out any hopes of a different result being arrived at should the matter be again placed before Parliament for its consideration.

I have, &c.,

W. P. REEVES,

For the Premier.

The Right Hon. Sir John Lubbock, Bart., M.P.,  
Chairman, Council of Foreign Bondholders, 17, Moorgate Street, London, E.C.

*English.—For Senior Civil Service. Time allowed: 3 hours.*

PAPER NO. 2.—LITERATURE AND BOOKS.

1. What causes contributed to the remarkable outburst of literature during the latter part of the reign of Queen Elizabeth?

2. Sketch the rise of the drama in England. What dramatic writers lived before Shakspeare?

3. Professor Dowden remarks of Hamlet that he “is disqualified for action by his excess of the reflective tendency, and by his unstable will, which alternates between complete inactivity and fits of excited energy.” Illustrate this by reference to Hamlet’s proceedings from the ghost scene to the death of the King in the last act.

4. By whom and on what occasions were the following lines spoken? Write out either the first or the second in your own words, so as to show you understand the meaning:—

(a.) So oft in chances in particular men,  
That for some vicious mole of nature in them  
By the o’ergrowth of pure complexion,  
Oft breaking down the pales and forts of reason,  
Or by some habit that too much o’erleavens  
The form of plausive manners, that these men,  
Carrying, I say, the stamp of one defect,  
Being nature’s livery or fortune’s star,  
Shall in the general censure take corruption  
From that particular fault.

(b.) The other motive,  
Why to a public count I might not go,  
Is the great love the gen’ral gender bear him;  
Who, dipping all his faults in their affection,  
Would, like the spring that turneth wood to stone,  
Convert his gyves to graces; so that my arrows,  
Too slightly timber’d for so loud a wind,  
Would have reverted to my bow again,  
And not where I had aimed them.

(c.) Brevity is the soul of wit.

(d.) I once did hold it, as our statist do,  
A baseness to write fair, and laboured much  
How to forget that learning; but, sir, now  
It did me yeoman’s service.

(e.) But look! the morn, in russet mantle clad,  
Walks o’er the dew of yon high eastern hill.

(f.) You may wear your rue with a difference.

5. Explain the following:—

- (a.) Why do you go about to recover the wind of me, as if you would drive me into a toil?
- (b.) By’r lady, your ladyship is nearer to heaven than when I saw you last, by the altitude of a chopine. Pray God your voice, like a piece of uncurrent gold, be not cracked within the ring.
- (c.) With two Provincial roses on my razed shoes.
- (d.) The extravagant and erring spirit.
- (e.) Armed at point exactly, *cap-a-pe*.

6. What arguments have been used to vindicate Bacon from the charge of corruption, and how does Macaulay deal with them?

7. What is meant by the inductive method? Can Bacon properly be said to have invented it? If not, what novel application of it forms the basis of his system of philosophy?

8. Macaulay describes Horace Walpole as one who was always “drawn by some strange attraction from the great to the little, and from the useful to the odd.” How did this characteristic show itself in Walpole’s political professions and in his artistic and literary pursuits?

9. What are Walpole’s merits or defects as a letter-writer, and what gives his correspondence particular interest and value?

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

1. Explain the reason of the process you adopt in multiplying two vulgar fractions together :  
e.g.,  $\frac{2}{7} \times \frac{3}{5}$ .

2. Simplify  $\frac{7857142 + 1\frac{1}{5} \text{ of } \frac{5}{7}}{2\frac{1}{2} - 1\frac{1}{2} + .094} \div 1\frac{8}{167} + (2\frac{8}{11} - .066 \text{ of } 3\frac{2}{3}) \times (15\frac{2}{3} - 2\frac{1}{3} \text{ of } 4\frac{1}{2})$ .

3. Find the value correct to four places of decimals of  $\frac{\sqrt{3}-1}{\sqrt{3}+1} + \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ .

4. A passenger from New Zealand to England takes a return-ticket, for which he pays 50 per cent. more than he would have paid for a single ticket. Finding that he cannot return so soon as he expected, he gets the time for which his ticket is available extended, and for this privilege he pays an advance of 10 per cent. on the price which the return-ticket originally cost him; he finds that his return fare is now £115 10s. Find the price of the single fare to England.

5. A man has been in the habit of paying property-tax to the extent of a penny in each pound of his capital. A change is made in the system of taxation, and he is now called upon to pay a shilling in the pound on his income. If his capital earn 8 per cent., compare the effects on him of the two systems of taxation.

6. A well, whose horizontal section is everywhere a circle 6ft. in diameter, contains 10,000 gallons of water: find the depth of the water, assuming that a gallon contains 277.25 cubic inches. (N.B.—The area of a circle is formed by multiplying the square of its radius by 3.1416.)

7. If the mass of the moon be .012345679 times that of the earth, and the mass of Jupiter's third satellite be .0297 times that of the earth, find the ratio of the mass of the moon to that of Jupiter's third satellite.

8. If the discount on £1,545 2s. 6d. due  $3\frac{1}{2}$  years hence be £230 2s. 6d., find the rate per cent., simple interest.

9. Find the present worth of £3,087 due three years hence at 5 per cent. compound interest.

10. A metre being equal to 39.37 inches, express an acre as a fraction of a hectare, a hectare being a square whose side is 100 metres.

11. The pendulum of one clock vibrates in 1.05 seconds, and that of another in .95 second: if the clocks are started at 9 in the morning of Monday, 2nd January, when will they be together again?

How often in the first 24 hours will the pendulums begin a vibration together?

12. Divide £182 8s 9d. among 5 men, 6 women, 3 boys, and 10 girls in such a way that for every florin each man gets, each woman gets eighteen pence; that for every half-crown a man gets, a boy gets a shilling; and for every half-crown a boy gets, a girl gets a florin.

13. A person has £1,583 17s. 11d. stock in the 3-per-cents, and £982 12s. 6d. stock in the  $3\frac{1}{2}$ -per-cents. He transfers a certain sum from the former to the latter when the stocks are at 91 and 98 respectively, and thus makes the income derived from each the same. How much stock has he finally in the 3-per-cents?

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

[N.B.—The working must be shown. Simplicity and directness of method, clearness of explanation, and neatness of work will be taken into account.]

1. Express in words, 42146675; and, if the quotient obtained by dividing it by a certain number be 743, determine the number.

2. Simplify—

$$(i.) \frac{1}{4 - \frac{1}{2 - \frac{1}{1 - \frac{5}{13}}}}$$

$$(ii.) \frac{1\frac{5}{6} \text{ of } \frac{\frac{1}{2} + \frac{1}{3} + \frac{1}{4}}{2\frac{1}{2} - 3\frac{1}{3} + 4\frac{1}{4}} \times \frac{2\frac{1}{2} + \frac{3}{16}}{3\frac{1}{7} + \frac{1}{8}}}{\frac{4\frac{1}{2}}{3} + \frac{4\frac{1}{2}}{3}}$$

3. Divide £29 into an equal number of half-sovereigns, crowns, half-crowns, shillings, sixpences, and fourpences.

4. If a herring and a half cost  $2\frac{1}{4}$ d. how many will you get for 12s. 3d.?

5. There was a yard, 10ft. square, paved with 1,000 bricks. One edge of each brick was  $7\frac{1}{2}$ in. long: what was the length of the other edge?

6. Express  $1\frac{2}{3}$  of 33 qr. 7 bus. 7 gal. as a fraction of 9 qr. 4 bus. 1 gal.

7. A regiment of a thousand men are to have new coats; each coat is to contain  $2\frac{1}{2}$  yards of cloth of  $1\frac{1}{4}$  yards wide, and to be lined with shalloon  $\frac{3}{4}$  yard wide: how many yards of shalloon will be required?

8. What is the difference between  $\frac{7}{8}$  of a guinea and  $\frac{8}{9}$  of a pound?

9. How many persons can be paid 11s. 6d. each out of a sum of £170 10s. 2d.? And, if the balance be also distributed equally among them, how much more will each receive?

10. Divide 1.9517 by 673000, and 64000 by .0008; multiply each quotient by 3.2.

11. Find, by Practice, the cost of 2 tons 7 cwt. 22lb. 5oz. at £32 per ton.

12. The interest on a certain sum of money for two years is £71 16s.  $7\frac{1}{2}$ d., and the discount on the same sum for the same time is £63 17s., simple interest being reckoned in both cases. Find the rate per cent. per annum and the sum.

*Arithmetic.—For Senior Civil Service. Time allowed: 3 hours.*

1. Divide one thousand and six million fifty thousand and seventy-three by three hundred and eighty-five in factors, and explain the method of obtaining the correct remainder.

2. Divide £27 15s. among three persons so that the second may have three times as much as the first, and the third twice as much as the second.

3. If a log of timber 20ft. long, 2ft. 3in. broad, and 1ft. 4 $\frac{1}{2}$ in. thick be worth £3 3s. 3d., what length of another log of the same timber, which is 3 $\frac{3}{4}$  sq. ft. in sectional area, can be bought for £3 9s.?

4. Simplify  $\frac{(3\frac{1}{2} - 2\frac{3}{8}) \text{ of } \frac{4}{13}}{2\frac{3}{8} \text{ of } (3\frac{1}{2} - 2\frac{3}{8})} \div \frac{3}{7} \text{ of } 4\frac{1}{5}$ ; and find the value of  $\frac{1}{5} - \frac{1}{3 \times 5^3} + \frac{1}{5 \times 5^5} - \frac{1}{7 \times 5^7} + \dots$  to seven places of decimals.

5. The specific gravity of iron with respect to water is 7.6, and the weight of a cubic foot of water is 1,000oz.: hence find the volume in cubic inches of a piece of iron weighing 9 $\frac{1}{2}$ lb.

6. If a dollar is equal to 4.2 shillings, or to 5.396 francs, what number of francs is equal to £1 sterling?

7. A contractor undertook to make 1,440 yards of railway in 90 days, and for that purpose engaged 120 men; but after 18 days' work he found that he had executed only 180 yards. How many additional men must he engage in order to finish the work in the stipulated time?

8. Divide the difference between the squares of .216 and .216 by the square root of .00197530864.

9. Extract the cube root of 5 $\frac{2}{3}$  to three places of decimals.

10. Find the present value of £1,000 due three years hence, allowing compound interest at 5 per cent. payable annually.

11. A person offered a house at an upset price which would have yielded him a profit of 25 per cent., but, being obliged to take £320 less than the upset price, he lost 15 per cent. What sum did he receive for the house?

12. A possesses two-fifths of a mine, B one-third of it, and C the remainder. A divides his portion into 100 shares, which he offers at £2 10s. per share; B divides his portion into 50 shares, which he offers at £4 per share; and C offers his portion, divided into 25 shares, at £6 10s. per share. Which of these shares is it most advantageous to purchase? What should be the price of the B and the C shares when an A share sells for £3?

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

1. State the difference between a Mercator's chart and an ordinary map of the world in hemispheres. What are the advantages and disadvantages of each?

2. What is a snow-line? Why may it have different levels on opposite sides of a mountain range? Why may glaciers descend below the snow-line?

3. In what way is the climate of the South Island of New Zealand affected by the Southern Alps?

4. Describe the mountain system of New Zealand as fully as you can.

5. State the position of the pampas, the landes, the steppes, the tundras, and the llanos. Describe their chief characteristics.

6. Write a brief note on each of the following places: Amsterdam, Halifax, Liverpool, Chicago, Odessa, Cardiff, Archangel, Riga, Seville, Delagoa Bay, Madras, Canton, Mauritius, Belize, Lisbon. State the position of each, and name its chief exports.

7. Give an account of the Atlantic Ocean, especially with regard to boundaries, depth, area, inland seas, inlets, islands, and currents.

8. Draw a sketch-map of South America, showing the boundaries of the different States, the chief ports, the principal mountain ranges, and the most important rivers.

9. Describe the basin of the Ganges; state its approximate area and the position of its chief cities. Illustrate your answer by a diagram.

10. Contrast the faunas of Australia and New Zealand.

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

1. Define latitude and longitude. How are the latitude and longitude of a place determined?

2. What is a glacier? Describe its origin, structure, and movements. Explain moraine, crevasse, perched blocks.

3. Dublin and the south-eastern point of Labrador lie in nearly the same parallel of north latitude, but the mean annual temperature of the former is 50° Fahr., while that of the latter is only 32°. What is the cause of the difference?

4. Describe the course of the Waikato River, enumerate its most striking natural features, and state the position of the chief towns on its banks.

5. Describe the lake-system which discharges into the Clutha, and trace the course of that river. Name the chief towns in the Clutha Valley and on the shores of the lakes.

6. State the approximate boundaries of each of the Australian Colonies, describing the chief characteristics and enumerating the chief products and the principal towns of each.

7. Give a brief account of the following: Cyprus, Plain of Lombardy, Beachy Head, Cutch, Mount Vesuvius, Rangoon, Nyassaland, Assam, Smyrna, Lough Neagh, St. Helena, San Francisco, Valparaiso.

8. State the position of the following islands, describe their chief characteristics, and enumerate their most important natural products: Madagascar, Ceylon, Iceland, Borneo, Sandwich Islands, and Hongkong. To what power does each belong?

9. Write a descriptive account of the route from Southampton to Yokohama, *viâ* the Canadian Pacific Railroad, giving special attention to the natural features, the chief cities, and the ports touched at.

10. In what countries do the following plants yield a large portion of the food-supply: rice, taro, banana, kumara (sweet-potato), maize, rye?

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

[Candidates are expected to attempt all the questions.]

1. Mention, with dates and results, the various attempts made by English sovereigns to conquer Wales and Scotland.

2. Estimate the character and policy of Queen Elizabeth.

3. Summarise the chief events in the reign of James I.

4. Compare the foreign policy of Cromwell with that of Charles II.

5. Describe the causes of the Revolution of 1688; and remark on its general character.

6. Mention the *chief* colonies acquired by England between 1603 and 1837. How and when were they acquired; how are they governed; and what are their leading products?

7. Narrate the events that led to the separation of North America from England.

8. Write explanatory notes on the following: "Catholic Emancipation Act," "Habeas Corpus Act," "The Cabal," "Reform Bill of 1832," "The Luddites."

9. Add a descriptive note to *five* of the following names: Alfred, Dunstan, Canute, Simon de Montfort, Perkin Warbeck, Cranmer, Laud, Hampden, Burke, George Stephenson.

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

1. Describe briefly the course of Danish invasion and conquest from the eighth to the eleventh century.

2. Sketch the provisions of the principal statutes limiting the power of the clergy passed between 1150 and 1400.

3. Describe briefly the condition of the English labourer in the fourteenth, sixteenth, and nineteenth centuries.

4. How and when did the following become part of the empire of England: Bombay, Cape of Good Hope, Jamaica, Ceylon, Mauritius, Sierra Leone?

5. Describe the struggle between England and France for supremacy in (a) India, (b) North America, giving with dates those events which you consider decisive.

6. Explain the causes which led to the war with France in 1793. Give the principal events of the war up to 1802, and sketch the course of the subsequent Peninsular campaigns.

7. Give some account of Walpole's Excise scheme, the Non-jurors, Act of Conformity, East India Company, Declaration of Right, Middlesex Elections.

8. Sketch the career of (a) Pym, (b) Marlborough, (c) Warren Hastings.

9. Under what circumstances were the following battles fought: Brunanburgh, Towton, Flodden, Marston Moor, La Hogue, Preston-pans, Minden, Bunker's Hill, Vinegar Hill, Quatre Bras?

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*History.—For Senior Civil Service. Time allowed: 3 hours.*

[All the questions to be attempted.]

1. Describe, as fully as you can, the foreign policy of William III. and its results.

2. Give an account of the state of political parties under Queen Anne; and show how home politics had an important bearing on the conduct of the war under Marlborough.

3. Write two paragraphs on the social state of England in the reign of Queen Anne.

4. Describe England's share in the Seven Years' War. What advantages did England secure in the peace concluded with France in 1762?

5. What were the effects of the French Revolution on England? Indicate what views were expressed about it by leading English thinkers and politicians.

6. Write, under the following heads, short notes on the reign of George III.: (1) Chief Acts passed by Parliament; (2) Progress in Trade, Manufacture, and Means of Transit; (3) Leading Social Improvements.

7. Describe the career, policy, and character of Canning.

8. Write explanatory notes on the following: "Act of Settlement," "Reform of the Calendar," "Letters of Junius," "Rise of the Wesleyans," "East India Company."

9. Indicate the position of the following in the history of England: Pelham, Huskisson, Carteret, Fox, Lord Grey.

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*Latin.—For Class D, and for Senior and Junior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Decline together, in the singular only, *una salus, pontifex maximus, spes felix, vetus illud iusiurandum*; and in the plural only, *tres naves, animal celerrimum*.

2. Give, with their meanings, twelve prepositions which govern the accusative only.

3. Give the principal parts of—*cedo, ordior, haereo, confiteor, exstinguo, veto, pario, paro, diligo, deligo*.

4. Discuss briefly, with illustrations, the principal usages of the dative case.

5. Express in Latin—January 7th, 1893; as quickly as possible; a girl four years old; five days ago; I am ashamed of you; not even yesterday; five thousand cavalry; children must not be indulged.

6. Distinguish between—*vinxi, vixi, vici*; *ne, non*; *pendo, pendeo*; *magis, maius*; *securus, securis*; *ventus, ventum, venatum*.

7. Translate into English—

Insequente anno Sp. et L. Papirii novi tribuni militum consulari potestate Velitras legiones duxere, quattuor collegis ad praesidium urbis et si qui ex Etruria novi motus nuntiarentur—omnia enim inde suspecta erant—relictis. Ad Velitras adversus maiora paene auxilia Praenestinatorum quam ipsam colonorum multitudinem secundo praelio pugnatum est ita, ut propinquitas urbis hosti et causa maturioris fugae et unum ex fuga receptaculum esset. Oppidi oppugnatione tribuni abstinuere, quia et anceps erat nec in perniciem coloniae pugnandum censebant. Litterae Romam ad senatum cum victoriae nuntiis missae. Itaque ex senatus consulto populique iussu bellum Praenestinis indictum; qui coniuncti Volscis anno insequente Satricum, coloniam populi Romani, pertinaciter a colonis defensam, vi expugnarunt foedeque in captis exercuere victoriam. Eam rem aegre passi Romani M. Furium Camillum militum tribunum creavere.

8. Translate and explain the construction of—

- (a.) Vellem adfuisse.
- (b.) Te musicam quinque iam annos doceo.
- (c.) Carthagine in Siciliam Syracusas navigabat.
- (d.) Quem interrogem?
- (e.) Caesar exercitui praefectus est.
- (f.) Exactae iam aetatis Camillus erat.

9. Translate into Latin—

- (a.) The wary general had too much good sense to be deceived thus.
- (b.) The garrison in Corinth determined to defend the city at least forty days longer.
- (c.) When he arrives, will you let me know?
- (d.) I am afraid I shall not be able to visit you to-morrow.
- (e.) Having given this warlike answer to the emperor's ambassador, the general ordered his men to prepare to march out immediately.
- (f.) The longer we live, the wiser we should strive to become.

*French.—For Class D, and for Junior and Senior Civil Service. Time allowed: 3 hours. [Optional.]*

[Candidates for Class D and Senior Civil Service are to attempt all the questions. Candidates for Junior Civil Service are not to attempt Questions 4 (c); 5 (b); 7 (c); and 8 (c).]

1. (a.) Give the gender of the following nouns: *ardoise, plomb, acajou, enfant, cœur, cour, cours, feuille, France, Portugal, vert, jaune*.

(b.) Explain when the following nouns are masculine, and when they are feminine: *couple, garde, livre, page, personne, remise, souris, tour, voile*.

(c.) Give the feminine for: *esclave, baron, comte, hôte, chanteur, acteur, témoin*.

2. (a.) Give the French plural for: wood, nose, voice, boat, pebble, owl, air-hole, cattle, grandfather, vanguard, cigar-case, silver, beauty.

(b.) Expound the general rules concerning the formation of feminine of adjectives, and give a few examples. Also translate: (1.) That boy, that man, that woman, and those children are happy. (2.) My soul. (3.) His sword.

(c.) Give the feminine for: *blanc, faux, frais, public, grec, turc*.

3. (a.) With what do pronouns agree? Give the French for: mine, yours, theirs, in each gender and number; and translate: She has not her books, but her mother's.

(b.) Translate: I lend *it* (masc.) to you. We give *it* (fem.) to him. Do not show *it* (fem.) to her. Show *it* (masc.) to them. I speak to him of it.

4. (a.) Give: (1) the present participle; (2) the past participle masculine and feminine singular forms; (3) the third person singular and second and third plural of the present, past definite, and future simple (indicative mood), also the imperative, of the following verbs: *absoudre, acquérir, boire, courir, conclure, falloir, dire, contredire*, and *s'en aller*. Give also the auxiliary each of these verbs requires in compound tenses.

(b.) Translate: (1.) I wrote a letter to the Minister this morning. (2.) Did *they* (fem.) receive the flowers I sent them last week?

(c.) [D and Senior only.] Translate: (1.) The musicians whom I heard *sing* (singing) are Italians. (2.) The song which I heard sung is by Béranger. (3.) I have *done* (use the verb *rendre*) him all the services I could.

5. (a.) Where is the adverb generally placed in simple tenses? Translate: (1.) My friend (fem.) writes very badly. (2.) That scholar (masc.) is tolerably attentive.

(b.) [D and Senior only.] (1.) I expect to hear *from* your cousin (fem.) to-morrow morning. (2.) Do you often hear of those gentlemen?

6. (a.) Translate: in love with, accessible to, curious as to, ashamed of, indignant with, envious of, intoxicated with, favourable to, exact in.

(b.) Translate: (1.) She reads better than her brother. (2.) There are no better books than these. (3.) We work less than they (masc.). (4.) He sings worse than his sister.

7. (a.) Translate: It is the 11th of December. (2.) We have reached the 1st of August (in full).

(b.) Give the ordinal numbers for: 1, 2, 5, 9, 21, 71, and 101 (in full).

(c.) [D and Senior only.] Give the corresponding English idioms for: *Faire connaissance, faire un tour de promenade, faire son possible, se faire mal, mettre pied à terre, se mettre à l'anglaise, mettre à l'heure*; and translate: Set that watch right.

8. (a.) Give a few words ending in *il, al, ce, de, ge, le, ne, ant, ent, ion*, that are the same in both languages.

(b.) Most French words ending in *aire, oire, gie, nce, te, eux, eur, in, if*, become English by a small change in the suffixes. Give a few examples.

(c.) [D and Senior only.] Give the corresponding meaning in English for the following gallicisms:—

Ce piano n'est pas d'accord.

Allons au fait.

Vous mettez ma patience à bout.

Il est aux aguets.

C'est un mauvais sujet.

Vous chantez faux.

Je vis au jour le jour.

9. Translate into English—

*Remarques sur l'utilité des langues modernes.*

En voyage le meilleur instrument, le plus efficace passeport, est de parler couramment la langue du pays où l'on se trouve; on peut alors agir directement sur les esprits de ceux qui nous entourent. Il y a peu de gens qui apprécient toute la puissance de ce moyen: tout est là. Le voyageur qui ne peut converser est un sourd et muet, qui ne fait que des gestes, et de plus un demi-aveugle, qui n'aperçoit les objets que sous un faux jour: il a beau avoir un interprète, toute traduction est un tapis vu à revers; la parole seule est un miroir de réflexion qui met en rapport deux âmes sensibles, et généralement la plus forte finit par maîtriser l'autre. C'est en charmant l'oreille et l'imagination que l'on arrive jusqu'au cœur, et que l'on parvient à éclairer et persuader. C'est avec le langage que l'âme d'un seul homme devient celle de toute une assemblée, de tout un peuple. On peut dire ainsi que la langue est l'arme la plus sûre pour établir une domination durable. Charles-Quint disait qu'un homme qui sait quatre langues vaut quatre hommes.

10. Translate into French—

The brave Colonel Burnaby says in his splendid work entitled "A ride to Khiva": "In England we usually neglect the modern languages, and even omit the study of our national tongue. We occupy the whole of our boys' scholastic and college career with the study of *Latin* and *Greek*, imagining that we are laying a good foundation for the lad to learn modern languages later on in life, and when he leaves college. But this is then a hopeless task; lads and men when leaving school or college have generally but little time for further education. The result is that we are as a nation the worst linguists in the world. If, at our schools, *Latin* and *Greek* were made to change places in relative importance with *French* and *German*, many lads on entering life would find that they had built a two-storied house, instead of having merely laid the foundation of an edifice which they will never have time to complete."

*German.—For Senior and Junior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Translate into German—

FRIEDRICH DER GROSSE.—Er beschloss nach England zu entfliehen. Wie die Flucht misslang, wie der Zorn des Vaters gegen den fahnenflüchtigen Officier aufbrannte, ist bekannt. Mit den Tagen seiner Gefangenschaft in Küstrin und dem Aufenthalt in Ruppín begannen seine ersten Lehrjahre. Das Fürchterliche, das er erfahren, hatte neue Kraft in ihm wach gerufen. Er hatte alle Schrecken des Todes, die greulichsten Demüthigungen mit fürstlichen Stolze ertragen. Er hatte über die grössten Räthsel des Lebens, über den Tod und was darauf folgen soll, in der Einsamkeit seines Gefängnisses nachgedacht, er hatte erkannt, dass ihm nichts als Ergebung, Geduld, ruhiges Ausharren übrig bleibe. Aber das bittere, herzfressende Unglück ist doch keine Schule, welche nur das Gute herausbildet; auch manche Fehler wachsen dabei gross. Er lernte in stiller Seele seine Entschlüsse bewahren, mit Argwohn auf die Menschen sehen und sie als seine Werkzeuge gebrauchen, sie täuschen und mit einer kalten Klugheit lieblosen, von welcher sein Herz nichts wusste.—*Gustav Freytag.*

Also,—

DIE HOFFNUNG.

Es reden und träumen die Menschen viel

Von bessern künftigen Tagen;

Nach einem glücklichen, goldenen Ziel

Sieht man sie rennen und jagen.

Die Welt wird alt und wird wieder jung,

Doch der Mensch hofft immer Verbesserung.

Die Hoffnung führt ihn ins Leben ein,

Sie umflattert den fröhlichen Knaben,

Den Jüngling lockt ihr Zauberschein,

Sie wird mit dem Greis nicht begraben;

Denn beschliesst er im Grabe den müden Lauf,

Noch am Grabe pflanzt er—die Hoffnung auf.



Es is kein leerer schmeichelnder Wahn,  
 Erzeugt im Gehirne des Thoren;  
 Im Herzen kündet es laut sich an:  
 Zu was Besserm sind wir geboren;  
 Und was die innere Stimme spricht,  
 Das täuscht die hoffende Seele nicht.

SCHILLER.

2. Translate into German—(1.) Where is your brother just now? (2.) He is studying medicine in London. (3.) How do you like Melbourne? (4.) It is a fine city, but much too large to please me. (5.) Oh, yes! I know you like the quiet of a small town best. (6.) I wish to buy a gold watch for my daughter, and one for my son. Will you show me some? (7.) Here are some of all kinds; choose for yourself. (8.) I prefer this one. What is the price? (9.) I cannot let you have it for less than twenty-five guineas. (10.) At what o'clock do you dine here? (11.) In winter at six o'clock, but in summer at half-past six. (12.) Will you allow me to introduce this gentleman to you? (13.) He is a friend of mine, who has just returned from his travels. (14.) With pleasure. Sir, I am glad to make your acquaintance. (15.) I am not sorry to get back at last; it is three years since I left this country.

3. Give the meaning and the nom. pl. of: *der Lachs, der Morast, die Wand, das Amt, der Sporn, der Stachel, der Vormund, das Thor, das Gemach, das Studium*.

4. From the following adjectives form abstract nouns, prefixing the definite article: *finster, schön, reich, müde, warm*.

5. What are the chief exceptions to the rule that the names of metals are neuter?

6. Mention five words that have no singular.

7. Give in full the impers. verb *es friert*.

8. Write in full the pres. ind. of *anfangen*.

9. Form adjectives from the adverbs: *jetzt, hier, gestern, heute, damals*.

10. Translate: at midnight, at home, at the ball, at school, at sunrise.

11. The disjunctive pronouns for mine, &c., assume three forms in German. Which are they? Give all three in translating, "Is this his book? No, it is *mine*."

12. What prepositions govern the accusative only?

*Algebra.—For Class D, and Junior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Find the value of  $(x+y+z)(x^2+y^2+z^2-xy-yz-zx)$ , when  $x=1$ ,  $y=-2$ ,  $z=3$ ; and of  $\frac{[a-3b(c+2b)][2b-a(3b+c)]}{c^2-2ab+3ac}$ , when  $a=5$ ,  $b=-3$ ,  $c=7$ .

2. Find the continued product of  $2a-bx+3cx^2$ ,  $3b-2cx+ax^2$ ,  $4bx^2-c-2ax$ . Write your answer in descending powers of  $x$ , collecting the coefficients of like powers of  $x$  in a bracket.

3. Divide  $6x^6-x^2y-61x^2y^4+10xy^5+2y^6$  by  $2x^2+3xy-y^2$ .

4. Resolve into elementary factors  $12x^2-5xy-2y^2$ ,  $3a^3b-81b^4$ ,  $(2x^2-y)^2-(2y^2-x)^2$ ,  $a^2x^2-b^2y^2+p^2-q^2-2(apx+bqy)$ .

5. Find the highest common divisor and the lowest common multiple of  $x^4+2x^3-4x^2-6x+3$ ,  $x^5+7x^2+9x-5$ ,  $2x^3+3x^2-4x+1$ .

6. Simplify  $\frac{x^2}{ab} + \frac{(x+a)^2}{a(a-b)} + \frac{(x+b)^2}{b(b-a)}$ , and  $x - \frac{3x-2y}{3 - \frac{2(x+y)}{x-y}}$ .

7. Solve the equation  $\frac{x+1}{5} + \frac{x-1}{9} + \frac{x+2}{7} = \frac{x-4}{3} + \frac{x+5}{12} + \frac{x+3}{11}$ ; and, if  $\frac{q}{qx-p} + \frac{p}{px-q} = \frac{a}{ax-b} + \frac{b}{bx-a}$ , prove that  $x^2=1$ .

8. Divide 16 into three parts, such that the first may be to the second in the ratio of  $\frac{1}{3}$  to  $\frac{1}{5}$ , and the second to the third as  $\frac{1}{3}$  to  $\frac{1}{5}$ .

9. I have a rectangular piece of cardboard: cutting out equal squares from the four corners, I convert the remainder into a box (without lid), whose depth is equal to the side of the square which has been cut away, and whose sides and ends are the strips which remain along the sides of the cardboard. From another piece of cardboard equal and similar to the former piece another box is formed of twice the depth of the preceding one, and it is found that the volume of this second box is twice that of the first. Prove that the depth of the first box is  $\frac{1}{12}$  of the perimeter of either piece of cardboard.

*Algebra.—For Senior Civil Service. Time allowed: 3 hours.*

[Alternative with Arithmetic.]

1. Find the value of  $\left(\frac{1-x}{1+y}\right)^2 - \sqrt{\frac{1+x}{1-y}}$ , when  $x=\frac{1}{4}$ ,  $y=\frac{1}{5}$ .

2. Write down the coefficient of  $x^4$  in the square of  $a+bx+cx^2+dx^3+\dots$ . Write down, also, the first three terms and the last three terms of the quotient, when  $a^m-b^m$  is divided by  $a-b$ ,  $m$  being a positive integer.

3. Find the highest common measure and the lowest common multiple of  $x^4+ax^3-2a^2x^2-3a^3x-a^4$  and  $x^4-3ax^3+2a^2x^2+a^3x-a^4$ .

## 4. Simplify—

$$(a.) \frac{1}{x-2a} - \frac{a^2}{8a^3-x^3} - \frac{x+a}{x^2+2ax+4a^2}.$$

$$(b.) \frac{1+x}{1+\sqrt{1-x}} + \frac{1-x}{1-\sqrt{1-x}}.$$

$$(c.) \frac{a^3}{(a-b)(a-c)} + \frac{b^3}{(b-a)(b-c)} + \frac{c^3}{(c-a)(c-b)}.$$

5. If unity be divided into two parts in the ratio of  $\sqrt{3} : \sqrt{7}$ , express the parts with rational denominators.

6. Extract the cube root of—

$$x^3 + 6a^{\frac{1}{2}}x^{\frac{5}{2}} + \frac{1}{2}ax^2 - 10a^{\frac{3}{2}}x^{\frac{7}{2}} - \frac{4}{3}a^{\frac{5}{2}}x + \frac{2}{3}a^{\frac{7}{2}}x^{\frac{1}{2}} - \frac{2}{3}a^{\frac{7}{2}}.$$

7. Solve the equations—

$$(a.) \frac{1}{x-2} + \frac{1}{x-5} = \frac{1}{x-4} + \frac{1}{x-3}.$$

$$(b.) ax + by = m, \quad 2bx - ay = n.$$

$$(c.) \sqrt{x-b} + \sqrt{x+b} = \sqrt{4x-2a}.$$

$$(d.) x^2 - xy = 2, \quad 2x^2 + y^2 = 9.$$

8. If 3 be added to both the numerator and the denominator of a certain fraction, its value will become  $\frac{4}{5}$ ; but, if 3 be subtracted from both, the value of the fraction will then be  $\frac{1}{2}$ : what is the fraction?

9. The depth of a rectangular box is equal to its breadth; the sum of its length and breadth is  $a$  inches, and its diagonal is  $b$  inches: required the dimensions of the box.

*Euclid.—For Class D, and for Junior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Define a right angle and an obtuse angle. Explain what is meant by the complement and the supplement of an angle. What is the greatest number of obtuse angles that a quadrilateral figure can have? What is the greatest number of acute angles that it can have? Explain why it cannot have more of either.

2. If at a point in a straight line two other straight lines, upon the opposite sides of it, make the adjacent angles together equal to two right angles, these two straight lines shall be in one and the same straight line.

What name is given to the form of proof adopted in this proposition? In what circumstances is this form of proof usually resorted to?

3. If a straight line fall upon two parallel straight lines it makes the alternate angles equal to one another, and the exterior angle equal to the interior and opposite upon the same side, and likewise the two interior angles upon the same side together equal to two right angles.

What is meant by a converse proposition? Enunciate the proposition or propositions of which this proposition is the converse.

4. Triangles upon the same base, and between the same parallels, are equal to one another.

Show how to describe a parallelogram which shall be equal in area and in perimeter to a given triangle.

5. In any right-angled triangle, the square which is described upon the side subtending the right angle is equal to the squares described upon the sides which contain the right angle.

Show that the squares described upon the two diagonals of a rhombus are together equal to four times the square described upon one of its sides.

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

7. In obtuse-angled triangles, if a perpendicular be drawn from either of the acute angles to the opposite side produced, the square of the side subtending the obtuse angle is greater than the squares of the sides containing the obtuse angle by twice the rectangle contained by the side upon which when produced the perpendicular falls and the straight line intercepted, without the triangle, between the perpendicular and the obtuse angle.

8. Construct a rectangle equal to a given square, and having the difference of its adjacent sides equal to a given line.

*Euclid, Books I.—IV.—For Senior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Prove that any two sides of a triangle are together greater than the third. Show also that this proposition may be proved by bisecting the angle between the two sides which are to be taken together, and letting the bisector cut the third side.

2. Show how to divide a given straight line into any given number of equal parts.

3. Define a square, and show how to describe a square on a given finite straight line.

4. If a straight line be divided into any two parts, prove that the square on the whole line and on one part are together equal to twice the rectangle contained by the whole and that part together with the square on the other part.

5. Given an arc of a circle, show how you would proceed to find the centre, giving in full the necessary proof.

6. If two chords of a circle intersect in a point inside the circle, the rectangle contained by the segments of the one is equal to the rectangle contained by the segments of the other.

7. Prove that the three bisectors of the angles of a triangle meet in a point.

*Mechanics.—For Class D, and for Senior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Define the units of velocity and acceleration.  
If a train is moving at the rate of thirty miles an hour, how many units of velocity has it? And if it attained this velocity in 2 minutes, what was the average acceleration?
2. Explain the distinction between a foot-pound and a foot-poundal.  
A cannon-ball of 100lb. weight is moving with a velocity of 1,200ft. per second: find in foot-pounds the work it is capable of performing.
3. Describe Atwood's machine, and explain the principle on which the use of the machine is founded.
4. State and prove the "triangle of forces."  
Two forces, equal to the weight of 10lb. and 24lb. respectively, act on a particle in directions at right angles to one another: find the magnitude of the single force which will maintain equilibrium.
5. Show how to find the resultant of two parallel forces which act in the same direction.
6. Weights of 16lb. and 40lb. are suspended from the extremities of a straight uniform lever 12ft. long, and weighing 8lb.: find the position of the fulcrum about which the whole will balance.
7. Find the relation of the power to the weight in the inclined plane, when the power acts horizontally.  
What force, acting horizontally, will keep in equilibrium a weight of 30lb. on an inclined plane, and produce a pressure of 34lb. weight on the plane?
8. Define a fluid. What is the distinction between the two kinds of fluids? Explain how the pressure at a point in the fluid is measured.
9. State the conditions of equilibrium of a floating body.  
An iceberg floats with nine-tenths of its volume immersed. If the specific gravity of the surrounding salt water be 1.023, what is the specific gravity of the ice?
10. Describe and explain the action of the common suction-pump.

*Physics.—For Class D, and for Junior and Senior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Explain how you would verify the "fixed points" in a mercury thermometer, stating the precautions which you would take to insure accuracy.  
Express the temperatures 100° F. and -100° F. in the Centigrade scale.
2. Define the coefficient of linear expansion. What are the relations which the coefficients of superficial and cubical expansion bear to that of linear expansion in the same substance?  
If a telegraph wire expands 15in. per mile with an increase of temperature of 20° C., what is its coefficient of linear expansion?
3. State the laws of fusion. By whom, and in what manner, was the latent heat of fusion of ice first determined? What becomes of the heat which disappears, or becomes latent, during fusion?
4. Explain the following terms as used in the theory of sound: *Wave-length, pitch, musical interval, octave, major third, harmonic*. What is the relation between the length of a stopped pipe and the wave-length of its fundamental note?  
Find approximately the pitch of the fundamental note emitted by an open organ-pipe 16in. long.
5. What is meant by the focal length of a lens? What is the distinction between a real and a virtual focus? How would you determine practically the focal length of a double-convex lens?  
A candle-flame is placed at the distance of 16in. from a double-convex lens of 1ft. focal length: at what distance on the other side of the lens must a screen be placed to receive a well-defined image of the flame? And what is the size of the image relatively to the flame?
6. Describe, with the aid of a diagram, the optical construction of a compound microscope.
7. Describe the electrophorus, and explain the principle of its action.
8. What is meant by connecting voltaic cells "in series," and "in parallel"? In what circumstances would the latter arrangement be preferable?  
A Grove's cell has an E.M.F. of 1.92 volts, and an internal resistance of .2 ohm. Find the current which three such cells, joined in series, will give through an external resistance of 11.4 ohms.
9. Describe some form of voltameter, and explain the purposes for which it may be used.

*Chemistry.—For Class D, and for Junior and Senior Civil Service. Time allowed: 3 hours. [Optional.]*

1. How would you separate and collect, say, half a litre of pure nitrogen from atmospheric air?
2. Explain fully how you would prepare and collect hydrogen from (a) water, (b) dilute sulphuric acid.
3. Given saltpetre, common salt, and sulphuric acid, how would you make (a) nitric acid, (b) hydrochloric acid, (c) aqua regia? Give the equations, and describe the apparatus required.
4. Explain (giving the equations) how you would make phosphoretted hydrogen from phosphorus; and show what changes take place when that gas burns.
5. Required half a litre of each of the following gases—*nitrous oxide, nitric oxide, ammonia, chlorine*—show clearly how you would make and collect them.

6. Describe the chemical changes that take place when firedamp (methane or marsh-gas) explodes in a coal-mine; and compare the state of the atmosphere in the mine *before* and *after* the explosion.

7. What weight of oxygen is there in 100 grains of each of the following compounds: (a) water, (b) carbon-dioxide, (c) nitric acid, (d) sulphur-dioxide, (e) sulphuric acid?

8. Describe (giving equations) the successive operations by which iodine is obtained from seaweeds.

9. Define the following terms, and give examples of their application: (a) atom, (b) molecule, (c) equivalent, (d) allotropic, (e) amorphous, (f) atomicity.

10. What is there exceptional about the atomic volume of phosphorus?

*Elementary Biology.—For Class D, and for Senior and Junior Civil Service. Time allowed: 3 hours. [Optional.]*

[Candidates are requested to answer questions in one subject only.]

#### ANIMAL PHYSIOLOGY.

1. What is the composition of bone? Describe what is seen in a longitudinal section of a thigh-bone, or any other long bone. How is a bone nourished, and how does it grow?

2. Describe the coagulation of the blood. What is the composition of the blood-plasma?

3. Why does the body waste away, and what are the chief waste products? How are they formed, and how are they eliminated from the system?

4. Give an account of the structure and functions of the liver. How is it supplied with blood?

5. Give an account of the microscopic structure of a muscle. What changes does a muscle undergo during contraction? Distinguish between voluntary and involuntary muscles.

6. What is the ordinary temperature of the body? What is the source of the heat, and how is the temperature regulated?

7. A man touches a hot iron with his hand, and immediately pulls it away. State what parts of the body are concerned in the action, and explain clearly their respective functions.

8. Give an account of the structure of the eye. How is it that with two eyes an object is seen single?

#### BOTANY.

1. Describe the chief kinds of underground stems, and show how they are distinguished from roots.

2. Give some account of the chief modes in which leaves are arranged on the stem. Give examples of natural groups of plants which are characterized by some particular mode of arrangement of the leaves.

3. Describe the characters of a typical vegetable cell. What are the chief forms of tissues found in plants, and how are they formed from primitive cells?

4. What is chlorophyll, and how does it occur in plants? Explain how it is connected with the nutrition of the plant, and describe experiments which illustrate your answer.

5. What is a seed? Describe the structure of a seed with endosperm and of one without it.

6. A flower is said to be a shoot modified for the purpose of reproduction. Explain this statement fully, and show that it is correct.

7. Describe the characters of the natural order of native plants that is most familiar to you. Mention as many distinct kinds of native plants belonging to the order as you can, and state briefly by what structural characters you could distinguish them.

8. Describe the process of fertilisation in any flower. What is cross-fertilisation, and what are its advantages? Describe flowers which possess modifications to insure cross-fertilisation.

*Shorthand—Senior.—For Senior Civil Service. Time allowed: 3 hours. [Optional.]*

#### INSTRUCTION TO SUPERVISORS.

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

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

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

(a.) 80 words per minute.

(b.) 120 " "

(c.) 150 " "

N.B.—It will be well to practise reading these aloud some time beforehand, looking at a watch or clock, so as to accustom yourself to reading at the exact rate indicated.\*

4. Candidates are at liberty to take down one, two, or three passages, as they choose. All the passages required by candidates are to be dictated before any one begins to transcribe; and there should be as little delay as possible between readings.

\* The matter to be read is marked off into sections, each of which is to occupy a minute. The Supervisor will perhaps find it advisable to mark it off into smaller sections, each containing the number of words to be read in fifteen seconds, and to read one section every quarter of a minute. As the candidates hear the passage read only once, the reader's articulation ought to be very clear, and the candidates ought to be so placed as to be able to hear well.

5. Inform candidates that rapidity in transcribing notes into longhand is essential, and note carefully on the transcribed copy the exact time taken in transcription. Candidates must not look at their notes while a passage that does not concern them is being read.

6. Inform them also that the clearness and accuracy of the shorthand notes (which must in every case be sent in attached to the transcript) will be taken account of by the examiner; and that they must not alter the shorthand notes after the dictation is finished.

#### PASSAGES FOR DICTATION.

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

##### *Coal-mining.*

I now come to one of the most important branches of the mining industry—namely, coal-mining, which is steadily progressing year after year in proportion to the increase of our population requiring fuel, and to the establishment of industries using coal for generating motive-power. The increase in the output from our mines where lignite, brown, and pitch coal are obtained can only take place as the demand for local consumption increases, for, although the best of these classes of coal can be carried some distance from the mines, its supply is limited to the consumption, it may be said, within a radius of 150 miles, as no large stock of it can be kept on hand on account of its breaking up and crumbling away by exposure to the atmosphere. It is therefore only from bituminous coal-mines that a large increased output can be looked for; and, as our principal bituminous coalfield is on the western slope of the main range in the Middle Island, the yearly increased output from the mines in this part of the colony cannot be expected to be much greater than hitherto until the harbours at Westport and Greymouth are completed to such an extent that vessels carrying 3,000 tons on one bottom can leave these ports, so as to carry the coal to markets outside of the colony. No large sudden increase in the output from our mines need be expected on the completion of these harbours, as it will take some years to open up the mines and find foreign-markets for the coal. Seeing that there is now a large number of coal-mines being worked in Japan, where the cost of labour is extremely small, the coal from that country being taken to different ports in India and South America, it is only owing to the superior quality of our coal that we may hope to find a market, and this will take a certain time to establish. We may, however, reasonably expect that coal properties in this colony, on the completion of the West Coast harbours, will be able to compete with those in New South Wales in supplying coal to any of the other Australian Colonies.

During last year the total output from all the mines of the colony was 668,794 tons, as against 637,397 for the previous year, thus showing an increase in the output of 31,397 tons. The quantity of coal imported was 120,775 tons from New South Wales, and 4,543 tons from other countries, making 125,318 tons, as against 110,939 tons imported for the previous year. This shows an increase in the quantity imported for the previous year of 14,379 tons. In regard to importation of coal from New South Wales, the quantity has varied from 98,241 tons to 144,442 tons per annum. The total quantity imported from New South Wales during the last twelve years was 1,428,309 tons, which is equal to an average annual importation of 119,026 tons. It may be said, taking one year with another, that the importation of coal from New South Wales has varied very little. A great deal of this is due to the coal being carried as back-freight by vessels trading with produce between here and Australia, and also by coal being used to fill up as dead-weight in vessels carrying timber.

Taking the output from the mines last year and the quantity of coal imported, it makes a total of 794,112 tons, as against 748,366 tons for the previous year. The quantity exported last year was 99,464 tons, but out of this 70,371 tons is returned by the Customs Department as coal exported to the United Kingdom, which means that it was used for coaling the Direct steamers; this may fairly be termed consumption within the colony on the same basis as supplying coal for the Union Company's steamers in the intercolonial trade; therefore, on this assumption, the net export last year was 29,093 tons, out of which 6,300 tons was of foreign produce. Deducting the quantity of coal exported it leaves the consumption within the colony last year as being 765,019 tons, as against 714,932 tons for the previous year, which shows |

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

My friend says, "Of course he could." I submit, your Honour, if this run had risen in value, and Scott had dared to assume that position, he would have found himself here with *Morrin v. Kissling* quoted against him, and *Driver v. Carson* quoted against him—these cases decided in this Court and the Court of Appeal—and he would have been asked this question: "Did not Mr. Henderson suggest to you that you should go to Preston and try and make a commission off him by selling the run that stood in your name to him?" and Scott would have had to answer, "Yes, I did see a prospect of a commission;" and then he would have been asked, "How, sir, do you reconcile the suggestion that you were willing to make a commission with the statement that this run is yours?" That alone would have barred Scott in any such case, and, by the same token, it answers Mr. Henderson, and disposes of him. Now, I submit that whatever difficulty they might have had in making a case against Scott to render up the run, supposing it had become valuable, there is no difficulty in making a case against them—that they have treated themselves as the absolute owners. Mr. Henderson leaves uncontradicted Scott's statements that he (Mr. Henderson) told Scott that there was a chance of making a commission on it by selling it to Preston. That is Scott's uncontradicted evidence. What is a commission but a profit possibly made by Scott out of the property of the defendants?—certainly not a profit made

by Scott out of his own property. They have chosen to treat themselves throughout as the absolute owners. Their taking an unlimited authority to bid, and not disclosing to Scott the term for which they were bidding, is consistent with nothing else. Scott's ignorance of the whereabouts of the run is consistent with nothing else than that, as he stated, he was taking no interest in the matter. Mr. Henderson says that Scott said he had been a cadet on a station near that run. I can only submit that Mr. Henderson may have imagined that Scott said such a thing. But that is only another instance of Mr. Henderson's evidence being unreliable. Their interference with the rabbit prosecution, their interference with reference to the proposed appeal, their agreement with a buyer, if I have rightly understood the evidence, the memorandum and the letter of Mr. Martin in Christchurch offering the run for sale to Mr. Matheson, are all inconsistent with anything but that the defendants were the absolute owners of this run standing in Scott's name. Your Honour will remember that in the correspondence there was a "dangerous man"—Matheson—mentioned; and Mr. Martin writes, "I told him, however, that my client was bound to have the run to-day, if only to afford him ample time to deal with the stock, but that if he was a buyer we would be willing to give him the first offer of the whole thing—run, sheep, and cattle, as a going concern,"—thus treating it as their own, as it was. And yet Mr. Martin is the man of whom Mr. Ritchie says, "He knew the purpose of the transaction and the nature of the transaction." I submit, your Honour, that the proposed offer to Matheson—the offer to Matheson, the proposed sale of it, and the suggestion that Scott might make a commission out of the sale to Preston—show demonstrably that these parties all along treated the run as theirs. Scott was never consulted about it. And yet, in the face of that, your Honour is asked to accept their evidence as amounting really to a release by Scott of his rights. Now, I put it, further, as a matter of evidence, that the defendants setting up this version of a transaction have not dared to put into writing their arrangement with Scott. They say that it was legal; and one of my friends has hinted that it was a perfectly moral transaction taking this run up in this way. One of my learned friends has hinted that.

*Mr. Haggitt*: Which?

*Mr. Chapman*: I forget which it was. I think it was Mr. Solomon. Why did the parties not put it into writing? It has been their cue all through to keep it secret, for reasons best known to themselves—swearing Logie to secrecy, relying on Scott's secrecy, keeping secret themselves, not putting a line in writing. What would have been easier than to have got the understanding in writing? Who is to suffer if they have, for their own purposes, so arranged matters that they understood one measure of liability and Scott another? I submit, again, that if they have chosen to leave matters in such a foggy position that they cannot now demonstrate that Scott intended to give up his ordinary rights, they are to blame for that. They might easily have put the matter in writing in some way that it could have been clearly understood, and there would have been an end of the matter. Virtually, here they rely upon a special agreement; but I submit on the pleadings they cannot rely upon a special agreement. If it amounts to that they cannot rely upon it, and short of that I submit it is of no avail. Scott's attitude, your Honour, has been consistent throughout, and I submit there is no consistency in the attitude of the defendants. They are burdened with showing that a man worth £500 a year has contracted to become a bankrupt if necessary for £10, or £15, or £20. A more monstrous proposition never was put before the Court. They have, possibly, added imaginary extensions to conversations and actual facts. That may account for a good deal of the appearance of conflict; but, your Honour, they have chosen to leave the matter in doubt—they have failed to clear matters up. It was incumbent upon them to make matters clear; and, if it has resulted in their taking one view and Scott taking another, I submit, your Honour, that Scott is nevertheless entitled to his indemnity; that even if Mr. Henderson and Mr. Ritchie had clearly in their minds their intention of quitting themselves of liability by clearly informing Scott, and getting him to assent to the statement that he was to bear the whole ultimate burden, and that they were to bear nothing, for this paltry sum of £20—even if they had that in their minds—unless they demonstrated that to Scott's mind, and demonstrate to the Court now that Scott appreciated it, I submit the ordinary law must prevail, and that Scott is entitled to indemnity. I submit to your Honour that on the whole this much has been clearly proved: that the transaction was theirs from first to last; that it was intended to be theirs; that Scott's attitude has been consistent throughout; that the defendant's attitude has been consistent with Scott's position, but inconsistent with their own; and that they cannot now make the case they |

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

In this case James Robertson Scott is the plaintiff, and John Macfarlane Ritchie, William Henderson, and the National Mortgage and Agency Company of New Zealand the defendants. The statement of claim I need not read at length, but shall state shortly what the statement of claim discloses, and what the statement of defence discloses. The first two paragraphs in the statement of claim are admitted—namely, that the plaintiff is a commission agent, carrying on business in Dunedin, and that the defendants are the National Mortgage and Agency Company, &c. Then, the next paragraph is denied, which says, "The defendants requested the plaintiff to act as their agent in applying in his own name for Pastoral Run No. 93A, and subsequently in bidding in his own name for the said run." Then, the next paragraph is admitted, leaving out the words in the first line, "pursuant to the said request," and the words in another line, saying it was at the request of the defendants; otherwise it is admitted. What is admitted I shall read: "That plaintiff appointed a person designated by the defendants, who was really a servant or agent of the defendants, to apply for the said run, and bid

- for the same; that it was knocked down to plaintiff; and that plaintiff thereafter executed a license thereof, whereby it was leased to him in his own name for ten years." Then, the next paragraph simply states that the plaintiff is a man of small means; that he had no real interest in the transactions; that he never paid any rent for the same, or took possession thereof; all of which facts point to the presumption that he acted as trustee or agent merely.
- 2 Then, the defendants admit that they paid the first half-yearly instalment | and the plaintiff's plea avers this fact, and says that they occupied the run and managed it, and treated it as their own. They admit also occupation for a short time, but say it was in pursuance of some arrangement. The next paragraph is, "The defendants, when they requested the plaintiff to take the said run for them, promised to undertake the whole responsibility for the said run, and to indemnify him against all liability in respect thereof, provided he from time to time submitted all correspondence to them, and received and acted on directions from them, as to his actions respecting the same, all of which he has done." That paragraph, your Honour, is denied. The next paragraph is, "In the month of May, 1891, the plaintiff was prosecuted, and ultimately fined £15, and 3s. for costs, for failing to
- 3 destroy the rabbits | on the said run to the satisfaction of the Inspector; and the plaintiff was defended by solicitors nominated by the defendants; and the defendants promised, in consideration of the plaintiff then paying the amount of the said fine and the costs of the defence, amounting to £5 5s., and sundry disbursements for telegrams and otherwise in connection with the said matter, that they would repay the same to him, which sums the plaintiff accordingly paid." They admit the prosecution and fine, but deny everything else. The ninth paragraph is, "It was thereafter arranged between the plaintiff and the defendants that no money should for the time being pass in respect of the said fine, and the expenses of the said defence and other disbursements, and such arrangement was entirely for the convenience and protection of the
- 4 defendants, and was made at their request." That is denied. The next | is, "On the 4th and 31st days of March, the 18th day of May, and the 3rd day of June, 1891, the Chief Inspector of Stock for Canterbury gave the plaintiff notice to destroy the rabbits on the said run, and that, in the event of his failing to do so, the said run would be poisoned, which notices the plaintiff handed to defendants, requesting them to attend to the same; and the same is not now in the plaintiff's possession." They admit all excepting the words "requesting them to attend to the same." These are struck out and the rest admitted: "The defendants did not take the requisite or sufficient measures to destroy the rabbits on the said run," and so on. That is admitted. The next is, "On the 5th day of October, 1891, the said Chief Inspector,
- 5 pursuant to |

*Shorthand—Junior.—For Junior Civil Service. Time allowed: 3 hours. [Optional.]*

#### INSTRUCTION TO SUPERVISORS.

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

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

(a.) 50 words per minute.

(b.) 80 " "

(c.) 100 " "

N.B.—It will be well to practise reading these aloud some time beforehand, looking at a watch or clock, so as to accustom yourself to reading at the exact rate indicated.\*

4. Candidates are at liberty to take down one, two, or three passages, as they choose. All the passages required by candidates are to be dictated before any one begins to transcribe; and there should be as little delay as possible between readings.

5. Inform candidates that rapidity in transcribing notes into longhand is essential, and note carefully on the transcribed copy the exact time taken in transcription. Candidates must not look at their notes while a passage that does not concern them is being read.

6. Inform them also that the clearness and accuracy of the shorthand notes (which must in every case be sent in attached to the transcript) will be taken account of by the examiner; and that they must not alter the shorthand notes after the dictation is finished.

#### PASSAGES FOR DICTATION.

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

Whitehall, 27th January, 1892.

THE following letter from the Queen has been received by the Right Honourable the Secretary of State for the Home Department:—

"Osborne, 26th January, 1892.

- 1 "I must once again give expression to my deep sense of the loyalty | and affectionate sympathy evinced by my subjects in every part of my Empire on an occasion more sad and

\* The matter to be read is marked off into sections, each of which is to occupy a minute. The Supervisor will perhaps find it advisable to mark it off into smaller sections, each containing the number of words to be read in fifteen seconds, and to read one section in every quarter of a minute. As the candidates hear the passage read only once, the reader's articulation ought to be very clear, and the candidates ought to be so placed as to be able to hear well.

tragic than any, but one, which has befallen me and mine, as well as the nation. The overwhelming misfortune of my dearly loved grandson having been thus suddenly cut off in the flower of his age, full of promise for the future, amiable and gentle, and endearing himself to all, renders it hard for his sorely-stricken parents, his dear young bride, and his fond grandmother, to bow in submission to the inscrutable decrees of Providence.

"The sympathy of millions, which has been so touchingly and visibly expressed, is deeply gratifying at such a time, and I wish, both in my own name and that of my children, to express, from my heart, my warm gratitude to all.

"These testimonies of sympathy with us, and appreciation of my dear grandson, whom I loved as a son, and whose devotion to me was as great as that of a son, will be a help and consolation to me and mine in our affliction.

"My bereavements during the last thirty years of my reign have indeed been heavy. Though the labours, anxieties, and responsibilities inseparable from my position have been great, yet it is my earnest prayer that God may continue to give me health and strength to work for the good and happiness of my dear country and Empire while life lasts.

"VICTORIA R. I."

#### Enclosure No. 2.

The following official telegram has been received from Sir Francis Knollys, at Windsor Castle:—

"The Prince and Princess of Wales are anxious to express to Her Majesty's subjects, whether in the United Kingdom, in the colonies, or in India, the sense of their deep gratitude for the universal feeling of sympathy manifested towards them at a time when they are overpowered by the terrible calamity which they have sustained in the loss of their beloved eldest son.

"If sympathy at such a moment is of any avail, the remembrance that their grief has been shared by all classes will be a lasting consolation to their sorrowing hearts, and, if possible, will make them more than ever attached to their dear country.

"Windsor Castle, 20th January, 1892."

#### No. 7.

MY LORD,—

Downing Street, 2nd February, 1892.

I have the honour to draw your Lordship's attention to my circular despatch of the 12th of January, 1891, and to request that I may be furnished with an expression of the views of your Government on the proposed issue of *exequaturs* to Consular officers appointed by the Chinese Government in British Dominions.

I have, &c.,

KNUTSFORD. |

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

The department has given special attention during the past year to the enforcement of the Licensing Act, more especially as regards Sunday trading, and closing licensed houses at stipulated hours. In many cases convictions have been obtained, but not without considerable difficulty. That Sunday trading and selling during prohibited hours are carried on to a great extent throughout the colony cannot be denied, but the department is severely handicapped by the difficulty of obtaining convictions, as the law is so complicated and defective that, in many cases taken into Court, though the police feel bound to prosecute, not the slightest hope of a conviction is entertained. When a case breaks down the result is twofold: the police of a district are damaged in the eyes of the public, and the law-breaker is encouraged to continue his illegal trade. It may be stated, in illustration of what is meant, that, though as many as fifty persons may be seen or known to enter a publichouse on a Sunday or during prohibited hours, no prosecution can be instituted with any hope of success, as no sufficient evidence may be obtained to prove the actual sale of liquor. It is almost hopeless to endeavour to successfully enforce the provisions of the Act unless the police are relieved of the necessity of proving an actual sale. This might be done by amendment of the Act to provide that admission of persons not being lodgers, or the fact that a bar is found open, during prohibited hours, shall be *prima facie* evidence that the house is being kept open for the sale of liquor. The department is, however, alive to the necessity of the stringent supervision of licensed houses and the suppression of sly grog-selling, and will spare no effort to carry out the law.

Perhaps the next most important question with which the police have to contend is what is known as the street-larrikin nuisance; but the growth of this undoubted evil must be attributed rather to want of legislation and by-laws for its suppression than to the apathy of the police. It is easy to detect and punish overt acts of larrikinism; but such objectionable conduct as collecting at street-corners, obstructing footpaths, &c., is difficult to deal with, as in such cases proof must be forthcoming of actual obstruction before a conviction can be obtained. Again, a crowd of larrikins may collect and stand in a doorway as long as they please, provided the owner does not object and they are off the street-line; though the nuisance may be great, the police are powerless. In the performance of constabulary duty strictness must always be tempered with tact and discretion; and, were the police to lay informations under the head of acts of larrikinism indiscriminately, much mischief and hardship would result. What is required is that constables should be legally intrusted with more discretionary powers than they at present possess in these matters. There could be no danger attendant upon giving these, for the department has a right to demand and receive the assistance of the municipal authorities by absolutely necessary by-laws, clearly defined. Strict orders have been issued by the department for the suppression of



this increasing nuisance, but orders are worse than useless when unsupported by properly-constituted authority for carrying them out.

- 7 Another prevalent crime in the colony is sheep-stealing. Though there has been a decrease during the year, the present high price of sheep renders it probable that the decrease is not likely to last long. In dealing with this class of crime the police find considerable difficulties. Firstly, the robberies are not discovered and reported till long after they have been committed, as in many cases the flock-owners have no means of ascertaining their losses, except at stated periods; and before the police have information of the robbery, or any chance of capturing the offenders, the stolen sheep are killed, and all traces obliterated. The imperfect and entirely unsatisfactory methods of branding also hold out great temptation to the sheep-stealers. There is an elaborate scheme of registration of brands, but it is its elaboration that makes it workable in theory and not in practice. The production of wool and frozen mutton is of such magnitude in New Zealand that the protection from losses by theft from those engaged in that industry becomes a matter of absolute necessity.

The dastardly offence of arson, is, I regret to say, on the increase, and in many cases the sagacity of the detectives is baffled and the crime has to go unpunished.

- 9 There have been practically no promotions in the Force during the past year, owing to the ranks of sergeants and first-class constables being overcrowded. As stated in last year's report |

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

- With very great pleasure the trustees of this institution again meet you this evening with their annual report for the year ending the 31st December last. That pleasure, however, is considerably discounted by the fact that death has deprived them of the services of their late manager, Mr. Hawkins. He has been succeeded by Mr. Ramsay. The year has been an eventful one in other ways. For some months past a spirit of restlessness has manifested itself amongst a few of the lads, and, as a result, there are now several of them absent without leave. The trustees have endeavoured by every means in their power to ascertain the causes of this disaffection, but so far without satisfactory results. They trust that the year now entered upon may be free from unpleasantness of this kind. Of course it would be an easy matter to punish the escapees through the medium of the Police Court, but this, unless compelled, they prefer not to do. No doubt the illness of the late manager prevented his enforcement of that discipline which, in good health, he so efficiently maintained. The old workshop having proved too limited for its purpose, a new brick one has been erected, giving ample accommodation as well for a carpenters' as a blacksmiths' shop. The latter has been fitted up in modern fashion with the most improved implements, and is presided over by a competent mechanic. As heretofore, the carpenters' shop is also carried on under the guidance of a practical workman. These workshops are of inestimable value in teaching the lads the use of tools, even though eventually they do not follow either handicraft the elementary principles of which are being taught. The health of the inmates has been above the average during the year.
- 1 There have been no deaths and no cases of serious illness. In addition to the boys, of whom there are twenty-seven on the roll, there are nine girls, the latter of whom are either in service or boarded out with respectable families. During the year Dr. Beale resigned his appointment as honorary medical officer, and Dr. Knight kindly assumed the office. With a few exceptions the lads are employed by various tradesmen in the city. Monthly reports are sent in by each employer, and on the whole such reports have been most favourable. Two of the eldest lads, whose term in the Institute has expired, have gone into lodgings. They are now employed as journeymen at the prevailing rate of wages, and have in them all the elements necessary to a prosperous and honourable career. Bearing in mind the antecedents of many of these lads, it stands to reason that some time must elapse ere a new manager can successfully acquaint himself with the characteristics of each. We believe that in Mr. Ramsay we have a manager of high principle, who will guide and lead rather than drive, and we trust, under his management, to have a successful year. The religious training |

*Maori.—For Senior and Junior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Translate into English the following:—

Me haere tenei i nga mahinga a Tawhaki. Ko Hema ka moe i a Urutonga. Ko Tawhaki, tona teina ko Karihi. Ko Hinepiripiri te wahine a Tawhaki. Ka haere ratou ko ana taokete ki te hi ika i runga i te papa kohatu—tokowha nga taokete o Tawhaki, ka hoki tokorua ki te kainga, ka haere a Tawhaki i a raua; ka tata ki te kainga ka patua, ka tanumia, ka haere atu raua ki te kainga.

Ka ki mai to raua tuahine, "Kei whea to korua taokete?"

Ka mea atu raua, "Kei te hi ano ratou."

Ka whanga te wahine nei ki era tungaane ona; ka tae mai raua, ka uia atu ano e to ratou tuahine, "Kei whea to koutou taokete?" Ka mea atu raua, "I haere mai na hoki ratou." Ka mahara te wahine ra, kua mate; haere ana ki te whakataki ka kite ia e takoto ana, kua mate—kahore i mate rawa—waha ana e ia ki to raua whare, ka horoia ona patunga.

Ka ki ake a Tawhaki, "Tikina he wahie moku."

Ka haere te wahine ka mea atu a Tawhaki, "E kite koe i te rakau roa e tu ana, turakina ka amo mai."

Haere ana te wahine, ka kite i te rakau e tu ana, ka turakina e ia, ka amohia mai; ka tae mai ki te whare, ka tahuna roroatia e ia ki te ahi; koia i tapa ai e ia te ingoa o tana tamaiti ko Wahieroa.

Ka ora ake a Tawhaki i tona mate, ka haere ki te hanga pa mo ratou ko tona iwi ki runga ki te maunga, ka noho ratou i reira. Katahi ka tukua iho te ua o te rangi, ka ngaro te whenua, mate katoa nga tangata; koia i tapa ai tona ingoa, "Ko te hurianga i Mataaho" ka mate tera.

2. Translate into Maori the following:—

There are many different things required to keep a man thoroughly healthy. One of the most important of these is constant occupation of mind and body. A man should always have some useful work to do, and some kind of business to think about. Maoris in the old time were always busy, sometimes even too busy. War in some shape or other was always going on, and people had to be constantly thinking and working in order to defend themselves. Now war is done away with, and if the Maoris just grow enough food for their daily wants they can manage to live. The consequence is that nearly all Maoris have plenty of spare time; and, if they seek for no more than just a bare living, they have very little to do or to think about.

Those who spend this spare time in sitting in their whares chatting and smoking suffer for it. Their minds and bodies, through want of work, get weak and out of order. Those people do not half enjoy life themselves, and they do no good to others. Their only business seems to be to wait till death comes to put an end to their useless lives.

3. Put the following into Maori:—

He is lifting. At two o'clock to-morrow we shall be at the Courthouse. Where are the books? The books are here. Where are the tall women? Thou art sleeping. Hori said that he should paddle the canoe to the other side of the lake. There were more than two men at the Wairoa when we went there to see them. The bread was eaten until it was quite consumed. When John comes next week they will tell him all (all the things) that happened to them on their journey.

4. Put the following into English:—

Oku whare nunui. Nga rakau roa e rua tekau ma wha. Ehara tena i te huarahi ki Makara. Tenei tau pukapuka kei roto i taku pouaka.

No hea nga tangata i haere mai nei ki konei inaianei. I mahara ratou e kore rawa ratou e tae mai i taua ra, i te nui o te hau, o te ngaru.

Waiho tetahi wahi o ta taua korero, hei tetahi atu rangi whakaotia ai. Ahakoa haere koe, ahakoa noho, he nui ano te mahi mau. Ko tewhea tana i mau ai, ko te hoiho mangu, ko te mea whero ranei?

5. Give examples of the use of the definite and the indefinite articles in Maori, and of the plural form. Give the passive terminations of five verbs ending in *a*, illustrating the same by means of translated sentences.

6. Write a letter in Maori from a Native, asking to be appointed an Assessor of the Native Land Court. Give name of tribe of which applicant is a member, and state qualifications for appointment applied for. Supply a translation of the same; and write a letter in reply, informing the applicant that His Excellency has been pleased to make the appointment,—also with translation.

*Trigonometry.—For Senior Civil Service. Time allowed: 3 hours. [Optional.]*

1. Define the cosecant of an angle, and prove from a figure the formula,  $\text{Cosec}^2 x - \text{Cot}^2 x = 1$ .

If a road rise 1 in 50, find the tangent, the cosecant, and the cosine of its inclination to the horizontal.

2. Prove the formula,  $\cos\left(A + \frac{\pi}{2}\right) = -\sin A$ .

Investigate the simplest forms of  $\cot(A - 270^\circ)$  and  $\tan(x + \pi)$ .

3. Prove the formula  $\tan(A + B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$

and deduce the value of  $\tan 3A$  in terms of  $\tan A$ .

Find the numerical value of  $\tan 75^\circ$ .

4. Prove that—

$$\sin \theta \cos 2\theta + \sin 2\theta \cos 5\theta = \cos 4\theta \sin 3\theta.$$

$$\frac{2 \operatorname{cosec} 2\theta - \sec \theta}{2 \operatorname{cosec} 2\theta + \sec \theta} = \cot^2\left(\frac{\pi}{4} + \frac{\theta}{2}\right).$$

5. Solve the equations—

$$\cos \theta + \cos 7\theta - \cos 8\theta = 1.$$

$$\sin 2x = \sqrt{2} \sin 3x.$$

6. In any triangle ABC, prove the relation—

$$\tan \frac{B-C}{2} = \frac{b-c}{b+c} \cot \frac{A}{2}.$$

Given  $a=43$ ,  $b=11$ ,  $C=44^\circ$ , find A and B, having given—

$$\text{Log. } 2 = \cdot 3010300$$

$$\text{L. Tan } 55^\circ 42' = 10 \cdot 1661177$$

$$\text{L. Cot } 22^\circ = 10 \cdot 3935904$$

$$\text{Log. } 3 = \cdot 4771213$$

$$\text{L. Tan } 55^\circ 43' = 10 \cdot 1663891$$

7. Prove the following expressions for the area of a triangle:—

$$(1.) \frac{1}{2} ab \sin C.$$

$$(2.) \frac{2abc}{a+b+c} \cos \frac{A}{2} \cos \frac{B}{2} \cos \frac{C}{2}.$$

*Approximate Cost of Paper—Preparation, not given; printing (3,200 copies), £19.*

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