PART III.

APPENDICES.

APPENDIX A.

TEACHERS' CERTIFICATES.

Following are the names of persons to whom certificates of qualification to teach were issued:—

ACADEMIC CERTIFICATES.

(Names in alphabetical order.)

Anderson, John Alexander.
Archibald, Annie Marguerite, B.A., University of British Columbia.
Armstrong, William Maxwell, B.A., University of Alberta.
Ashman, George Henry, B.A., Queen's University, Kingston.
Ashwell, Iris, B.A., University of British Columbia.
Baker, Lincoln Thompson, B.A., University of British Columbia.
Barclay, George Chapman, B.A., University of British Columbia.
Bastin, May, B.A., University of Manitoba.
Beddome, James B., B.A., Queen's University, Kingston.
Bell, William Sidney, B.A., University of British Columbia.
Borthwick, Marion Isabelle, B.A., University of Manitoba.
Cadow, Eva Margaret, B.A., University of Toronto.
Calhoun, Whitmore Pipes, B.A., Acadia University, Nova Scotia.
Cameron, Margaret M. B., B.A., University of British Columbia.
Carscadden, Helen M. B., B.A., University of Toronto.
Candle, Albert Grainger, B.Sc., Birmingham University.
Chapman, Arthur A., B.A., University of Manitoba.
Clark, Charles Augustus Fordyce.
Clement, Shirley Pope, B.A., University of British Columbia.
Costley, Muriel Helen, B.A., University of British Columbia.
Dalton, Clara Belle, B.A., University of British Columbia.
Douglas, Mary, B.A., University of Ireland.
Dowler, Wellington J., B.A., University of Toronto.
Drennan, Rose.
Dunsmuir, Bessie Fleming.
Eckhardt, Harold Alexander.
Evans, Gerald Taylor.
Fletcher, Percy, M.A., Cambridge University.
Ford, George Smith.
Frame, Eleanor Mary, B.A., University of British Columbia.
Garner, William, B.A., University of Manitoba.
Grant, Muriel, B.A., University of British Columbia.
Griffith, Meiriona Ellis, B.A., University of British Columbia.
Gross, Alice Stockton, B.A., University of British Columbia.
Hanna, Evelyn Clare.
Heaslip, Leonard William.
Henderson, David, M.A., Edinburgh University.
Holgate, Harold, M.A., University of Toronto.
Horth, Margaret Clarissa, B.A., University of London.
Hunter, Ellen Craig, B.A., University of British Columbia.
Hutchison, Alice S., B.A., University of Toronto.
Kelman, Mildred Alice.
Kennedy, Laura Jean Chapman, B.A., Mount Allison University, New Brunswick.
Kennedy, L. Cecil S., B.A., University of Dublin.
Kerr, Donna Enid, B.A., University of British Columbia.
Ketcheson, Laura M., B.A., University of British Columbia.
Langdon, Richard, M.A., Oxford University.

ACADEMIC CERTIFICATES—*Continued.*

(Names in alphabetical order.)

Laurie, Hazel Elizabeth.
Lehman, Beatrice Lucy.
Luckraft, Reginald Miller, M.A., University of Saskatchewan.
Maloney, Irene B., B.A., St. Francis Xavier University, Nova Scotia.
Mann, Edith Gertrude, B.A., Acadia University.
Mather, Archibald Jennings, B.A., University of Toronto.
Matheson, Charles Winfield, B.A., Dalhousie University.
Maynard, Catherine E., B.A., University of British Columbia.
Middleton, Walter Thomas, B.Sc., University of Alberta.
Murphy, Eldred Almack, B.A., University of British Columbia.
MacDonald, Donald, M.A., Edinburgh University.
MacDonald, Lewis P., B.A., Laval University.
McEwan, Samuel, M.A., Glasgow University.
Mackenzie, Mina Elizabeth.
Macmillan, Alexander, M.A., Aberdeen University.
Nicoll, James Ferguson, M.A., Edinburgh University.
Northrop, Harold, B.A., University of British Columbia.
Parker, Rhoda Kathleen St. George.
Peck, Marjory Gowan, B.A., University of British Columbia.
Readey, John Campbell, B.Sc., Toronto University.
Reid, Jane Elizabeth, B.A., Lennoxville University.
Richards, Edgar Charles, B.A., University of British Columbia.
Robertson, Hugh Milne, B.A., University of British Columbia.
Robinson, Mrs. Georgina Wells, B.A., McMaster University.
Rollston, Eva Jean, B.A., University of British Columbia.
Roy, Jessie.
Scott, Clarence Alton, B.Sc., Acadia University.
Shaneman, Mrs. Isobel Evelyn, B.A., University of Manitoba.
Sharples, Harold Richard, M.A., University of Manitoba.
Simpson, Lily Alexander, B.A., Queen's University, Kingston.
Sinclair, Mrs. Eliza S., B.A., Queen's University, Kingston.
Staples, Mary Elva Cecilia, B.A., Queen's University, Kingston.
Steeves, James O., B.A., Acadia University.
Stewart, Beatrice Mary, L.L.A., St. Andrew's University.
Sutherland, Evelina J. M.
Tees, Percy Curran, B.A., University of Manitoba.
Timberlake, Morley.
Towell, Albert Seymour.
Trecarten, James Keith, B.A., University of New Brunswick.
Vanderborght, Francine Marie Gabrielle, B.A., University of London.
Vollum, Roy Lars, B.A., University of British Columbia.
Wallace, Norah Elizabeth, B.A., University of British Columbia.
Walls, Mrs. Isabella, M.A., Glasgow University.
Wolfe, Miriam Bedingfield, B.A., University of British Columbia.
Wolverton, Frances M., B.A., McMaster University.

FIRST-CLASS CERTIFICATES.

(Names in alphabetical order.)

Abel, Mary Beatrice.
Adam, Jessie Wallace.
Barry, Anna Georgina.
Bennett, James Lingarde.
Bolderick, Helena Elizabeth.
Bowell, Vera Winifred.
Bradshaw, Myra.
Bremmer, Emma M.
Castleden, George Hugh.
Comben, Harriet Stewart.
Cornish, Clifford.
Cox, Bessie Willard.
Cummings, Robert Edgar.
Currie, Katherine E.
Dicken, Dorothy.
Dill, Nellie L.
Douglas, Norma Pearl.
Dow, Douglas W.
Dunwoodie, Dorothy Grace.
Duthie, Mrs. Jeannette Rosamond.

FIRST-CLASS CERTIFICATES—*Continued.*

(Names in alphabetical order.)

Fitzgerald, Lilian Helen.
Fitzpatrick, Samuel K.
Gerhart, Annie Eileen.
Glaser, Ruby Josephine.
Graves, Doris B.
Griffith, Gweneth Grey.
Hamson, Winnifred Edith.
Hargrove, William Finley.
Harwood, Marian Harland.
Haverstock, Eva Melvin.
Heaps, Elsie Frankland.
Holtz, Lucile.
Howard, Ida Marjorie.
Johnston, Henrietta Elizabeth.
Jones, William.
Kane, Marcia Valdene.
Killip, Bessie Helene.
Killip, Grace Winnifred.
Lowry, Catherine.
Lyche, Alma.
Malhiot, Joan.
Moodie, Annie Slight.
McGregor, Marjorie Helen.
McIntosh, Kathleen Evangeline.
MacLean, H. Stewart.
Nachtrieb, Ruby Mabel.
Naylor, Ada.
Nenimons, Dora E.
O'Neill, Margaret E.
Paradis, Louise V.
Parker, Gladys Welsh.
Parkins, Rhoda Mary.
Partington, Margery Elizabeth.
Patrick, Evelyn Mary.
Reay, Sybil.
Reynolds, Herbert Fitzgerald.
Robinson, Ruth Dulcie.
Sargent, Beatrice Hazel.
Saunderson, John de B.
Simmonds, Mabel.
Sing, Marjorie Bruce.
Stockton, Bessie Blanche.
Switzer, Lila Marjorie.
Tervo, Esther Frances.
Verrier, Katherine.
Wade, Eva.
Wall, Anna Marie.
Williams, Gwendolyne N.
Wilson, Everilda.

SECOND-CLASS CERTIFICATES.

(Names in alphabetical order.)

Allen, Rita May.
Amy, Alberta Georgina.
Arbuthnot, Olive.
Archibald, Alice L.
Ardiel, Florence Willa.
Armstrong, Mary Drew.
Atkey, Eva Hattie.
Atkinson, Alta Bernice.
Atkinson, Eva Gladys.
Atkinson, Mildred.
Atyeo, Hazel.
Bailey, Evelyn Mary.
Barnard, Mrs. Ethyle Mae.
Barr, Ruth Rose.
Behnsen, Myrtle Elizabeth May.
Bekker, Petra Caroline Hansene.
Bell, Jean Corner.
Bell, Minnie Flora.
Bentley, Eleanor Mary.
Best, Florence Esther.
Boles, Edith.
Bossons, Ellen M.
Bowen, Alice Elizabeth.
Boyden, Ashley Wilfred.
Bremer, Eleanor Mary.
Broe, Anna Caroline.
Brown, Ida Mandella.
Brown, Lillian.
Browne, Elizabeth Irwin.
Bradshaw, Alice Maud Mary.
Bryant, Winifred.
Brydon, Ida E.
Buchanan, Margaret.
Bunn, Beth Madeline.
Cameron, Elizabeth C.
Cameron, Ellen R.
Cameron, Mrs. Mary M.
Campbell, Flora B.
Carroll, Leila Louisa.
Cartmell, Elsie Carr.
Case, Maxine Thelma.
Chambers, Annie Elizabeth.
Christopherson, Veiga.
Clark, Mildred Florence.
Cobeldick, Elsie Mae.
Cole, Thomas G.
Colman, Mary Elizabeth.
Conacher, Hazell Mildred.
Connor, Elizabeth Mae.
Coppinger, Mary.
Corrance, Elizabeth C.
Corson, Alma Irene.
Coulter, Beatrice Mabel.
Coulter, Martha Enid.
Craig, Barbara.
Crail, Sarah Agnes.
Crandlemire, Jessie A.
Creighton, Frances.
Crewson, Etta H.
Crewson, Laura B.
Cross, Harry.
Davies, Gertrude Adeline.
Davis, Ethel A.
Davis, Grace G.
Davy, Constance Geraldine.
Davy, John Gregory.
DeCew, Ida Lois.
DeFrain, Mrs. Cora M. V.
Dell, Jonathan G.
Dickinson, Marie Estelle.
Doane, Lavina Perry.
Doane, Lora Hunt.
Dorsay, Sadie A.
Duclos, Blanche Helen.
Dunnett, Edith A.
Durick, Dorothy Ellen.
Dyke, J. Phyllis.
Ebert, Minta Lucinda Audrey.
Eckert, Louis Carleton.
Evans, Viola Jane.
Fair, Lucy Georgina.
Falconer, Jessie.
Fink, Wanda Edith.
Fisher, Anna Selina.
Fisher, Mildred Hazel.
Forsland, Freda Mary.
Fowler, Verlie May.
Fraser, Ina Myrtle.
Fraser, Drina.
Fraser, Marie Christina.
Freeman, Kathleen Sarah.
Gibbard, Charles Alexander.
Gillies, Edna M.
Gilmour, Marjorie.
Girling, Adelaide Mary Louise.
Golden, Mrs. Margaret M.
Goodeve, Marie.
Gow, Lillian Hazel.
Graham, Etta Louise.
Graham, Mrs. Helena.
Grant, Anne Sangster.
Grant, Donald H.
Grant, Fern.
Gray, David Peter.
Gray, Hannah Elizabeth.
Grindrod, Mary Isabelle.
Hall, Mrs. Clara Alexander.
Hall, Georgia.

SECOND-CLASS CERTIFICATES—*Continued.*

(Names in alphabetical order.)

Hardy, Lila May.
Hardy, Mrs. Louise.
Harvey, Minnie Marilla.
Haslett, Kathleen Frances.
Hastie, Dorothy Suzanne.
Heaslip, Mrs. Clara Gertrude.
Henderson, John Stanley.
Herd, Agnes Brown Gordon.
Herd, Isabella Johnstone.
Hildidge, Hugh V.
Hollingsworth, Ella Victoria.
Holtz, Lucile.
Hopps, Helen Elizabeth.
Horston, Dorothy Helen Sophia.
Horwood, Florence Avis.
Hudson, Lucy Marion.
Hughes, Maude Florence.
Hurry, Annabella.
Hutt, Alice Lawson.
Inches, Marguerite.
Inkman, Lilias Irene Appleton.
Irvine, Gladys Winifred.
Irving, Violet Margaret.
Irwin, Muriel Ilene.
Jennings, Phyllis Eva.
Johnson, Dorothy.
Johnston, Isabell Semona.
Johnston, Rebecca.
Jones, Doris Evangeline.
Jones, Hazel Dorothy.
Jones, Vernot Arthur.
Joy, Constance Victoria.
Keller, Beatrice Louise.
Kvarno, Helen Ingeborg.
Lancaster, Elizabeth Ellen.
Lawrence, Ida Veletta.
Lawrence, Margaret Alexander.
Ledingham, Gladys May.
Leigh, Dona Kathleen C.
Leitch, Bertha A.
Letson, Ella Marguerite.
Lewis, Fredric R.
Lindsay, Robert Alexander.
Livingstone, Florence Kathleen.
Lloyd, Winifred May Swinton.
Lundrigan, Mrs. Ella C. C.
Mack, Marguerite A.
Maloney, Nettie J.
Margeson, Susie M.
Markle, Mildred Elvina Jane.
Marsh, Anna Lila Etanda.
Marshall, Jesse.
Marshall, Millicent Pearl.
Martin, Floy Elaine.
Martin, Marion Constance.
Martyn, Anna Letitia.
Mason, Carol.
Matheson, Mabel Alena.
Millar, Eva L.
Miller, Annie Maud.
Miller, Joan Alexandra.
Milligan, Annie.
Mills, Flossie Irene.
Mitchell, Eva C.
Morden, Mary Evelyn.
More, Pearle.
Morrow, Anson William.
Morrow, Mrs. Mary Fay.
Morsh, Joseph E.
Muir, Robert Allan.
Murray, Ada Wilhelmina.
Murray, Vernon Moffatt.
Mutrie, Annie Marjorie.
MacArthur, Rena.
MacBeth, Mary Strathcona.
McBride, Isabel.
McCallum, Katherine C.
McCammon, Mary Millar.
McCarty, Nina Lockhart.
McCormick, Daniel.
McDonald, Ina L.
MacDonald, Mary Grace.
McDougall, Edythe Elizabeth.
McEwen, Louise M.
MacGibbon, Mary Winnifred.
McGimpsey, Jane.
McIntosh, S. Winnifred.
McIntyre, Annie Campbell.
McKay, Thomas Campbell.
Mackechnie, Flora.
McKee, Josephine Margaret.
MacKenzie, Mrs. Sophia.
McLaughlin, Susie Elsie.
McLean, Donald R.
MacLean, Effie Priscilla.
McLean, Victoria May.
McLellan, Eva Lola.
McLeod, Isabelle E.
McLeod, Jessie Margaret.
McManus, Agnes.
McMichael, William.
McNeill, Florence Marie.
Macpherson, Annie.
Nankivell, Gertrude Katherine.
Nelson, Hazel Maude.
Nicholson, Abigail.
Noakes, Mrs. Florence A.
Oakes, Almeda Maude.
O'Neill, William Walter Charles.
Ormond, Agnes.
Ormond, Kate.
Ormrod, Eleanor Olive.
Palmer, Frances A.
Patterson, Gwendolyn Minnie.
Peck, Miriam Louise.
Peplow, Jane.
Pierce, Margaret E.
Piggott, Kathleen Emily.
Pinkerton, Margaret Jane.
Planta, Mildred.
Pollock, Margaret London.
Pritchard, Cyril Vaughan G.
Pye, Annetta Emma.
Pyke, Mary Eleanor.
Quantz, Edwin Albert.
Ralph, Mabel Clare.
Raper, Mrs. Mary S.
Reade, William Anderson.
Rees, Lizzie Ellen.
Reid, Helen Hotchkiss S.
Richter, Juanita Louise.
Robb, Grace Isabel.
Rooke, Olyve Blanche.
Rogers, Hazel.
Ross, Jean MacLeod.
Rumble, Lois Mary.
Rumming, Beatrice.
Rutledge, Florence L.
Ryckman, Florence A.
Sand, Irene.
Scott, Eunice M.
Sharman, Bella.
Shiell, Bertha Margaret.
Shiell, Margaret.
Shotton, Annie Louise.
Simmons, Mervin C.
Simpson, Dora.
Smith, Constance Gorden.
Smith, Ella May.
Smith, Elsie Kate.
Smith, Jessie Kathleen.
Smyth, Muriel Grant.
Stebbings, Ethel May.
Stenersen, Margaret Charlotte.
Stephenson, Ethel P.
Stewart, Anna S.
Sutherland, Agnes Lee May.
Sutherland, Myrtle.
Tait, Edythe Constance.
Tapping, Mary Elizabeth.
Tayler, Louisa.
Teeple, Mary Hilda.
Thomas, Olive A.
Thompson, Elsie Maud.
Thomson, Winnifred Grace.

SECOND-CLASS CERTIFICATES—*Continued.*

(Names in alphabetical order.)

Todd, Mrs. Jane Frances.
Tomkins, Mabelle.
Tomlinson, Hilda Althea.
Travis, Agnes Alice.
Trevorrow, Laura Anne.
Turnbull, Ruby.
Vanderburgh, Belle.
Versnel, Wilhelmina.
Vert, Margaret May.
Waite, Fleda.
Waite, Mrs. Grace Hurlbut.
Walrond, Harriett Ellen.
Warburton, Rhoda.
Ward, Alena Alice.
Warner, Alice Isabel.
Welbanks, George Edward.
Wenmoth, Effie Frances.
Whiting, Adella.
Williams, Florence Ethel.
Williams, Margaret Louise.
Williamson, Elsie Edith.
Williamson, Robert.
Willson, Ruth Thelma.
Wilson, Everilda.
Wood, Margaret Amelia.
Wright, Mary Edith.
Yates, Bessie Isobel.
Young, Dorothy Blanche.

THIRD-CLASS CERTIFICATES—VALID FOR LIFE.

(Names in alphabetical order.)

Austad, Alma Clara.
Bannerman, Margaret Christena.
Beaty, Temma Victoria.
Campbell, Laura May.
Carlin, Mildred C.
Carmichael, Ellen Rebecca.
Castle, Ina Ruth.
Champion, Eva Marion.
Chandler, Edith.
Clarke, Florence Elizabeth.
Cluff, Alice Florence.
Crandlemire, Jessie Amanda.
Croll, Annie Gertrude.
Donaldson, Agnes Annie.
Downey, Rosemary C.
Forrester, Dorothy E. Douglass.
George, Frances Ida.
Gilchrist, Dorothy Elizabeth.
Gordon, Mary Ellen.
Greig, Alexander M. D.
Grigor, Helen Isobel.
Guest, Mrs. Annabel.
Harrison, Annie.
Hawn, Vera Mae.
Hurst, Verna Beatrice.
Hutchison, Mrs. Jean Montgomery.
Jackson, May.
Jessett, Thomas Edwin.
Kerr, Margaret Edith.
Knott, Muriel J.
Lane, Vera Delia.
Long, Mrs. Mary G.
Lowerison, Edith Elena.
Lowerison, Ella Elaine.
Lundin, Catharine E.
Manning, Zella M.
Marshall, Christine.
Maxwell, Ethel Wynter.
Millard, Ethel May.
Moulton, Muriel Emma.
Macdonald, Anna Isobel.
MacInnes, Grace Isabel.
McKay, Gertrude Lila.
McKinnon, Flora Mary.
MacLeod, Flora Anne.
Newman, Rachel Dorothy.
Nickerson, Helen Felicia.
Orser, Pearl Myria.
Peck, Ayra Elizabeth.
Perram, Frances Agnes.
Reekie, Agnes.
Richardson, Viola.
Robinson, Eva.
Roblee, Dora Fern.
Smith, Beatrice Irene.
Stewart, Bessie Baxter.
Tait, Kathleen L.
Taylor, Constance Winifred.
Thompson, Mrs. Annie Lindsay.
Thompson, Esther Letitia.
Townsend, Mary E.
Verge, Mabel Ebeth.
White, Mrs. Nina Matilda.
Williams, Clara Phoebe.

THIRD-CLASS CERTIFICATES.

(Names in alphabetical order.)

Alexander, Wilhelmina Olive.
Allen, Grace.
Ardiel, Gladys Celia.
Arsdalen, Gwendolyn Van.
Badger, Lillian Marguerite.
Bradwin, Vina Jeanette.
Bristow, Edith Annie.
Bruneau, Edna Mary.
Brydon, Myra.
Butterfield, William Symons.
Cale, Gladys Lilian.
Cartwright, Helena.
Cliff, Florence Ethel.
Crompton, Amy.
Dench, Phyllis Victoria Roberts.
Denton, Beatrice.
Duncan, Dorothy.
Eades, William John.
Ellis, Ellen Beatrice.
Forrest, Helen Dorothy.
Foster, Cora Thorne.
Gibbard, John Edgar.
Hardie, Jane Murray.
Harris, Daisy Jane.
Hartness, Dunmail Horatio.
Henderson, Rachel Catherine.
Hornby, Hazel M.
Howey, Elsie May.
Iliffe, Annie Alberta.
Keenan, Stella.
Kipp, Dorothy H.
Laffère, Elizabeth Jane.
Libby, Mary Thirza.
Logie, Grace.
Lynn, Annie.
Mayes, Lenora Marjorie.
Moffat, Dorothy Mary.
Munger, Margaret Dellaphene.
Murphy, Mildred Isabel.
Murray, Dorothy.
McBryde, Jean Margaret.
McColl, Margaret Duff.
McCourt, Ethel Mildred.
McDonald, Greta Violet.
McFarlane, Effie Margaret.
McHattie, Mae Elizabeth.
Mackenzie, Lilian Jean.
McKinnon, Elizabeth Anastasia.
McLaren, Alexander Gordon.
MacLellan, Mary Agnes.
McLeod, Christina Maria.
McMynn, Mae Edith A.
Noble, Bertha Lillian.
Olson, Annie.

THIRD-CLASS CERTIFICATES—*Continued.*

(Names in alphabetical order.)

Ozburn, Olive Eldora.
Patrick, Vera V.
Price, Violet May.
Rombough, Arvilla Victoria.
Schmidt, Irene Beatrice.
Slingerland, Marie Margaret.
Smith, Brenda.
Smith, Margaret Grace.
Smith, Mildred May.
Stenersen, Margaret Charlotte.
Stevens, Eva Lillian.
Stewart, Catherine Alina.
Sutton, Phyllis May.
Traviss, Coral.
Wadds, Margaret Evangeline.
Waites, Aldyth M.
Wallock, Susie.
Willey, Sylvia Etta.
Williams, Elsie Seline.
Woods, Mary Loretto.
Young, Ella Constance.

HIGH SCHOOL AND UNIVERSITY MATRICULATION EXAMINATIONS, 1920.

The High School and University Matriculation Examinations began on June 21st and were held simultaneously in the High School Buildings at Agassiz, Armstrong, Bridgeport, Chilliwack, Courtenay, Cranbrook, Creston, Cumberland, Duncan, Enderby, Esquimalt, Fernie, Golden, Grand Forks, Greenwood, Kamloops, Kaslo, Kelowna, Ladner, Ladysmith, Langley, Matsqui, Mission, Nanaimo, Nelson, New Westminster, Oak Bay, Peachland, Penticton, Point Grey, Port Alberni, Prince George, Prince Rupert, Revelstoke, Rossland, Salmon Arm, Summerland, Surrey, Trail, Vancouver (Britannia, King Edward, and King George), North Vancouver, South Vancouver, Vernon, and Victoria, as well as at Abbotsford, Hedley, Howe Sound, Maple Ridge, Quesnel, and Sidney.

The Examiners appointed to act with the Superintendent of Education were: E. H. Archibald, A.M., Ph.D.; Jeanette A. Cann, B.L.; J. B. DeLong, B.A.; W. J. Fee, B.A.; J. K. Henry, B.A.; H. P. Hope, B.A.; A. H. Hutchinson, M.A., Ph.D.; Annie B. Jamieson, B.A.; R. A. Little, B.A.; S. W. Mathews, M.A.; D. L. MacLaurin, B.A.; E. B. Paul, M.A.; Leonard Richardson, B.Sc.; L. F. Robertson, M.A.; Leslie V. Rogers, B.A.; E. H. Russell, B.A.; W. N. Sage, M.A.; Alexander G. Smith, M.A.; Albert Sullivan, B.A.; O. J. Todd, Ph.D.; F. G. C. Wood, M.A.

The following are the names of the winners of His Excellency the Governor-General's silver medals:—

Esther E. Dickman, Nanaimo High School;
Evelyn M. Applewhaite, Nelson High School;
Helen M. Douglas, Duke of Connaught High School, New Westminster;
Flora M. Aske, King Edward High School, Vancouver;
Jessie H. Ligertwood, Victoria High School;
Eva O. Ormiston, Oak Bay High School.

The winners of the Royal Institution Scholarships awarded by the University of British Columbia on the results of the Junior Matriculation Examination follow:—

STUDENT.	HIGH SCHOOL.	STANDING OBTAINED AT EXAMINATION.	SCHOLARSHIP.
Flora M. Aske	King Edward, Vancouver	First in Province	$ 150
Eva O. Ormiston	Oak Bay	" District No. 1	100
Alan F. Gill	North Vancouver	" " 2	100
Marion H. Langridge	King Edward, Vancouver	" " 3	100
Charles W. Hodgson	South Vancouver	" " 4	100
Mabel Willcox	Penticton	" " 5	100

Jessie H. Ligertwood, Victoria High School, was the winner of the Scholarship of $75, which is awarded annually by the University to the student who obtains the highest standing on the Senior Matriculation Examination.

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE.

EXAMINATION CENTRE.	Third Class, Non-professional Teachers' Certificates.	Third Year Commercial.	Third Year Technical.	Agriculture.	Intermediate Grade.	Senior Grade.	Senior Academic Grade.	Junior Matriculation.	Senior Matriculation.	TOTAL.
Agassiz:										
Agassiz High								3		3
All Hallows	2									2
Armstrong	6							3		9
Bridgeport:										
Bridgeport High								1		1
Private Study	2									2
Chilliwack:										
Chilliwack High				8				9		17
Private Study								2		2
Cranbrook	4							5		9
Creston	3				6					9
Cumberland								4		4
Duncan	5			6				1		12
Enderby				5				2		7
Esquimalt								5		5
Fernie					4	2				6
Grand Forks						2		5		7
Greenwood:										
Ingram Mountain	1									1
Private Study								1		1
Howe Sound	1									1
Kamloops					8			1		9
Kaslo					6	2				8
Kelowna:										
Kelowna High	1			5				7		13
Private Study								1		1
Ladner								3		3
Ladysmith								2		2
Langley:										
Langley High	10			1				7		18
Bradner Superior	1									1
Matsqui								2		2
Mission	1							5		6
Nanaimo:										
Nanaimo High	1					3		6		10
Private Study								1		1
Nelson:										
Nelson High	16	2			10	12				40
St. Joseph's Academy					2					2
New Westminster:										
Duke of Connaught High								29		29
St. Ann's Academy	4									4
Private Study								2		2
Oak Bay								7		7
Peachland	1							2		3
Penticton:										
Penticton High	3							3		6
Private Study				1				2		3
Point Grey:										
King George V. High								20		20
The Convent of the Sacred Heart									2	2
Private Study								2		2
Port Alberni	1							4		5
Prince George					1					1
Prince Rupert								5		5
Revelstoke:										
Revelstoke High					4			1		5
Private Study	1									1
Rossland	1									1
Salmon Arm	6							3		9
Summerland:										
Summerland High								1	1	2
Private Study								1		1
Surrey:										
Surrey High				1				2		3
Private Study							1			1
Trail:										
Trail High	1							3		4
Private Study	1							1		2
Vancouver:										
Britannia High	1							32		33
King Edward High	3		10		8			58		79
King George High								35		35
Cecil Rhodes High		4								4
Crofton House	6							6		12

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE—*Continued.*

EXAMINATION CENTRE.	Third Class Non-professional Teachers' Certificates.	Third Year Commercial.	Third Year Technical.	Agriculture.	Intermediate Grade.	Senior Grade.	Senior Academic Grade.	Junior Matriculation.	Senior Matriculation.	TOTAL.
St. Ann's Academy	3	.....	.....	.....	.....	.....	.....	.....	.....	3
St. Marina	2	.....	.....	.....	.....	.....	.....	.....	.....	2
Vancouver Academy	.....	.....	.....	.....	.....	.....	.....	7	.....	7
Private Study	.....	.....	.....	.....	1	.....	1	19	1	22
Vancouver, North:										
North Vancouver, High	.....	.....	.....	.....	.....	.....	.....	7	.....	7
Mabyn College	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Private School	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Private Study	1	.....	.....	.....	1	.....	.....	1	.....	3
Vancouver, South:										
South Vancouver High	.....	.....	.....	.....	.....	.....	.....	38	.....	38
Private Study	1	.....	.....	.....	.....	.....	.....	1	.....	2
Vernon	.....	.....	.....	3	.....	.....	.....	6	4	13
Victoria:										
Victoria High	4	.....	.....	8	.....	.....	.....	47	19	78
St. Ann's Academy	7	.....	.....	.....	.....	.....	.....	3	.....	10
St. George's	4	.....	.....	.....	.....	.....	.....	1	.....	5
St. Margaret's	6	.....	.....	.....	.....	.....	.....	2	.....	8
Private Study	2	.....	.....	.....	.....	.....	.....	5	.....	7
Quatsino Public School	1	.....	.....	.....	.....	.....	.....	.....	.....	1
	114	6	10	38	51	21	2	434	27	703

Number of candidates examined 1,333
Number of successful candidates 703

HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1920.

Following are the names of the winners of His Excellency the Governor-General's bronze medals:—

District No. 1—Aubrey Thomas, Esquimalt School;
District No. 2—Ada Bailey, Division 2, Quennell School, Nanaimo;
District No. 3—Lucy Horner, Model School, Vancouver;
District No. 4—Alexander D. Ross, Walter Moberley School, South Vancouver;
District No. 5—Undine L. Howay, F. W. Howay School, New Westminster;
District No. 6—Garnet R. Hardy, Agassiz School;
District No. 7—Beverley Bryant, Enderby School;
District No. 8—Harvey V. Jay, MacLean School, Rossland;
District No. 9—Jean M. Glendinning, Hume School;
District No. 10—John McColl, Granby Bay School.

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE.

Abbotsford Centre.

Huntingdon 1
Poplar 1
Upper Sumas 1

Agassiz Centre.

Agassiz 9
All Hallows (Private School) 2

Alert Bay Centre.

Alert Bay 2

Armstrong Centre.

Armstrong 1
Hullcar 5

Arrowhead Centre.

Arrowhead 1
Beaton 1
Crawford Creek 1
Hall's Landing 1

Ashcroft Centre.

Ashcroft 3

Athalmer Centre.

Sinclair 2
Athalmer 1

Barkerville Centre.

Barkerville 4

HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1920—*Continued.*

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE—*Continued.*

Bradner Centre.

Bradner	1
Dunach	1

Bridgeport Centre.

Bridgeport	5

Britannia Beach Centre.

Britannia Beach	2

Burnaby Centre.

Gilmore Avenue	5
Inman Avenue	3
Kingsway, East	5
Kingsway, West	9
Riverway, East	5

Chase Centre.

Chase	7
Martin's Prairie	1

Chilliwack Centre.

Central	2
Atchelitz	2
Camp Slough	5
Cheam	2
Lotbiniere	2
Promontory	1
Rosedale	5
Sardis	5
Strathcona	1

Cloverdale Centre.

Cloverdale	6
Hall's Prairie	1
Kensington Prairie	1
Mud Bay	2
Springdale	4
White Rock	3

Courtenay Centre.

Courtenay	8
Comox	1
Grantham	2
Nob Hill	1
Royston	1
Sandwick	1

Cranbrook Centre.

Jaffray	2
Kimberley	2
Moyie	3
Wasa	1

Creston Centre.

Camp Lister	2
Canyon City	1
Creston	8
Wynndel	1

Criss Creek Centre.

Criss Creek	1

Cumberland Centre.

Cumberland	13
Minto	2

Duncan Centre.

Chemainus	5
Crofton	1
Cobble Hill	1
Cowichan Lake	1

Enderby Centre.

Enderby	14
Deep Creek	2
Enderby, North	1
Mara	4

Esquimalt Centre.

Esquimalt	5
Langford	1
Mayne Island	2
Metchosin	1

Essington Centre.

Essington	1
Osland	1

Fernie Centre.

Fernie	4
Baynes Lake	2
Coal Creek	6
Elko	3
Michel	1
Waldo	3

Ganges Centre.

Burgoyne Bay	1
Cranberry Marsh	1
Ganges Harbour	1
Vesuvius, North	1
Formby House (Private School)	1

Giscome Centre.

Giscome	3

Golden Centre.

Golden	6
Horse Creek	1
Wapta	1

Granby Bay Centre.

Granby Bay	5

Grand Forks Centre.

Cascade	1

Greenwood Centre.

Greenwood	4
Midway	1

HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1920—*Continued.*

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE—*Continued.*

Hazelton Centre.

Hazelton	1

Hedley Centre.

Hedley	3

Hidden Bay Centre.

Hidden Bay	1
Doriston	1

Hope Centre.

Hope	4

Howe Sound Centre.

Howe Sound	4

Kamloops Centre.

Kamloops	5
Barriere River	1
Campbell Creek	4
Fruitlands	1
Little Fort	1
Raft River	1
Trapp Lake	1
Vinsulla	1
Private Schools:	
St. Ann's Academy	6
Zetland	6

Kaslo Centre.

Kaslo	10
Florence Mine	1
Riondel	1

Kelowna Centre.

Kelowna	2
Kelowna, North	1
Oyama	1
Kindergarten (Private School)	1

Keremeos Centre.

Keremeos	6

Kitsumgallum Centre.

Kitsumgallum	1

Ladner Centre.

Inverholme	1
Ladner	18

Ladysmith Centre.

Extension	2
Oyster, North	1
St. Joseph's Convent (Private School)	3

Lillooet Centre.

Seton Lake Creek	1

Malcolm Island Centre.

Kaleva	2
Malcolm Island	4

Maple Ridge Centre.

Haney	5
Maple Ridge	4
Hammond	3
Pitt Meadows	2
South Lillooet	1

Masset Centre.

Masset	2

Matsqui Centre.

Matsqui	3
Mt. Lehman	3
Ridgedale	3

Merritt Centre.

Merritt	2
Nicola	1

Mission Centre.

Hatzic	3
Mission	1
Stave Falls	1
Nicomen Island	3
Nicomen, North	1

Murrayville Centre.

Aldergrove	2
Glen Valley	3
Langley	2
Langley Prairie	2
Milner	2
Murrayville	3

MacKenzie Centre.

MacKenzie	2

Nakusp Centre.

Burtondale	3
Glenbank	1
Nakusp	6

Nanaimo Centre.

Nanaimo	1
Cedar, North	1
Chase River	2
Wellington, South	6
St. Ann's Convent (Private School)	6

Naramata Centre.

Naramata	5

Nelson Centre.

Nelson	9
Balfour	1
Harrop	1
Hume	16
Procter	1
Slocan Junction	1

HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1920—*Continued.*

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE—*Continued.*

New Denver Centre.

New Denver	4
Sandon	2
Silverton	6

New Westminster Centre.

Howay	2
Lister	3
McBride	4
Robson	4
Hamilton Road	1
Blue Mountain	1
Millside	1
Private Schools:	
Columbian College	1
Our Lady of Lourdes	1
St. Ann's Academy	5

North Bend Centre.

Chaumox	1
North Bend	3
Yale	1

Notch Hill Centre.

Magna Bay	1
Notch Hill	1

Oak Bay Centre.

Monterey Avenue	12
Willows	9
Albert Head	1

Ocean Falls Centre.

Ocean Falls	3

150-Mile House Centre.

Harpers Camp	1

Parksville Centre.

Errington	1
Parksville	2

Peachland Centre.

Peachland	3
Westbank Townsite	5

Penticton Centre.

Penticton	7

Phoenix Centre.

Phoenix	4

Point Grey Centre.

Kerrisdale	15
Lord Kitchener	9
Magee	17
Queen Mary	6
Shaughnessy	6

Port Alberni Centre.

Alberni	4
Port Alberni	2

Port Alberni Centre—Continued.

Beaver Creek	1
Gill	1
Indian Private School	3

Port Alice Centre.

Port Alice	2
Quatsino	1

Port Coquitlam Centre.

Port Coquitlam	2
Glen	1

Port Moody Centre.

Port Moody	6
Ioco	3

Powell River Centre.

Lund	1
Olson Lake	1
Powell River	9
Wolfson Bay	2
Private Study	1

Prince George Centre.

Prince George	3
Fort George	1

Prince Rupert Centre.

King Edward	2
Annunciation (Private School)	3

Princeton Centre.

Coalmont	1
Copper Mountain	2
Killarney	2
One-mile Creek	1
Princeton	4

Revelstoke Centre.

Sicamous	1

Rock Bay Centre.

Rock Bay	2

Rossland Centre.

Rossland	6

Rutland Centre.

Ellison	1
Rutland	4

Saanichton Centre.

Keating	2
Saanichton	2

Salmon Arm Centre.

Salmon Arm	9
Canoe Creek	2
Canoe Creek, North	1
Salmon Arm, West	2
Sunnybrae	2
Tapen Siding	1

HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1920—*Continued.*

NUMBER OF SUCCESSFUL CANDIDATES AT EACH CENTRE—*Continued.*

Sidney Centre.

Saanich, North	3
Sidney	2

Slocan Centre.

Slocan	13
Perry Siding	1

Soda Creek Centre.

Macalister	1
Soda Creek	1

Sooke Centre.

Sooke	3

Summerland Centre.

Summerland	14

Tofino Centre.

Clayoquot	1

Tolmie Centre.

Cloverdale	1
Craigflower	4
MacKenzie Avenue	2
Royal Oak	4
Strawberryvale	2
Tillicum	6
Tolmie	3

Trail Centre.

Castlegar	1
Deer Park	1
Fruitvale	1
Kinnaird	1
Renata	1
Robson	2

Ucluelet, East Centre.

Ucluelet, East	1

Union Bay Centre.

Fanny Bay	1
Vananda	2

Vancouver Centre.

Alexandra	5
Beaconsfield	1
Dawson	2
Grandview	2
Model	1
Mount Pleasant	3
Macdonald	4
Florence Nightingale	2
Cecil Rhodes	1
Lord Roberts	1
Strathcona	1
Galiano, South	1

Vancouver Centre—Continued.

Squirrel Cove	1
Private Schools:	
Holy Rosary	6
St. Augustine's	7

North Vancouver Centre.

Queen Mary	1
Capilano	1
Keith Lynn	1
Lynn Valley	5
North Star	2
Private Schools:	
Chesterfield	1
St. Edmund's	2

South Vancouver Centre.

General Brock	2
Carleton	9
Moberly	6
McBride	8
MacKenzie	6
Laura Secord	6
Lord Selkirk	3
Sexsmith	2
Tecumseh	13
Van Horne	2
Wolfe	5

West Vancouver Centre.

Hollyburn	5

Vanderhoof Centre.

Mapes	1

Vernon Centre.

Vernon	33
Coldstream	1
Falkland	1
Lumby	2
Okanagan Landing	2

Victoria Centre.

Girls' Central	3
South Park	4
Victoria West	1
Clo-oose	1
Port Renfrew	1
Private Schools:	
St. Ann's Academy	10
St. Louis College	5

Victoria Model Centre.

Cedar Hill	3
Gordon Head	4
Model	11

Number of candidates examined	2,089
Number of successful candidates	979
Number of pupils promoted on recommendation	2,383
Total number of pupils promoted to high schools	3,362

APPENDIX B.

HIGH SCHOOL ENTRANCE EXAMINATION, 1920.

ARITHMETIC. (Time, 2¼ hours.)

Value.

16 1. (*a.*) A tailor bought a piece of cloth containing 108 yards. He sold 17½ yards at one time, 18⅜ yards at another time, and 34⅔ yards at a third time. How many yards of cloth were still left in the piece?

(*b.*) The cost of building a road 34.9 miles long was $30,586.36. What was the cost per mile?

12 2. A map measures 4 feet 6 inches by 3 feet 3 inches, and is drawn on a scale of ⅛ of an inch to a mile. How many acres does the map represent?

18 3. In making 252 lb. of dairy cream biscuit which he sells at 35 cents a pound, a baker uses the following ingredients: 3 sacks of flour @ $3.95 per sack; 20 lb. butter @ 80c. per pound; 16 lb. lard @ 42c. per pound; 64 lb. sugar @ 21c. per pound; 4½ gals. milk @ 6 qts. for $1; ¾ gal. glycerine @ 15c. per pint; 12 oz. soda @ 12c. per pound; 2 gals. eggs (10 eggs to a pint) @ 69c. per dozen. Find: (*a*) The baker's total gain on the biscuit; (*b*) his gain per cent.

20 4. A Western Canadian farmer had a field of wheat 1 mile long and ⅝ mile wide. In ploughing it he used two gang-ploughs, each turning 12½ acres per day of 10 hours. He sowed 6 pecks of seed to the acre at 90c. per bushel. The crop averaged 22.5 bushels per acre, and was sold at the elevator at $2.25 per bushel. The ploughing cost $1.25 per acre, the threshing 22½c. per bushel, and the transportation to the elevator 9½c. per bushel. Find: (*a*) The number of acres in the field; (*b*) the number of days it took to plough the field; (*c*) the cost of the wheat upon its arrival at the elevator; (*d*) the farmer's profit from the field.

10 5. A man's taxes on real and personal property amounted to $109.80. The rate of taxation was 14⅖ mills on the dollar. His real property was assessed for $4,325. Find: (*a*) The tax on his real property; (*b*) the tax on his personal property.

10 6. An agent bought 1,600 bushels of wheat for a firm in Vancouver. His commission at 2½% was $62. At what price per bushel did he buy the wheat?

14 7. A note for $2,500 drawn May 15th, 1919, and bearing interest at 8% had the following partial payment endorsed on it: August 18th, 1919, $600. How much was due December 31st, 1919?

GRAMMAR AND COMPOSITION. (Time, 2 hours.)

Value.

21 1. Write out the subordinate clauses in the following sentences and state the relation of each:—

(*a.*) I think he will soon retrieve his misfortunes if he sets to work with good-will.

(*b.*) As night came down, I noticed that he was not far from the place where we had overtaken her.

(*c.*)

Between the dark and the daylight,
When the night is beginning to lower,
Comes a pause in the day's occupations
That is known as the Children's Hour.

Value.

21 2.

Then, *like* a *sunbeam*, swift and bright,
She darted to her *shallop light*,
And, *eagerly while* Roderick *scanned*,
For her dear form, his *mother's* band,
The *islet far behind her lay*,
And she *had landed* in the bay.

(*a.*) State the part of speech and give reasons for your classification: *like, light, eagerly, while, islet, far, behind.*

(*b.*) Give, with reason, the case of each of the following words: *sunbeam, shallop, mother's, her* (second line), *her* (fifth line).

(*c.*) Give the voice of *scanned*, and the tense of *lay* and *had landed.*

18 3. Complete the following sentences, using one of the words indicated, and giving in each instance a reason for your choice:—

(*a.*) The boys in this class (*have* or *has*) studied the lesson, but not one of them (*have* or *has*) written the exercise.

(*b.*) Mary and (*me* or *I*) (*was* or *were*) present.

(*c.*) I (*shall* or *will*) be fourteen years old to-morrow.

(*d.*) If he (*was* or *were*) here I would ask him.

(*e.*) The aeroplane travelled (*swifter* or *more swiftly*) than the automobile.

(*f.*) He (*rang* or *rung*) *the bell.*

6 4. Write sentences to illustrate the following, underlining the example in each case:—

(*a.*) Adjective phrase.

(*b.*) Infinitive.

(*c.*) Noun in apposition.

(*d.*) Present participle.

(*e.*) Auxiliary verb.

(*f.*) Subjunctive mood.

8 5. Write a letter to the Macmillan Company, 70 Bond Street, Toronto, ordering two school-books. Rule off a space the size of an envelope, and within it write the address.

26 6. Write a composition on *one* of the following topics:—

A Day at School.
A Visit to a Sawmill.
How I Made Something with my Needle.
The Prince of Wales' Visit.
Laura Secord.
The Story of Alice Brand.

DICTATION AND SPELLING. (Time, 1¼ hours.)

[NOTE.—*The Presiding Examiner will please notify candidates before he begins to dictate this paper that the quality of writing in the Dictation and Spelling paper decides 50 per cent. of the marks awarded in the subject of Writing.*

The passages (questions A and B) are to be read slowly and distinctly to candidates three times—the first time to enable them to gather the meaning; the second time to enable them to write the words; the third time for review. Punctuation marks should not be dictated. Candidates are not permitted to rewrite the passages.]

Value.

15 A. The crown and glory of a life is character. It is the noblest and securest possession that a man can have. It is the outgrowth of honesty, rectitude, consistency—all tried and proved. A boy may drift into bad habits as a crewless vessel may

Value.

drift into shoals and breakers. He may be trained and guided into good habits as a vessel may be directed by her captain and the helmsman into fair channels and smooth waters. Bad habits are hard to break.

20 B.

That whistle garrisoned the glen
At once with full five hundred men,
As if the yawning hill to heaven
A subterranean host had given.
Watching their leader's beck and will,
All silent there they stood and still.
Like the loose crags whose threatening mass
Lay tottering o'er the hollow pass,
As if an infant's touch could urge
Their headlong passage down the verge,
With step and weapon forward flung,
Upon the mountain-side they hung.

40 C. (1.) From his earliest infancy not a soul dared to contradict him.

(2.) He naturally supposed that the kingdom of Great Britain had been created solely for his benefit and amusement.

(3.) A tumult of waters foaming among ledges barred their onward way.

(4.) The attendants offered him the various delicacies of the festival.

(5.) I cry aloud to all and sundry in my plainest accents.

(6.) "Well, my child," he said, in his pleasant, cheerful tones, "what do you want?"

(7.) I was proud to take part in such a striking demonstration of Canada's growing military strength.

(8.) Every island is a paradise accommodated to its respective inhabitants.

(9.) One noted incident of this contest was the massacre of the garrison.

(10.) Such apparition well might seem delusion of a dreadful dream.

(11.) The people began to gaze at the mysterious old gentleman with superstitious fear and wonder.

(12.) Hunger, thirst, and want of sleep wrought fatally on the strength of the French and their allies.

25 D. 1. Immense ocean,
2. fiftieth regiment,
3. casual notice,
4. frequent changes,
5. enthusiastic welcome,
6. reins of government,
7. symbol of authority,
8. essential features,
9. valuable possessions,
10. modern rhyme,
11. miraculous escape,
12. historical accounts,
13. siege of Quebec.
14. Strait of Dover,
15. Italian seaports,
16. wholly inadequate,
17. quite readily,
18. parliament buildings,
19. Treaty of Versailles,
20. municipal law,
21. Erie Canal,
22. naval expedition,
23. similar views,
24. in great esteem,
25. Mediterranean Sea.

GEOGRAPHY. (Time, 2 hours.)

Value.

10 1. (*a.*) Name the prevailing winds that blow over the continents of Australia and South America and say in what directions they blow.

(*b.*) Name and locate the *principal* highland ridge of each of these continents.

(*c.*) Show how these winds and highlands affect the rainfall in the interior of these continents.

12 2. In what ways has your study of Geography shown you that *rivers* are of use to man? Give examples of rivers that illustrate the various points of your answer.

12 3. Write a description of *either* France *or* India under the following heads: (*a*) Position; (*b*) surface; (*c*) river systems; (*d*) climate; (*e*) natural productions; (*f*) industries, commercial centres, and sea-ports.

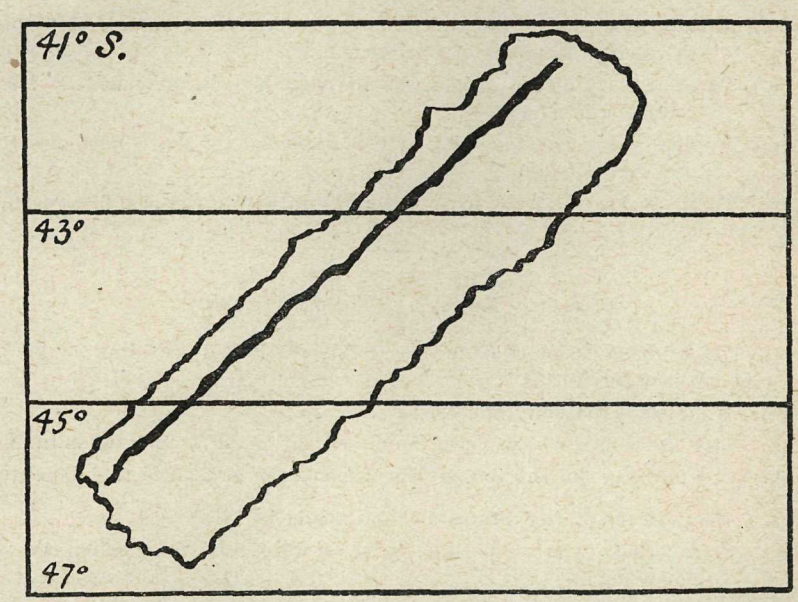
16 4. The accompanying sketch-map represents an imaginary island in mid-ocean, stretching between the forty-first and forty-seventh parallels of south latitude; the heavy line represents a mountain range averaging about 8,000 feet in height.

(*a.*) Will the eastern slope or the western slope have the greater rainfall? Why? Will the climate of this island be hot, cold, or temperate?

(*b.*) Name two cereals, two animals, and two fruits that might be successfully raised there.

(*c.*) Where would you expect to find (1) forest regions, (2) minerals? Give reasons for your answers.

(*d.*) Which coast-line would you expect to be the more broken and indented? Why?



20 5. Make a sketch-map of British Columbia, showing and naming the Rocky Mountain range; the Peace, Thompson, Fraser, Skeena, Columbia, Kootenay, and Okanagan rivers; the 120th meridian; the 60th parallel of north latitude; Prince Rupert, Nelson, Kamloops, Vancouver, and Victoria.

20 6. Make a rough sketch-map of Africa, showing and naming the Atlas and Abyssinian mountains; the Zambesi, Nile, Congo, and Niger rivers; Victoria Falls and Lake Victoria Nyanza; the Equator, Algiers, Cairo, Johannesburg, Aden, and Cape Town.

10 7. Locate the following important cities: Toronto, Chicago, Liverpool, Glasgow, Odessa, Tokyo, Buenos Aires, Naples, Singapore, and Melbourne.

BRITISH HISTORY. (Time, 1¾ hours.)

Value.

15 1. (*a.*) What was the state of England when Elizabeth came to the throne?

(*b.*) What was the condition of the country at the close of Elizabeth's reign? State briefly the circumstances that led to this condition.

18 2. (*a.*) Define "civil war."

(*b.*) What caused the Civil War in the reign of Charles I.?

(*c.*) By what name was each party to the strife known?

(*d.*) Of what classes of the people was each side chiefly composed?

(*e.*) Name the person that grew to greatest prominence during this war.

(*f.*) Describe the form of government that was established upon the conclusion of the war.

18 3. (*a.*) On what terms were the parliaments of England and Scotland united?

(*b.*) Tell briefly how any *three* of the following became part of the British Empire:—Jamaica, Gibraltar, Newfoundland, Australia, Cape Colony, Nova Scotia, India.

16 4. (*a.*) Explain Napoleon's plans for the invasion of Britain.

(*b.*) What steps did Nelson take to render these plans useless?

15 5. Under the title "The Great Inventions" your text-book mentions nothing more recent than the laying of the Atlantic Cable in 1866. Name five important inventions that are of more recent date than that.

18 6. (*a.*) Explain how the Reform Bill of 1832 gave a greater number of people the right to vote for members of Parliament.

(*b.*) To what class of the people was the right to vote extended by Mr. Disraeli's Reform Bill of 1867?

(*c.*) To what class was the right to vote extended by Mr. Gladstone's Reform Bill of 1884?

(*d.*) To whom has the right to vote been given within the last five years?

CANADIAN HISTORY. (Time, 1¾ hours.)

Value.

18 1. "In 1763 a proclamation of King George III. was issued providing for the government of his new territories."

(*a.*) What were the new territories?

(*b.*) Give the causes which led to the discontent of the French inhabitants of Quebec.

(*c.*) In what way did the British Government try to remove this discontent?

18 2. (*a.*) Why did the United States attack Canada in 1812?

(*b.*) State briefly what important services were rendered during the war by the following:—

(1.) Sir Isaac Brock.

(2.) Laura Secord.

(3.) Sir Gordon Drummond.

18 3. (*a.*) Describe the rule of the Family Compact in Upper Canada.

(*b.*) Name two of the most active Reformers in Upper Canada at that time. Tell what the Reformers demanded.

15 4. Write fully on *one* of the following:—

(*a.*) The Reciprocity Treaty of 1854.

(*b.*) The Quebec Conference, 1864.

(*c.*) The Saskatchewan Rebellion, 1885.

(*d.*) The Alaskan Boundary Dispute, 1903.

16 5. "The government of the Dominion consists of four parts." Name the four parts and describe briefly the duties of each.

15 6. Tell how each of the following aided in the development of our Province:—

(*a.*) Simon Fraser.

(*b.*) The Hudson's Bay Company.

(*c.*) Colonel Moody.

ENGLISH LITERATURE. (Time, 2 hours.)

Fourth Reader.

Value.

12 1. Quote any *one* of the following:—

(*a.*) "In Memoriam," 12 lines beginning, "Ring out false pride in place and blood . . . "

(*b.*) "Portia's Appeal to Shylock," 14 lines.

(*c.*) "The Patriotic Dead."

(*d.*) "Lead Kindly Light," 3 stanzas.

(*e.*) Wordsworth's "The Daffodils," 3 stanzas.

9 2.

And moving thro' a mirror clear
That hangs before her all the year,
Shadows of the world appear.

(*a.*) Mention the various "shadows of the world" that appeared from time to time in the Magic Mirror.

(*b.*) Describe the "shadow" that finally appeared.

(*c.*) Tell very briefly what followed this appearance.

8 3. In your own words relate the prophecy made by the Druid to Boadicea. Quote the words hurled by the dying British queen at her Roman foes.

11 4.

They grew in beauty side by side,
They filled one home with glee;
Their graves are sever'd far and wide
By mount and stream and sea.

The poetess narrates a tragic story that lies between the bright picture in the first two lines and the sad picture of the last two lines.

(*a.*) Tell in a few short paragraphs the story of the poem from which the above stanza is taken.

(*b.*) In the last stanza of the poem what bright hope is hinted at?

10 5. Express in your own words the thought contained in the two following passages:—

(*a.*)

He who from zone to zone
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone
Will lead my steps aright.

(*b.*)

God hath his mysteries of grace,
Ways that we cannot tell;
He hides them deep like the hidden sleep
Of him he loved so well.

The Lady of the Lake.

10 1. The boat had touched the silver strand,
Just as the Hunter left his stand,
And stood concealed amid the brake,
To view this Lady of the Lake.

(*a.*) Who was this "Hunter"?

(*b.*) Briefly account for his presence there.

(*c.*) Describe somewhat fully this romantic meeting of the Hunter and the Lady of the Lake.

10 2. (*a.*) What was the Prophecy?

(*b.*) Describe the mystic ceremony which accompanied the prophecy.

(*c.*) How was the prophecy fulfilled?

18 3. Explain the following quotations and give the setting of each:—

(*a.*) Loveliest and best! thou little know'st
The rank, the honours, thou hast lost!
O might I live to see thee grace,
In Scotland's Court, thy birthright place!

(*b.*) Then bursting bolder on the ear,
The clan's shrill gathering they could hear;
Those thrilling sounds, that call the might
Of old Clan-Alpine to the fight.

(*c.*) A summer night, in greenwood spent,
Were but to-morrow's merriment:

(*d.*) Come, loiterer, come! a Douglas thou,
And shun to wreathe a victor's brow?

(*e.*) What recked the Chieftain if he stood
On Highland heath or Holyrood?
He rights such wrong where it is given
If it were in the Court of heaven.

12 4. Quote any *one* of the following:—

(*a.*) Twelve lines beginning, "No rude sound shall reach thine ear."

(*b.*) Thirteen lines beginning, "There is no breeze upon the fern."

(*c.*) Thirteen lines beginning, "The Chief in silence strode before."

(*d.*) The Coronach, 16 lines.

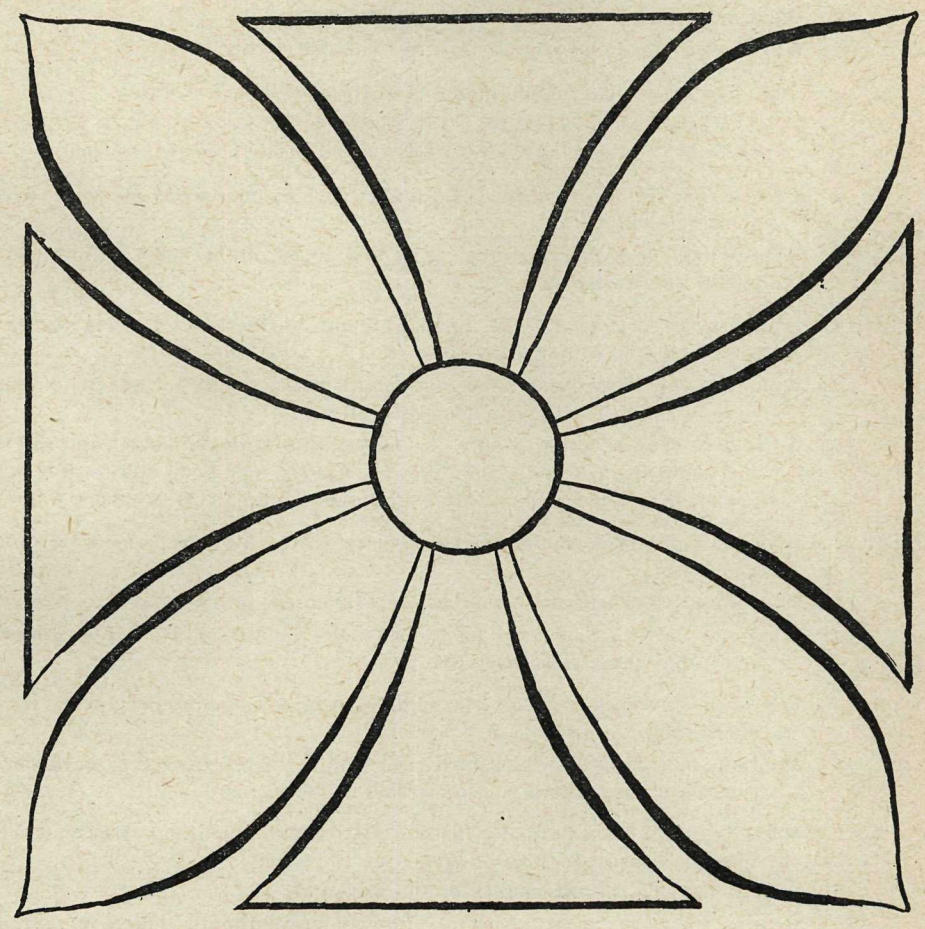
DRAWING. (Time, 2¼ hours.)

Value.
21 (*a.*) Select three examples of work from your drawings, as follows:—

1. The best example of colour-work from nature.
2. The best example of shading in pencil.
3. The best example of scale-drawing (with scale and rough sketch attached).

30 (*b.*) Freehand drawing:—

Draw with set-square and ruler a square having 5-inch sides, and make a careful drawing of the following copy to fill the space. Complete the drawing with a border of suitable width.



24 (*c.*) Freehand object-drawing:—

Make a *large* drawing of the box, as you see it from the place where you are sitting.

25 (*d.*) Geometrical drawing:—

1. Draw a line AB 5⅛ inches long. If this line represents 12 yards, draw another line CD to represent 9 yards.
2. Make an angle of 165 degrees.
3. Draw a line 4 inches long. This is one diagonal of a square. Complete the square.

NATURE LESSONS. (Time, 1½ hours.)

[NOTE.—*Answer the first three questions and any* four *of the remaining nine questions.*]

Value.

15 1. (*a.*) State the two chief purposes of respiration.

(*b.*) What are adenoids and why are they injurious?

(*c.*) Why does a person breathe faster after running a race?

14 2. (*a.*) Give three rules that should guide us in the selection of clothing.

(*b.*) What is meant by the statement "all forms of foot-wear should be rational and hygienic"? Describe a shoe which would meet these requirements.

15 3. (*a.*) In what respect does arterial blood differ from venous blood? Give reasons for the difference.

(*b.*) "The white blood cells are the Army and Navy of the body." How can you justify this statement?

14 4. (*a.*) Name three species of wild animals found in British Columbia which are closely related to our domestic cattle.

(*b.*) What are the three most important characteristics which these wild animals have in common with our domestic cattle?

(*c.*) Write a brief description of any *one* of the wild animals named and tell what you know about it under the following heads: (1) Food and feeding-habits; (2) enemies and means of protection and defence; (3) economic value.

14 5. (*a.*) Give the name of a popular breed of dairy cattle, also the name of a common beef breed.

(*b.*) How would you distinguish the beef type from the dairy type?

(*c.*) What are the two important food substances found in milk? How would you prove that these substances are in it?

14 6. (*a.*) When can any species of bird be said to be of economic importance? Give an illustration.

(*b.*) Mention some ways in which birds are helpful to the farmer or gardener and mention a case where you know this to be true.

14 7. (*a.*) What is meant by a parasitic insect? Give an example and show how such a species of insect may be of great use.

(*b.*) Briefly describe the life-history of the mosquito.

(*c.*) Mention two of the most important means of prevention or control of this insect.

14 8. (*a.*) Give three examples of flowerless plants.

(*b.*) How are plants of this kind propagated or multiplied?

(*c.*) Give an example of a fungous plant. What is the most important point which distinguishes this kind of plant from other flowerless plants?

14 9. (*a.*) Write a brief description of any weed common to your district, dealing with it under the following headings: (1.) Kind of crops in which it is most commonly found. (2.) Time of flowering and seeding. (3.) Method of propagation and distribution. (4.) Whether annual, biennial, or perennial. (5.) Method of eradication or control.

(*b.*) Make a sketch of the plant described, showing its general appearance, flowers, leaves, and also underground parts.

14 10. (*a.*) How would you prove that dry seeds, such as corn, contain starch?

(*b.*) As the corn seed germinates what becomes of this starch? How would you prove this?

(*c.*) Why is this changing of the starch necessary?

14 11. (*a.*) Give the names of four cultivated legumes.

(*b.*) Why is it a good practice to include legumes in a rotation of crops?

(*c.*) What is meant by the conservation of moisture in farming or gardening and how is it usually accomplished?

14 12. (*a.*) The air is a mixture of gases. Name the three most important of these gases and give approximately the percentage of each.

(*b.*) What is the all-important element in all fuels?

(*c.*) When fuel burns what becomes of this element, and what is produced?

APPENDIX C.

HIGH SCHOOL EXAMINATION, 1920.

Third-class Certificate (Non-professional).

ENGLISH LITERATURE. (Time, 2 hours.)

Value.

10 1. Quote *two* of the following:—
The Falls of Terni (Velino) (1 stanza).
Ode to Autumn (1 stanza).
The Green Linnet (2 stanzas).
The Skylark (2 stanzas).
An Evening Scene in Auburn (10 lines).

24 2. (*a.*) What did Goldsmith think was the cause of the conditions existing in England in his day? Describe these conditions.
(*b.*) Was Goldsmith's remedy for these conditions a good one? Discuss.
(*c.*) Why did Goldsmith consider emigration to America such a dreadful thing?

15 3. If you were going to make a moving-picture film of "Rosabelle," what pictures would you present? Describe each picture briefly.

15 4. What are the characteristic features of the Sonnet? Illustrate by reference to some of Wordsworth's sonnets.

24 5.

"And here the buzz of eager nations ran,
In murmur'd pity or loud-roar'd applause,
As man was slaughtered by his fellow-man,
And wherefore slaughter'd? wherefore, but because
Such were the bloody Circus' genial laws,
And the imperial pleasure.—Wherefore not?
What matters where we fall to fill the maws
Of worms—on battle-plains or listed spot?
Both are but theatres where the chief actors rot."

(*a.*) Name and describe the stanza-form in the above. Why is it given this name? What is meant by "a weak ending" in a stanza? Scan lines 1 and 9.
(*b.*) Show that this stanza is characteristic of Byron.
(*c.*) Explain briefly but definitely the following:—
(1.) " . . . buzz of eager nations . . . "
(2.) " . . . the imperial pleasure . . . "
(3.) " . . . listed spot?"
(4.) "Both are but theatres . . . "

12 6. As a student of poetry make any comments you can as to the poetic quality of the following lines:—
(*a.*) " . . . boundless and bare,
The lone and level sands stretch far away."
(*b.*) "While barréd clouds bloom the soft dying day."

(*c.*) "Dear God! the very houses seem asleep;
And all that mighty heart is lying still."

(*d.*) "Melted to one vast Iris of the West."

(*e.*) "In the golden lightning
Of the sunken sun
O'er which clouds are brightening,"

(*f.*) "As, when night is bare,
From one lonely cloud
The moon rains out her beams, and heaven is overflow'd."

LATIN. (Time, 2 hours.)

Value.

10 1. Decline:—

(*a.*) In the singular, *pater, iter, dies, alius* (all genders).

(*b.*) In the plural, *ego, tu, castra, hic* (all genders).

10 2. Give:—

(*a.*) The rules for the formation of the comparative and superlative of adjectives ending in *-er* and *-ilis.*

(*b.*) The other degrees of comparison of the following: *Summus, primus, magnus, utilis, pulcher.*

10 3. Give the Latin for:—

Without danger; I establish friendship; at dawn; in the middle of the river; a war-galley; for this reason; in all directions; at what time did he come?; he said that he was coming; having said this, he withdrew.

10 4. Write in full:—

(*a.*) The present indicative of *volo* and *possum.*

(*b.*) The present subjunctive of *malo* and *eo.*

(*c.*) The imperative of *nolo.*

10 5. Give the principal parts of: *Divido, solvo, patior, desilio, peto, quaero, relinquo, destringo, absum,* and *progredior.*

10 6. Give sentences in English and Latin to illustrate the following:—

(*a.*) Ablative of Manner; accusative of Time "How long"; dative governed by verb, Objective Genitive.

(*b.*) An adverbial clause of Result; an adverbial clause of Purpose; a subordinate clause in Indirect Discourse.

20 7. Translate into Latin:—

(*a.*) He has been informed of the danger by the soldiers.

(*b.*) They promised to come to the town as soon as possible.

(*c.*) He ordered the lieutenant to pursue the Helvetii.

(*d.*) They asked who had collected the troops which were being sent out.

(*e.*) The camp must be attacked by the whole army at the third watch.

20 8. Translate into English:—

(*a.*) Hīs rēbus cōgnitīs, Caesar Gallōrum animōs cōnfīrmāvit, pollicitusque est sē Galliam ab Ariovistī injūriā dēfēnsūrum. Hāc ōrātiōne habitā prīncipēs dīmīsit. Simul Germānōs cōnsuēscere in Galliam trānsīre populō Rōmānō perīculōsum esse vidēbat, nē, cum omnem Galliam

occupāvissent, in prōvinciam *exīrent* atque inde in Italiam contenderent. Itaque cōnstituit ad Ariovistum lēgātōs mittere quī ab eō *postulārent* ut aliquem locum colloquiō *dīceret*.

Parse *exirent*, *postularent*, *diceret*.

Account for the mood of these three verbs.

(*b*.) Ita proelium restitūtum est, atque omnēs hostēs terga vertērunt, neque prius fugere *dēstitērunt* quam ad flūmen Rhēnum mīlia passuum ex eō locō circiter quīnque pervēnēruht. Ibi perpaucī salūtem repperērunt; in hīs fuit Ariovistus, quī nāviculam dēligātam ad rīpam *nactus*, eā profūgit. Reliquōs omnēs cōnsecūtī equitēs nostrī interfēcērunt.

Give the principal parts of *destiterunt* and *nactus*.

(*c*.) Ille respondit sē graviter vulnerātum esse; cum tamen cēterī quaesīvissent quis eī vulnus intulisset, respondit ille Nēminem id fēcisse. Quibus rēbus audītīs, ūnus ē Cyclōpibus dīxit: "Si nēmō tē vulnerāvit, appāret cōnsiliō deōrum, quibus resistere nec possumus nec volumus, hōc suppliciō tē afficī." Hīs rēbus dictīs discessērunt Cyclōpēs, eum in insāniam incidisse arbitrātī.

GREEK. (Time, 2 hours.)

Value.

10 1. Decline in full the following words in Greek: οὗτος ὁ στρατηγός, ἡ μικρὰ σκηνή, τίς (all genders), ὁ ἀγαθὸς ἀνήρ, ἐγώ.

10 2. Give the Greek for: A ship of war; a stronghold; provisions: baggage animals; frequently; it is well; infantry; I employ horses; I had in mind; I feel grateful.

10 3. Give examples in Greek of the following:—

(*a*.) Time "when."

(*b*.) Time "within which."

(*c*.) Cognate accusative.

(*d*.) A genitive absolute.

(*e*.) A genitive governed by a preposition.

6 4. Give the different degrees of comparison of ἡδύς, κακός, πολέμιος.

10 5. Write the synopsis of the present system active and passive of λύω, and of the perfect system active of τιμάω.

9 6. Decline in full the cardinal numerals one, three, and four.

25 7. Translate into Greek:—

(*a*.) He is a messenger from Cyrus.

(*b*.) Xenophon asked him, "Why are you shouting?"

(*c*.) If he had done this, it would have been well.

(*d*.) He was angry with the man who had loosed the horses.

(*e*.) We led him away that he might not do our friends harm.

20 8. Translate into English:—

Τῇ δὲ αὐτῇ ἡμέρᾳ Κλέαρχος ἦκεν εἰς τὴν ἀγορὰν τὴν παρὰ τῷ ποταμῷ. ἐπειδὴ δὲ αὐτὴν κατεσκέψατο, ἀφιππεύει πάλιν ἐπὶ τὴν ἑαυτοῦ σκηνὴν διὰ τοῦ Μένωνος στρατεύματος σὺν ὀλίγοις τοῖς περὶ αὐτόν. Κῦρος δὲ οὔπω ἦκεν, ἄλλ' ἔτι προσήλαυνε. τῶν δὲ Μένωνος στρατιωτῶν ξύλα σχίζων τις Κλέαρχον διελαύνοντα πειρᾶται βάλλειν τῇ ἀξίνῃ· ἄλλος δὲ λίθῳ καὶ ἄλλος, εἶτα πάντες, καὶ κραυγὴ ἦν φοβερά.

FRENCH (Siepmann, etc., and Fraser & Squair, etc.). (Time, 2 hours.)

Value.

10 1. Replace the words in italics by a suitable personal pronoun, putting the verb in the imperative, (*a*) affirmative, (*b*) negative:—

(1.) Tu penses souvent *à tes devoirs.*

(2.) Vous jouirez *du bord de la mer.*

(3.) Nous grimperons *sur l'arbre.*

(4.) Vous obéissez toujours *à vos parents.*

(5.) Tu parles tout le temps *des pauvres oiseaux.*

6 2. (*a.*) Construct three sentences with each of the following, to express the comparative of equality, of superiority, and of inferiority:—

(1.) Je suis . . . grand . . . Jean.

(2.) Charles trouve le printemps . . . agréable . . . l'automne.

4 (*b.*) Give the superlative of:—

(1.) Voici . . . intéressant de mes livres.

(2.) Le mois . . . agréable est juin.

16 3. Repeat the following sentences (*a*) in the future, (*b*) in the conditional, with *si* to replace the italicized conjunctions:—

(1.) Je partis *aussitôt qu'*il arriva.

(2.) Les petites filles bâtissaient des châteaux *pendant que* nous pêchions.

(3.) Ils répondirent à ma lettre *dès qu'*ils eurent le temps.

(4.) N'étais-tu pas à la porte *quand* je descendis de cheval.

8 4. Make the following sentences interrogative-negative, expressing the italicized parts by the proper personal pronouns:—

(1.) Charles sera demain *à la gare.*

(2.) Nous obéissons toujours *à nos parents.*

(3.) Marguerite descendit aussitôt *du train.*

(4.) Ton ami aura le temps *d'y aller.*

6 5. Replace the nouns in italics by their corresponding possessive pronouns:—

(1.) Je parle de *mon ami* et tu penses à *ta maison.*

(2.) Voici *nos jardins* et voilà *vos champs.*

(3.) *Tes plumes* sont plus utiles que *leurs crayons.*

10 6. Repeat the following passage, putting the verbs in the imperfect or preterite (past definite) according to the meaning:—

Ce petit écolier *est* très sage. Il *obéit* toujours à son père et *remplit* ses devoirs avec zèle. Un jour son père l'*emmène* à la campagne. Aussitôt que le cheval *est* prêt, le garçon *saisit* son chapeau et *monte* dans la voiture. C'*est* le printemps et les oiseaux *bâtissent* leurs nids.

20 7. Translate:—

(1.) They have a great deal of work to do. (2.) What animals are there in the fields? (3.) She admired the flowers and listened to the birds. (4.) Look at those trees! How beautiful they are! (5.) In spring we go to school at half-past two. (6.) It is the first of January; yesterday was the thirty-first of December. (7.) What do you buy at the market? (8.) He is looking for his father's hat. (9.) Whom does this little cat belong to? (10.) It is not Alfred who is tired; it is I.

Value.

8. Translate:—

10 (*a.*) Nous avons perdu de vue Moumouth au moment où, précipité du haut du pont Notre-Dame, il se débattait dans les flots. Par bonheur pour lui, les piles de l'arche principale avaient un rebord assez large, auquel il put s'accrocher. De là il promena ses regards autour de lui. La Seine lui parut un océan sans bornes; il crut au-dessus de ses forces de la traverser. Il préféra donc demeurer à sa place, au risque d'y périr de faim ou de froid et attendit les événements avec résignation.

10 (*b.*) Une pluie battante, mêlée de grêlons, fouettait les vitres de la chambre, et le vent s'engouffrait avec des mugissements lugubres dans les longs corridors de l'hôtel. Alors le pauvre Faribole songea au froid qui allait le saisir, aux privations qui l'attendaient, à l'exiguïté de ses ressources, à l'immensité de son appétit, au désagrément de coucher sur les grèves humides de la Seine; le génie du mal s'empara de lui, et lui souffla à l'oreille ces mots du père Lustucru: "Qu'est-ce qu'un chat?"

GERMAN. (Time, 2 hours.)

12 1. Supply correct endings to the adjectives in the following sentences:—

Dieſer gut— Herr iſt ein alt— Freund meines lieb— Vaters. Sein neu— Haus ſteht in einer ſchön— Straſſe. Seine Frau iſt eine Verwandt— von uns. Ihr Vater war deutſch— Geſandt—. Als ich ankam warteten ſchon viele Ungeduldig—. Es waren arm— Patienten des Arztes. Eine Zeit lang las ich die Berlin— Zeitungen. Endlich kam ich an die Reihe. Der Doktor verſchrieb mir etwas Bitter—.

12 2. Change the verbs in the following sentences to *present* and *perfect* indicative:—

(1.) Er ſprach ſehr ſchnell. (2.) Das Kind fiel. (3.) Sie ſah deine liebe Mutter. (4.) Wer nahm mein Buch? (5.) Mein Bruder ging bald dahin. (6.) Der Kutſcher fuhr etwas langſam.

12 3. (*a.*) Supply a correct article or possessive adjective:—

(1.) Er kommt von—Stadt. (2.) Lege es auf—Tiſch. (3.) Kommen Sie ohne—Bruder? (4.) Er redet mit—Kinde. (5.) Sie ſaß auf —Sofa. (6.) Er kam durch—Garten.

(*b.*) In above sentences substitute pronoun and preposition for preposition and noun.

10 4. Supply suitable forms of relative, demonstrative, or interrogative pronouns:—

(1.) Dies iſt mein Buch, nicht—meiner Frau. (2.) Ich erinnere mich—nicht. (3.)—von dieſen Damen gehört das Geld? (4.)—Hut haben Sie da? (5.) Er will nicht ſtudieren,—ſchade iſt. (6.) Ich bin es,—dein Freund bin. (7.) Wer war der Mann,—wir eben begegneten. (8.) Er will zur Stadt.—er geboren wurde. (9.) Das Schlechte,—man tut, fällt auf ſich ſelber zurück. (10.) Weſhalb haſt du—,der ſchwimmen konnte, das Leben gerettet?

12 5. (*a.*) Translate:—

(1.) Ich werde arbeiten müſſen. (2.) Ich habe ihm arbeiten helfen. (3.) Das hätteſt du nicht tun dürfen. (4.) Ich will ertrinken und niemand ſoll mich retten. (5.) Er weiß nicht was er ſoll. (6.) Sie hätten das ſehen mögen.

Value.

(*b.*) Translate :—

(1.) Thou shalt not kill. (2.) He is said to be in the city. (3.) I don't like this book. (4.) I am not allowed to do that. (5.) That may be. (6.) We let him talk.

12 6. Translate :—

(1.) What are you thinking of? (2.) What kind of hat has she? (3.) I'm wearing the same coat that I wore yesterday. (4.) What day of the month is it? (5.) He died at 3 o'clock on June 10th. (6.) The days are longest in June. (7.) Here is my book; where's yours? (8.) Did you have a good time? (9.) I was ashamed of him. (10.) Is he a doctor? (11.) There are some birds which do not sing. (12.) I'm sorry.

30 7. Translate :—

(*a.*) Ich blickte durch die geöffnete Thür, die Treppe war hell erleuchtet, Bediente mit brennenden Kerzen auf schweren silbernen Leuchtern standen da und neigten sich tief vor der alten Frau, die auf einen Tragsessel die Treppe hinunter gebracht wurde. Der Besitzer des Hauses stand mit entblößtem Kopfe und drückte ehrer bietig einen Kuß auf die Hand der Alten. Es war seine Mutter, sie nickte ihm und den Bedienten freundlich zu, und sie führten sie in die enge dunkle Gasse in ein kleines Haus; es war ihre Wohnung; hier hatte sie ihre Kinder geboren, von hier aus war ihr Glück aufgeblüht; wollte sie die verachtete Gasse und das kleine Haus verlassen, so würde das Glück auch sie verlassen! Das war nun ihr Glaube." —Der Mond erzählte weiter nichts; gar zu kurz war sein Besuch heute Abend; ich aber dachte an die alte Frau in ber engen, verachteten Gasse; nur ein Wort, und ihr glänzendes Haus stände an der Themse; nur ein Wort und ihre Villa läge am Golf von Neapel.

(*b.*) „Ich liebe die Kinder," sagte der Mond, „namentlich die ganz kleinen sind so possierlich. Manchmal luge ich zwischen dem Vorhang und dem Fensterbrett in die Stube, wenn sie nicht an mich denken. Es macht mir Vergnügen zuzusehen, wenn sie sich allein ausziehen müssen. Erst kriecht die kleine, bloße, runde Schulter aus dem Kleide heraus, darauf der Arm, oder ich sehe, wie der Strumpf ausgezogen wird und ein niedliches, weißes festes Beinchen zum Vorschein kommt nud ein Füßchen zum Küssen, und ich küsse es!

Was ich erzählen wollte: Heute Abend blickte ich durch ein Fenster, vor welches kein Vorhang gezogen war, denn es wohnt niemand gegenüber. Ich sah eine ganze Schar Kleiner, alle Geschwister, darunter war ein kleines Schwesterchen; sie ist nur vier Jahre alt, kann aber ihr Vater-unser beten, so gut wie irgend einer. Die Mutter sitzt alle Abende an ihrem Bette und hört sie beten, dann bekommt sie einen Kuß, und die Mutter bleibt sitzen, bis die Kleine einschläft, und das geschieht so schnell, als sich nur die Äuglein schließen können.

ENGLISH COMPOSITION. (Time, 2 hours.)

Value.

5 1. Why do most people find it very difficult to write correctly?

12 2. What are barbarisms, improprieties, solecisms? In giving examples, choose, by preference, expressions which you sometimes use yourself. Why would you not use these expressions in writing? (Give reasons other than the general one that they are not good English.)

8 3. Name *four* different ways of securing force in sentences. Illustrate.

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

(*a.*) Ballads.

(*b.*) Byron's interest in Nature.

(*c.*) Are moving-picture theatres a benefit to education?

University Matriculation (Junior); Intermediate Grade; and Third-class (Non-professional).

AGRICULTURE. (Time, 2 hours.)

[*All questions have equal value. Answer* six *questions only.*]

1. Give specific directions for the planting of a fruit-tree.

2. Sketch a plan of a home vegetable garden, and explain why you put the crops in a certain order.

3. Why should roots and corn be grown more extensively than at present?

4. Give instructions for the growing of potatoes, dealing with the preparation of the soil, the selection and preparation of the seed, method of planting, and summer care.

5. How do you find out the real value of different cows in a dairy herd?

6. What are the essential points to be considered in preventing milk from souring?

7. How would you care for a flock of fifty pullets during the winter so as to ensure good egg production?

Third-class Certificate (Non-professional).

ALGEBRA. (Time, 2 hours.)

[N.B.—*All work must be shown. It must be neat and accurate.*]

Value.

10 1. Simplify:—

(*a.*) $\frac{c}{p^2x^2} - \frac{1}{p^2x} + \frac{p-c}{2p^3} \times \frac{1}{x-p} + \frac{p-c}{2p^3} \times \frac{1}{x+p}$.

(*b.*) $(x-a)(x-b)(x-c) - \{bc(x-a) - [(a+b+c)x - a(b+c)]x\}$.

12 2. Find the highest common factor of:—

(*a.*) $x^7 - 3x^6 + x^5 - 4x^2 + 12x - 4$ and $2x^4 - 6x^3 + 3x^2 - 3x + 1$.

(*b.*) $12x^6 + 30x^5 + 60x^4 + 48x^3 + 30x^2$ and $18x^7 - 9x^6 + 9x^5 - 63x^4 + 45x^3$.

Value.

12 3. Solve the equations :—

(*a.*) $\frac{x+7}{2} - \frac{x+2}{3} - \frac{3x+7}{12} = \frac{1}{4}$.

(*b.*) $\frac{1}{x} - \frac{2}{y} + 4 = 0.$

$\frac{1}{y} - \frac{1}{z} + 1 = 0.$

$\frac{2}{z} + \frac{3}{x} = 14.$

(*c.*) $2y - x = 4xy.$

$\frac{4}{y} - \frac{3}{x} = 9.$

12 4. (*a.*) Find the L.C.M. of $21x\,(xy - y^2)^2$, $35\,(x^4y^2 - x^2y^4)$, $15y\,(x^2 + xy)^2$.

(*b.*) Find the square root of $6acx^5 + 4b^2x^4 + a^2x^{10} + 9c^2 - 12bcx^2 - 4abx^7$.

14 5. Find the sum of $\frac{9y^2 - (4z - 2x)^2}{(2x + 3y)^2 - 16z^2}$, $\frac{16z^2 - (2x - 3y)^2}{(3y + 4z)^2 - 4x^2}$, $\frac{4x^2 - (3y - 4z)^2}{(4z + 2x)^2 - 9y^2}$.

12 6. Resolve into factors :—

(*a.*) $6y^2 - 7y - 3$.

(*b.*) $729\,a^7b - ab^7$.

(*c.*) $x^2 - 4y^2 + x - 2y$.

(*d.*) $x^3p^2 - 8y^3p^2 - 4x^3q^2 + 32y^3q^2$.

14 7. (*a.*) What is the rate per cent. which will produce $\$y$ interest from a principal of $1,000 in r years.?

(*b.*) A man who is p years old has a son whose age is q years; five years ago the father's age was seven times that of his son. Express this in algebraical symbols.

14 8. A traveller walks a certain distance; had he gone half a mile an hour faster, he would have walked it in four-fifths of the time; had he gone half a mile an hour slower, he would have been $2\frac{1}{2}$ hours longer on the road. Find the distance.

BOTANY. (Time, 1½ hours.)

60 1. Write an account of *seeds* under the following heads :—

(*a.*) Structure and parts.

(*b.*) Food storage in seeds.

(*c.*) Protection of the embryo.

(*d.*) Origin of the seed, particularly with reference to the part taken by the ovule and the dependence of seed production upon pollination.

(*e.*) The dispersal of seeds.

(*f.*) The germination of seeds; what conditions are necessary for and what changes take place during germination?

40 2. (*a.*) Name two examples of each of *three* of the following families: Ranunculaceæ, Cruciferæ, Liliaceæ, Labiatæ, Scrophulariaceæ.

(*b.*) Where does each plant named grow?

(*c.*) Make a diagram of the flower of each example given.

(*d.*) Compare with each other the two plants chosen in each family, noting their resemblances and differences.

Third-class Certificate (Non-professional), Full Course.

DRAWING. (Time, 2 hours.)

(a.) Selections from Drawings.

[*The time taken to collect these drawings is* not *to be deducted from the two hours allowed for this paper.*]

Select the following from your drawing-books, and write your distinguishing number at the top right-hand corner of each. Before beginning your drawing give these to the Examiner.

Value.

7 1. An example of shading objects in pencil.

7 2. An example of painting from plant-life.

6 3. An example of geometrical design in colour.

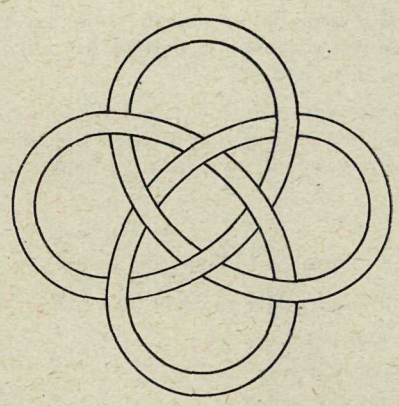
(b.) Geometrical.

[*All lines used in constructions must be clearly shown.*]

10 1. How many degrees are there in the supplement to an angle of 105 degrees? Draw the angle and its supplement by means of compasses.

10 2. The minor axis of an ellipse is 1¾ inches long. The foci are 3 inches apart. Draw the major axis.

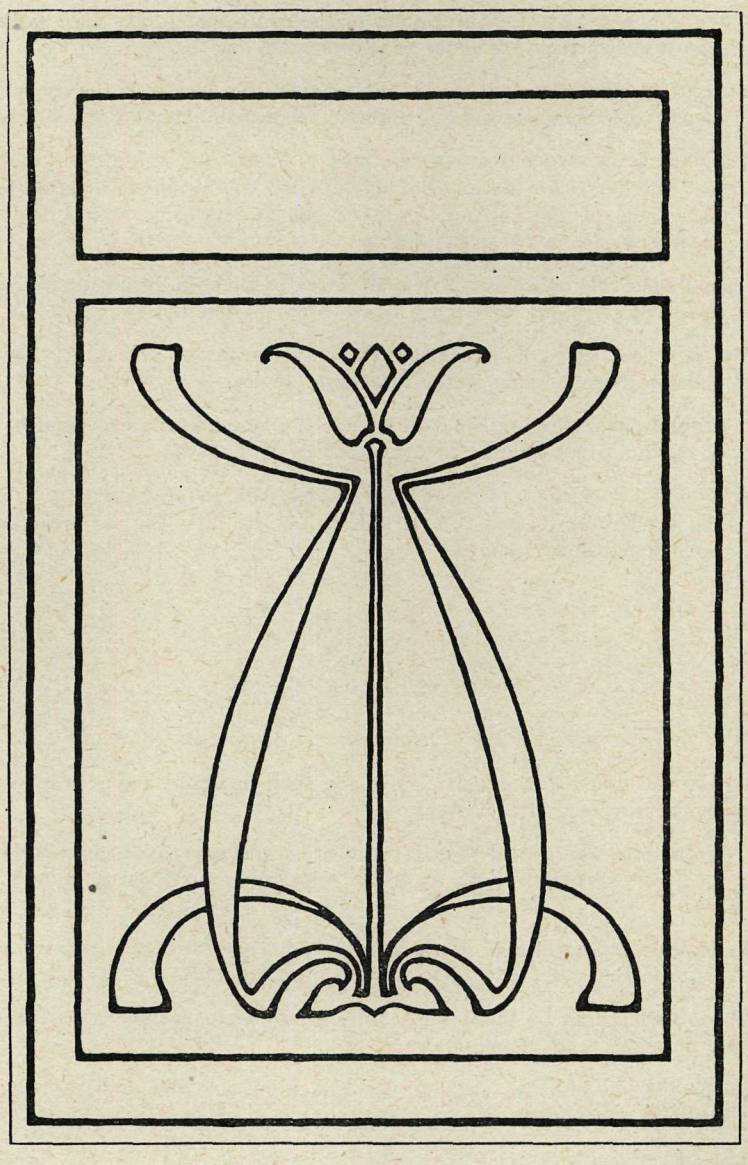
10 3. Copy the given geometrical pattern, making your copy not less than 12 centimetres wide.



(c.) Freehand.

Value.

25 Enlarge the design for a book-cover given below to 8 inches in height and letter into the upper rectangle the title IVANHOE. Ruler and set-square may be used for the outside line only. All other lines must be freehand.



(d.) Object.

25 Draw from memory a group of three objects attractively arranged. The whole group must not be less than 6 inches square.

Third-class Certificate (Non-professional).

GEOMETRY. (Time, 2½ hours.)

[N.B.—*Draw neat diagrams, use printed capitals, and give authorities.*]

Value.

14 1. If two triangles have the three sides of the one equal to the three sides of the other, each to each, they are equal in all respects.

14 2. Construct a right-angled triangle, having given the length of the hypotenuse, and the sum of the remaining sides. State your construction, and give a theoretical proof.

14 3. If a straight line cuts two parallel lines, it makes (*a*) the alternate angles equal to one another; (*b*) the exterior angle equal to the interior opposite angle on the same side of the cutting line; (*c*) the two interior angles on the same side together equal to two right angles.

14 4. To find the locus of a point P which moves so that its perpendicular distances from two given straight lines AB, CD are equal to one another.

14 5. The angle contained by the bisectors of two adjacent angles of a quadrilateral is equal to half the sum of the remaining angles.

14 6. To draw a parallelogram equal in area to a given quadrilateral, and having an angle equal to a given angle.

16 7. If the middle points of adjacent sides of any quadrilateral are joined, prove (*a*) that the figure thus formed is a parallelogram, (*b*) that the parallelogram is half the area of the quadrilateral.

CHEMISTRY. (Time, 2 hours.)

[*All questions are of equal value. Answer any* seven.]

1. What men were concerned in the discovery of the components of the atmosphere? What did each contribute toward this discovery?

2. Draw a diagram illustrating a method for the preparation of hydrogen, explaining the use of each piece of apparatus. Write briefly regarding the occurrence and properties of this element.

3. Describe an experiment by means of which you would show the quantitative composition of water.

4. State what you understand by the law of multiple proportions, illustrating its application to the oxides of copper and the sulphides of iron.

5. Explain the use of the suffixes -ous, -ic, -ite, and -ate; also the prefixes hypo- and per- as used in chemical nomenclature.

6. What volume of oxygen measured over mercury at 25° C. and 744 mm. pressure could be obtained by heating 5.45 grams of mercuric oxide?

7. What do you understand by the terms "hydroxide," "water of crystallization," "chemical compound," "radicle," and "efflorescence"?

8. How does the solubility in water of a gas such as nitrogen vary with the pressure? What effect do the dissolved gases in the water of lakes and streams have upon the animal and vegetable life contained therein?

PHYSIOLOGY. (Time, 1½ hours.)

Value.

65 1. Write an account of foods under the following heads:—

(*a.*) Kinds of foods, the value of each kind.

(*b.*) Mastication of food.

(*c.*) The work done by digestive fluids—saliva, gastric fluid, bile, pancreatic fluid.

(*d.*) Absorption of foods by the intestine.

(*e.*) Distribution to all parts of the body through the agencies of blood and lymph.

35 2. Describe the eye *or* the ear with special reference to structure; work as a sensory organ and how such work is performed; abnormal conditions, how caused and how they may be prevented.

Third-class Certificate (Non-professional), Full Course.

ARITHMETIC. (Time, 2 hours.)

[N.B.—*All work must be shown. It must be neat and accurate.*]

15 1. On July 4th a man paid cash for 120 tons of coal at $10.50 per ton. He did not begin to use the coal till September 15th, when coal was then worth $11 per ton. Allowing money to be worth 6% per annum, how much did he gain by his purchase? What rate per cent. did he make on his investment?

15 2. (*a.*) In a paper-mill there were 49 machines, each making 1.32 tons of paper per hour. Find the output for six days if each machine ran 23 hr. 20 min. each day.

(*b.*) A field containing $50\,{}^{3}/_{25}$ acres produced wheat worth $\$4{,}320.97\,{}^{1}/_{20}$. If the wheat sold at $2.85 per bushel, what was the average yield in bushels per acre?

15 3. A rectangular tank 6 ft. by 12 ft. on the inside could hold when filled 4,500 gallons of water. If a cubic foot holds 6.25 gallons, how much would it cost to paint the four inside walls and the bottom of the tank at 37½c. per square yard?

15 4. A house cost $7,500 to build. The lot on which it stood cost $4,500. The house was insured for 80% of its value at ⅛% per year. There was a tax on the land of 20 mills on an assessment of $4,000. If the agent who rents the house charges $2.50 per month for collecting the rent, what monthly rent would have to be charged to net the owner 7.5% on the cost of house and lot?

15 5. A man paid $25,625, including brokerage at ⅛%, for 4% stock quoted at 102⅜. He received one dividend and then sold his stock at 104⅝, paying the same rate of brokerage as when he bought. How much did he make by his investment?

15 6. Find the cost of the following lumber used to make a table, at $65 per M.: Four ¾-inch boards 6 ft. long and 10 inches wide; 1 piece 1½" by 6" by 16'; 4 pieces 4 inches square and 3½ *ft.* long.

10 7. (*a.*) Write in Roman notation the number 5,444.

(*b.*) Reduce .00½% to a common fraction in lowest terms.

(*c.*) Reduce 37.5 m. to kilometers.

(*d.*) Assuming that π has the value $3\,{}^{1}/_{7}$, find the radius of a circle of which the area is 154 sq. in.

PHYSICS. (Time, 2 hours.)

Value.

25 1. (*a.*) Give reasons for believing that in wave-motion the particles of water are not transmitted.

(*b.*) What is meant by refraction of water-waves?

(*c.*) Distinguish the terms *pitch* and *intensity* as applied to sounds. Upon what does each depend?

(*d.*) A man standing before a cliff shouts, and 5 seconds later he hears the echo. How far is he from the cliff? (Temp. 20° C.)

25 2. (*a.*) Distinguish *heat* and *temperature.*

(*b.*) Describe an experiment to show that heat causes a gas to expand.

(*c.*) Change the following Fahrenheit readings to Centigrade and the Centigrade to Fahrenheit: 50° F.; 14° F.; —22° F.; 25° C.; —15° C.; —25° C.

25 3. (*a.*) State clearly the Principle of Archimedes.

(*b.*) A piece of metal weighs 120 gm. in air and 100 gm. in water. What would it weigh in alcohol (specific gravity .8)?

(*c.*) A block of wood (mass 16 gm.) floats in water. What mass and volume of water does it displace? If floating on alcohol (density .8 gm. per c.c.), what mass and volume of alcohol would it displace?

25 4. (*a.*) Define or explain: Mass, volume, metre, kilogram, density, weight.

(*b.*) Define specific gravity. The specific gravity of lead is 11.34. Find the weight of a block of lead 3 feet long, 2 feet wide, and 1 foot thick, assuming that a cu. ft. of water weighs 62.3 lb

Intermediate Grade.

GEOGRAPHY. (Time, 1½ hours.)

[*Give diagrams where advisable.*]

Value.

20 1. (*a.*) Give a brief description of the general circulation of the atmosphere.
(*b.*) State clearly what effect the rotation of the earth has upon currents of air moving over its surface.

20 2. (*a.*) How are clouds formed?
(*b.*) Name three main types of clouds and write a short description of each.

20 3. Describe and explain the general course of an isotherm in the middle latitudes of the northern hemisphere in January.

20 4. Locate and account for:—
(*a.*) Three areas of excessive rainfall.
(*b.*) Two areas of very light rainfall.

20 5. Write on each of the following topics: The Earth's Magnetism; The Planets; Sunset Colours; The Heat Equator; Anticyclones.

BRITISH HISTORY. (Time, 1½ hours.)

[*Answer* five *questions only. All questions have the same value.*]

1. State the measures taken by William the Conqueror to make his personal rule supreme in England.

2. Sketch the social and political condition of England when Henry II. came to the throne, and state the measures taken during his reign to establish law and order.

3. Give an account of the important statutes enacted in the reign of Edward I.

4. Show how the Wars of the Roses affected the powers of (*a*) the King; (*b*) the Barons; (*c*) the Commons.

5. Show how a conflict between James I. and Puritanism was inevitable, and mention the unconstitutional acts of James.

6. Sketch the career of William Pitt (the Younger).

7. State the demands of the Chartists. To what extent and how have each of these demands been since realized?

8. Give an account of the Industrial Revolution of the later part of the eighteenth century and the early part of the nineteenth century.

9. Write notes on: The Monastery; Villeinage; John Howard; the Legislative Union of Great Britain and Ireland.

GRECIAN HISTORY. (Time, 2 hours.)

[*Answer* six *questions only. All questions have the same value.*]

1. Give an outline of the extent of the Greek world.

2. State the bonds of union and elements of disunion among the Greek States.

3. Contrast and compare Athens and Sparta in regard to: (*a*) Race; (*b*) Political Constitution; (*c*) Education; (*d*) Ideals of Citizenship; (*e*) Military Power.

4. State how Greece and Persia first came into conflict and give an account of the last Persian invasion.

5. Show how after the Persian wars Athens, from being the head of a confederacy of free and independent allies, became the mistress over an empire of subjects.

6. Give a picture of Athenian life and activity during the age of Pericles.

7. Sketch the career of either Alcibiades or Epaminondas.

8. State the extent of the conquests of Alexander the Great and the results of these conquests in the conquered countries.

9. Write notes on: (*a*) The City-State; (*b*) Sophists; (*c*) Ægospotami; (*d*) Ostracism.

LATIN. (Time, 3 hours.)

Value.

13 1. (*a*.) Translate:—

Quod ubi Caesar animadvertit, naves longas quarum et species erat barbaris inusitatior et motus ad usum expeditior, paulum removeri ab onerariis navibus et remis incitari et ad latus apertum hostium *constitui* atque inde fundis, sagittis, tormentis hostes *propelli* ac submoveri jussit; quae res magno usui nostris fuit. Nam et navium figura et remorum motu et inusitato genere tormentorum permoti, barbari *constiterunt* ac paulum modo pedem rettulerunt.

(*b*.) Give the principal parts of *propelli, constitui,* and *constiterunt.*

14 2. (*a*.) Translate:—

At Caesar, etsi nondum eorum consilia cognoverat, tamen et ex eventu *navium* suarum et ex eo, quod obsides dare intermiserant, fore id, quod accidit, suspicabatur. Itaque ad omnes casus subsidia comparabat. Nam et frumentum ex agris cotidie in castra conferebat et quae gravissime afflictae erant naves, earum materia atque *aere* ad reliquas reficiendas utebatur et quae ad eas res erant *usui* ex continenti comportari jubebat. Itaque, cum summo *studio* a militibus *administraretur,* duodecim navibus amissis, reliquis ut navigari commode *posset,* effecit.

(*b*.) Explain the case of *navium, aere, usui, studio.*

(*c*.) Explain the use of *administraretur* and the mood of *posset.*

13 3. (*a*.) Translate:—

Ille omnibus primo precibus petere contendit, ut in Gallia relinqueretur; partim quod insuetus navigandi mare *timeret;* partim quod religionibus impediri sese diceret. Posteaquam id obstinate sibi negari vidit, omni spe impetrandi adempta principes Galliae sollicitare, sevocare singulos hortarique coepit, uti in continenti remanerent; metu territare,

non sine causa fieri, ut Gallia omni nobilitate spoliaretur; id esse consilium Caesaris, ut, quos in conspectu Galliae interficere vereretur, hos omnes in Britanniam traductos necaret; fidem reliquis interponere, *jusjurandum* poscere, ut, quod esse ex usu Galliae intellexissent, communi consilio administrarent. Haec a compluribus ad Caesarem deferebantur.

(*b.*) Who is being discussed in this passage?

(*c.*) Explain the mood of *timeret.*

(*d.*) Decline *jusjurandum* in the singular and plural.

Value.

13 4. (*a.*) Translate:—

Hic vasto rex Aeolus antro
luctantes ventos tempestatesque sonoras
imperio premit ac vinclis et *carcere* frenat.
Illi indignantes magno cum murmure montis
circum claustra fremunt; celsa sedet Aeolus *arce*
sceptra tenens, mollitque animos et temperat iras.
ni *faciat*, maria ac terras caelumque profundum
quippe ferant rapidi secum verrantque per auras.

(*b.*) Decline in full *carcere* and *arce.*

(*c.*) Explain the mood of *faciat.*

14 5. (*a.*) Translate:—

Haec ait, et *Maia genitum* demittit ab alto,
ut terrae, utque novae pateant Karthaginis arces
hospitio Teucris, ne fati nescia *Dido*
finibus arceret. Volat ille per aera magnum
remigio alarum, ac Libyae citus astitit oris.
et jam jussa facit, ponuntque ferocia *Poeni*
corda volente deo; in primis regina quietum
accipit in Teucros animum mentemque benignam.

(*b.*) Write notes on *Maia, genitum, Dido,* and *Poeni.*

(*c.*) Scan the seventh line.

13 6. (*a.*) Translate:—

Haec dum Dardanio *Aeneae* miranda videntur,
dum stupet, obtutuque haeret defixus in uno,
regina ad templum, forma pulcherrima Dido,
incessit, magna juvenum stipante caterva.
qualis in Eurotae ripis aut per juga Cynthi
exercet Diana choros, quam mille secutae
hinc atque hinc glomerantur Oreades; illa pharetram
fert *umero*, gradiensque deas supereminet omnes:
Latonae tacitum pertemptant gaudia pectus:
talis erat Dido, talem se laeta ferebat
per medios, instans *operi* regnisque futuris.
tum *foribus* divae, media *testudine* templi,
saepta armis, solioque alte subnixa resedit.

(*b.*) Explain the case of *Aeneae, umero,* and *operi.*

(*c.*) Decline in full *foribus* and *testudine.*

20 7. Translate into Latin:—

(*a.*) After these matters had been settled a war suddenly broke out in the province itself.

(*b.*) He learned that they had hidden themselves and their possessions in the woods.

(*c.*) He feared that if the enemy were driven back, our men would pursue them too eagerly.

(*d.*) He asked why the soldiers had hesitated to advance when the standards had been brought forward.

(*e.*) While the enemy were attacking the camp, the general sent two cohorts and five hundred cavalry to attack them in the rear.

ENGLISH COMPOSITION. (Time, 2 hours.)

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

(*a.*) The Puritan Characteristics of Milton.

(*b.*) Country Life in England in the 18th Century.

(*c.*) My Favourite Magazine.

AGRICULTURE. (Time, 2 hours.)

(*See* paper set on this subject for the Third-class Teachers' Examination (Non-professional).)

GREEK. (Time, 3 hours.)

Value.

10 1. Decline:—

(*a.*) In the singular: ὄρνις; ἅρμα; ῥήτωρ; ἀνήρ; κρέας.

(*b.*) In the plural: ναῦς; βοῦς; πόλις; μήν; νοῦς.

6 2. Decline in full πολύς and λελυκώς.

8 3. Compare, giving the meaning of the positive: πολέμιος; ἀγαθός; ῥᾴδιος; πιστός ἀισχρός; ἡδύς; κακός; ἀσφελής.

5 4. Give the Greek for: 300; 3,000; eighth; ten times; 88.

7 5. Give the classification of pronouns with one example in Greek and English (nominative case) of each class.

15 6. Give the first person singular of the following paradigms, arranging in tabular form the different moods and including the participle, nominative case in all genders:—

(*a.*) first aorist active of λύω.

(*b.*) Perfect middle of στέλλω.

(*c.*) Present passive of ποιέω.

8 7. Conjugate in full the imperative mood of: οἶδα; εἰμί; εἶμι and ἵημι.

20 8. Translate into Greek:—

(*a.*) He came with a mighty army.

(*b.*) You must send your general.

(*c.*) He said he would send the guides they had sent for.

(*d.*) He asked whether you would write a letter.

(*e.*) They fear that the barbarians will not follow them.

Value.

10 9. Give the principal parts of *χράομαι*; *τυγχάνω*; *θνῄσκω*; *τίθημι*; *τρέχω*; *πάσχω* *ὄμνυμι*; *ἵστημι*; *λέγω*; *εὑρίσκω*.

11 10. Translate into English:—

ἰδὼν δὲ Κῦρον ἀπὸ τοῦ Ἑλληνικοῦ Ξενοφῶν Ἀθηναῖος, πελάσας ὥστε συναντῆσαι ἤρετο εἴ τι παραγγέλλοι· ὁ δ' ἐπιστήσας εἶπε καὶ λέγειν ἐκέλευσε πᾶσιν ὅτι τὰ ἱερὰ καλά. ταῦτα δὲ τῷ Ξενοφῶντι λέγων θορύβου ἤκουσε, καὶ ἤρετο τίς ὁ θόρυβος εἴη. ὁ δὲ Κλέαρχος εἶπεν ὅτι σύνθημα παρέρχεται δεύτερον ἤδη διὰ τῶν τάξεων. καὶ ἐθαύμασε Κῦρος τίς παραγγέλλει, καὶ ἤρετο ὅ τι εἴη τὸ σύνθημα. ὁ δ' ἀπεκρίνατο, "Ζεὺς Σωτὴρ καὶ Νίκη." ὁ δε Κύρος ἀκούσας, "Ἀλλὰ δέχομαί τε," ἔφη, "καὶ τοῦτο ἔστω."

FRENCH. (Time, 3 hours.)

10 1. Substitute pronouns for the italicized expressions:—

(1.) J'enverrai *de l'argent à mon fils à Paris.* (2.) Va vite *à la maison.* (3.) Je vous présenterai à *mon cousin.* (4.) Donne *de tes bonbons* a ton frère. (5.) J'ai raconté *toute l'histoire à Marie.* (6.) Que pensez-vous *de ce livre?* (7.) La princesse renonça a *un empire.*

5 2. Supply a correct relative pronoun form:—

(1.) C'était cette église . . . j'avais vu la tour. (2.) Voici la lettre de mon ami . . . est arrivée ce matin. (3.) Est-ce ton oncle chez . . . tu demeures? (4.) Voilà le parc . . . nous sommes entrés. (5.) C'est M. Dubois dans le salon . . . je vous ai vu.

5 3. In the sentence, "Il a un livre que j'ai longtemps désiré," make any alterations necessitated by inserting in turn each of the following expressions of quantity: *bien, plusieurs, une centaine, la plupart, tout.*

10 4. Supply the correct verb form:—

(1.) Vous auriez pu venir plus tôt si vous (vouloir). (2.) Venez quand vous (pouvoir). (3.) Demandez s'il les (acheter) demain. (4.) L'année passée, il y (aller) de temps en temps. (5.) Je commencerai par (apprendre) ma leçon de français. (6.) À moins qu'ils (venir) bientôt, il faut que nous (partir). (7.) Je suis content que vous (être) ici. (8.) Venez nous voir aussitôt que vous (arriver). (9.) Il n'y aura personne qui (savoir) cela.

10 5. Supply the correct form—past imperfect or past definite:—

Nous (sortir) du train avec les plus grandes difficultés et nous (avoir) sous les yeux un terrible spectacle: locomotive et voitures (former) un amoncellement confus d'où (sortir) les lamentations des blessés. Nous (tâcher) de porter secours à ces infortunés. Nous (être) assez heureux pour trouver deux enfants qui (pleurer) mais qui ne (avoir) aucun mal. Leur mère les (chercher) partout. Figurez-vous son bonheur quand nous les lui (mener).

10 6. Construct short sentences to illustrate the difference in the use of: pendant que, tandis que; depuis que, puisque; prier, demander; entre, parmi; avoir chaud, faire chaud.

10 7. Translate (writing all numerals):—

(1.) Charles XII. was born on the 27th of June, 1682. (2.) Eggs cost 5 francs a dozen. (3.) She was earning 300 francs a month. (4.) This room is 8 metres long by 5 metres wide. (5.) This arch (arche, f.), built by Napoleon I., cost a million francs.

Value.

10 8. Translate:—

(1.) They put on their hats. (2.) How is your father? (3.) He took it from a box. (4.) Don't be afraid of it. (5.) Come in, whoever you are. (6.) I told you so. (7.) He bears me a grudge. (8.) You ought to have spoken. (9.) He is having his hair cut. (10.) How long have you been there?

30 9. Translate:—

(*a.*) Pierre le Grand leur apprit à obéir par son exemple et par les supplices; car il servait en qualité de soldat et d'officier subalterne, et punissait rigoureusement en czar les boïards, c'est-à-dire les gentilshommes, qui prétendaient que le privilège de la noblesse était de ne servir l'État qu'à leur volonté.

(*b.*) Un jour il s'amusait dans l'appartement du roi à regarder deux cartes géographiques, l'une d'une ville de Hongrie prise par les Turcs sur l'Empereur, et l'autre de Riga, capitale de la Livonie, province conquisse par les Suédois depuis un siècle; au bas de la carte de la ville hongroise il y avait ces mots, tirés du livre de Job: "Dieu me l'a donnée, Dieu me l'a ôtée; le nom du Seigneur soit béni!" Le jeune prince, ayant lu ces paroles, prit sur-le-champ un crayon, et écrivit au bas de la carte de Riga: "Dieu me l'a donnée, le diable ne me l'ôtera pas." Ainsi, dans les actions les plus indifférentes de son enfance, ce naturel indomptable laissait souvent échapper de ces traits qui caractérisent les âmes singulières, et qui marquaient ce qu'il devait être un jour.

(*c.*) Il quitta la Russie en 1698, n'ayant encore régné que deux années, et alla en Hollande, déguisé sous un nom vulgaire, comme s'il avait été un domestique de ce même Le Fort, qu'il envoyait ambassadeur extraordinaire auprès des États généraux. Arrivé à Amsterdam, inscrit dans le rôle des charpentiers de l'amirauté des Indes, il y travaillait dans le chantier comme les autres charpentiers. Dans les intervalles de son travail, il apprenait les parties des mathématiques qui peuvent être utiles à un prince, les fortifications, la navigation, l'art de lever des plans. Il entrait dans les boutiques des ouvriers, examinait toutes les manufactures; rien n'échappait à ses observations. De là il passa en Angleterre, où il se perfectionna dans la science de la construction des vaisseaux: il repassa en Hollande, et vit tout ce qui pouvait tourner à l'avantage de son pays.

GERMAN. (Time, 3 hours.)

12 1. Construct short sentences, using the third person singular present, imperfect, and perfect indicative of the following verbs: ſehen, kommen, ſchlagen, wiſſen.

12 2. Write correct forms of the words indicated:—

(1.) (which) (old) Mann haſt du begegnet?
(2.) (All) (good) Kinder gehorchen (their) (dear) Eltern.
(3.) (Every) (good) Kind gehorcht (its) Mutter.
(4.) (Many a) Knabe mag nicht lernen.
(5.) Wir mögen meiſtens nur (those) (who) uns mögen.

12 3. Insert in the blank spaces suitable prepositions with the article or possessive adjective:—

(1.) Wir wohnen — — Tante.
(2.) Das Buch liegt — — Tiſch.

(3.) Legen Sie das Buch — — Stuhl.
(4.) Die Brücke führt — — Fluß.
(5.) Das Bild hängt — — Wand.
(6.) Er mußte — — Wald gehen.

Value.

12 4. (*a.*) Change the verbs of the following sentences to the passive voice :—

(1.) Früher tat man das ohne Maschine.
(2.) Morgen wird Fritz das Feld pflügen.
(3.) Vor vierzehn Tagen hat man das Feld gepflügt.
(4.) Man bestellt den Boden.

(*b.*) Substitute pronoun and preposition for preposition and noun (or relative) :—

(1.) Karl spielte im Garten.
(2.) Wir mögen nicht ohne Ernst gehen.
(3.) Das ist der Stuhl auf welcher er saß.
(4.) Er erzählte uns von seiner Reise.

(*c.*) Connect the following sentences by one of the words following each group :—

(1.) Wir waren nicht zu Hause. Er kam. (wenn, als, wann).
(2.) Ich konnte nicht hingehen. Ich war krank. (denn, weil).
(3.) Er war nicht dort. Er war hier (aber, sondern, allein).
(4.) Ich habe ihn kennen gelernt. Er kam hierher (nach, nachdem).

12 5. Translate :—

(1.) I went towards him.
(2.) We saw you coming.
(3.) How long has he been ill?
(4.) It belongs to Charles, my youngest brother.
(5.) He isn't coming before Friday.
(6.) We have found something good.
(7.) I could have gone.
(8.) That is easily done.
(9.) He claims that he has been in London.
(10.) He is said to be very rich.
(11.) You shouldn't have done that.
(12.) I shouldn't like to do that.

20 6. Translate :—

(*a.*) „Ursel," sagte er, „weißt du noch, wie ich vor zehn Jahren fort mußte und dich bat, du solltest hübsch aufpassen auf alle unsere lieben Schätze hier oben? Da antwortetest du: Albrecht, ich gehe nicht wieder hinauf, gar nicht,—kein einziges Mal, bis du wieder kommst. Und als du das gesagt hattest, schlich ich mich auf den Boden, zog denSchlüssel ab und verschloß ihn in das alte Pult. Heute Morgen, als ich die Papiere weglegen wollte, habe ich ihn gefunden.—Aber, wie er in meine Tasche gekommen ist—das weiß ich nicht!"

„Ja, ja!" erwiderte sie zustimmend. „Als du fort warst, wurde der Schlüssel überall gesucht. Endlich ließ die Mutter den Schlosser rufen und einen neuen anfertigen. —Aber, Albrecht," fuhr sie fort, und die Thränen kamen ihr in die Augen, "du mußt mich doch immer lieb gehabt haben, in der langen Zeit, wo du fort gewesen bist und nichts von dir hast hören lassen, sonst wärst du nicht durch den Bäckerladen gegangen, und den Schlüssel nnd die Krystalle hättest du auch nicht eingesteckt!"

Value.

„Ja!" versicherte er aus tiefster Überzeugung, „aber ich habe es selbst nicht gewußt, wenigstens nicht, wie sehr ich dich liebte!

(*b.*) Es dauerte nicht lange, so sah er jemand, der sich mühsam die Straße heraufschleppte; es war indes nicht sein Weib, sondern ein Soldat, ein noch junges, frisches Blut, aber mitten durch die Brust geschossen. Er stützte sich auf seinen Säbel und stöhnte bei jedem Schritt, denn die Wunde brannte wie Feuer. Als er ans Himmelsthor gelangte, konnte er nicht hinein, weil er keinen Himmelsschlüssel hatte. Da lehnte er sich ans Thor, schloß die Augen und zitterte am ganzen Leibe, denn es war sehr kalt, und das Fieber schüttelte ihn.

Dem alten Jürgen that das Herz weh, wie er ihn sah, und er dachte: Sankt Petrus hat gewiß vergessen, daß der so schnell sterben würde, sonst hätte er ihm einen Himmelsschlüssel gesandt. Denn ein ehrlicher Soldat, der im offenen Kampfe fällt, gehört doch in den Himmel! — Und es verhielt sich auch wirklich so: dem Himmelspförtner war es ganz und gar entfallen, daß der brave Kriegsmann heute sterben würde; er hat auch immer gar so viel zu denken und zu sorgen!

20 7. Translate:—

(*a.*) Leicht zu erobern war das alte Felsennest nicht. Auf drei Seiten fiel der Berg senkrecht ab; sein Fuß wurde von dem schäumenden Flusse umspült, und auf der vierten Seite war ein festes Thor, das eine Besatzung wohl tagelang verteidigen konnte. Eine Besatzung! Ja, die hatte sie nicht. Ein alter, schwacher Burgvogt, eine alte taube Magd, das war alles. Einmal dachte sie zu fliehen, aber wohin? Sie wußte ja auch gar nicht, wo die feindlichen Banden lagerten, da hätte sie ihnen geradenwegs in die Hände fallen können. Sie wollte um Hilfe bitten—aber wen? Sie kannte keine Mächtigen. Sie versuchte ihren Vater zu Gesicht zu bekommen—allein der war eingeschlossen und gab gar keine Antwort, ja oft ließ er die Speisen unberührt stehen, die sie vor das Schiebfensterlein an die Turmpforte stellte.

Und so blieb sie denn und wartete. Aber es war ein anderes Warten wie früher. Manchmal stieg sie auf den Turm und sah nach den Bergen hinüber, wo sie ferne die Türme einer andern Burg sah. So lange die ruhig und unangetastet standen, war der Feind noch nicht im Anzug.

(*b.*) Und dann kam eine Entdeckung, die allem die Krone aufsetzte: Nach den großen Sommerferien war er ins Pädagogium eingetreten; zu Weihnachten stand ihm zum erstenmal die Gelegenheit bevor, daß er wieder zu den Eltern nach Haus kommen würde.

Man entdeckte, daß er sich einen Kalender gemacht hatte.

So viele Tage, als noch bis zum Beginn der Weihnachtsferien waren, so viele senkrechte Striche hatte er auf einen Bogen Papier gesetzt. Jeden Abend strich er eine der senkrechten Linien mit einer wagerechten durch—wieder ein Tag weniger.

Und vom Morgen bis zum Abend gab es für ihn nur einen Gedanken, daß er heute Abend wieder einen Tag ausstreichen würde.

GEOMETRY. (Time, 2½ hours.)

(*See* paper set on this subject for the University Matriculation Examination (Junior).)

CHEMISTRY. (Time, 2 hours.)

(*See* paper set on this subject for the University Matriculation Examination (Junior).)

ALGEBRA. (Time, 2 hours.)

(*See* paper set on this subject for the University Matriculation Examination (Junior).)

ENGLISH LITERATURE. (Time, 3 hours.)

Value.

20 1. (*a.*) To what form of poetry does *Lycidas* belong?

(*b.*) Write at some length on the characteristic qualities of Milton's poetry as exemplified in this poem.

(*c.*) Explain each of the following and tell from what poem each is taken:—

(i.) Or call up him that left half told
The story of Cambuscan bold.

(ii.) Where throngs of knights and barons bold
In weeds of Peace high triumphs hold.

(iii.) In consecrated earth,
And on the holy hearth
The Lars and Lemures moan with midnight plaint.

12 2. (*a.*) What are the qualities of *Mac Flecknoe* that make it an effective satire?

(*b.*) Explain:—

He rais'd a mortal to the skies:
She drew an angel down.

16 3. (*a.*) What characteristics of the poet Gray are suggested by the Elegy?

(*b.*) In what ways does this poem suggest the beginning of a new movement in English poetry?

17 4. *The Eve of St. Agnes* is "slight in theme, with its characters very lightly drawn, but full of charm and glowing with colour."
Discuss this criticism.

10 5. (*a.*) A light broke in upon my brain,—
It was the carol of a bird.
Give the context, and explain in what way it was a dramatic moment.

(*b.*) The verse adorn again
Fierce War and faithful Love
And Truth severe—by fairy Fiction drest.
In buskin'd measures move
Pale Grief, and pleasing Pain
With Horror, tyrant of the throbbing breast.
Interpret the above passage.

10 6. "Whoever wishes to attain an English style, familiar but not coarse, and elegant but not ostentatious, must give his days and nights to the volumes of Addison."
Discuss this pronouncement of Johnson, in as far as you can apply it to the de Coverley Papers.

15 7. (*a.*) From your reading of Milton in this course, discuss Macaulay's estimation of his poetry.

(*b.*) How does Macaulay characterize the Royalists?

Senior Grade.

GEOGRAPHY. (Time, 1½ hours.)

[*Give diagrams where necessary.*]

Value.

20 1. "There are many proofs that the crust of the earth is in movement." Discuss this statement and mention the visible effects of this movement on stratified rocks.

15 2. Write a short account of the work of Underground Water.

15 3. What proofs are there that a continental glacier once covered north-eastern America?

15 4. Describe the ocean currents either of (*a*) the North Atlantic, or (*b*) the North Pacific.

15 5. Explain the formation of: (*a*) Islands; (*b*) mountain passes.

20 6. Write on the following topics: "Ox-bow cut-off"; "weathering"; "the ocean floor"; "deltas."

ROMAN HISTORY. (Time, 2 hours.)

[*Answer* six *questions only. All questions have the same value.*]

1. State the powers or functions of Consuls, Praetors, Plebeian Tribunes, Comitia Centuriata, Censors.

2. Discuss the character of the Roman people at the beginning of the Republican period, and state how and by what influences it was modified during the Republican period.

3. Under the following heads tell how Rome became supreme in Italy after the conquest of Latium: (*a*) The nations conquered; (*b*) the important battles; (*c*) the means by which Rome maintained her conquests.

4. Outline the disabilities of the plebeians at the beginning of the Republican period, and state what they gained by (*a*) the first secession, (*b*) the Licinian-Sextian laws.

5. Contrast Rome and Carthage and give an account of the final struggle between these two nations.

6. Sketch the career of either Marius or Pompey.

7. Give an account of the reign of Augustus under the following heads: (*a*) Boundaries of the Empire; (*b*) object of his military campaigns; (*c*) government; (*d*) social reforms; (*e*) literary men of the period.

8. Name the various races of barbarians whose invasions caused the fall of the Empire. Indicate the original home and final settlement of each race, and give a history of any one of them.

9. Outline the history of Christianity up to the death of Constantine.

TRIGONOMETRY. (Time, 3 hours.)

(*See* paper set on this subject for the University Matriculation Examination (Senior).)

ENGLISH COMPOSITION. (Time, 2 hours.)

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

(*a.*) Is This a Vulgar Age?

(*b.*) On Reading "the Books of all Time" ("Sesame and Lilies").

(*c.*) Historical Figures in "Henry Esmond."

ALGEBRA. (Time, 3 hours.)

(*See* paper set on this subject for the University Matriculation Examination (Senior).)

LATIN. (Time, 3 hours.)

[NOTE.—*Candidates will write on A and D and* either *B* or *C.*]

A.

Value.

12 1. Translate (Pro Lege Manilia):—

Causa quae *sit*, videtis: nunc, quid agendum sit, considerate. Primum mihi videtur de genere belli, deinde de magnitudine, tum de imperatore *deligendo* esse *dicendum*.

Genus est belli eius modi, quod maxime vestros animos excitare atque inflammare ad persequendi studium debeat; in quo agitur populi Romani gloria quae vobis a maioribus cum magna in omnibus rebus, tum summa in re militari tradita est; agitur salus sociorum atque amicorum, pro qua multa maiores vestri magna et gravia bella gesserunt; aguntur certissima populi Romani vectigalia et maxima, quibus amissis et pacis ornamenta et subsidia belli *requiretis;* aguntur bona multorum civium, quibus est a vobis et ipsorum et rei publicae causa *consulendum*.

(*a.*) Explain the mood of *sit* and the use of *dicendum*.

(*b.*) Give the principal parts of *deligendo*, *requiretis*, and *consulendum*.

12 2. Translate:—

Iam vero virtuti Cn. Pompei quae potest oratio par inveniri? Quid est, quod quisquam aut *illo* dignum aut vobis novum aut *cuiquam* inauditum possit adferre? Neque enim illae sunt solae virtutes imperatoriae, quae vulgo existimantur, labor in negotiis, fortitudo in periculis, industria in agendo, celeritas in conficiendo, consilium in providendo, quae tanta sunt in hoc uno, quanto in omnibus reliquis imperatoribus, quos aut vidimus aut audivimus, non fuerunt. Testis est Italia, quam ille ipse victor L. *Sulla* huius virtute et subsidio confessus est liberatam; testis est *Sicilia*, quam multis undique cinctam periculis non terrore belli, sed consilii celeritate explicavit.

(*a.*) Explain the case of *illo* and *cuiquam*.

(*b.*) Write short notes on *Sulla* and *Sicilia*.

12 3. Translate:—

Quae civitas antea umquam fuit non dico Atheniensium, quae satis late quondam mare tenuisse dicitur, non Carthaginiensium, qui permultum classe ac maritimis rebus valuerunt, non Rhodiorum, quorum usque ad nostram memoriam disciplina navalis et gloria remansit, quae civitas, inquam, antea tam tenuis, quae tam parva insula fuit, quae non portus suos et agros et aliquam partem regionis atque orae maritimae per se ipsa defenderet? At hercule aliquot annos continuos ante legem Gabiniam ille populus Romanus, cuius usque ad nostram memoriam nomen invictum in navalibus pugnis

Value.

permanserit, magna ac multo maxima parte non modo utilitatis, sed dignitatis atque imperii caruit; nos, quorum maiores *Antiochum* regem classe *Persem*que superarunt omnibusque navalibus pugnis Carthaginienses, homines in maritimis rebus exercitatissimos paratissimosque, vicerunt, ii nullo in loco iam praedonibus pares esse poteramus.

(*a.*) Write short notes on *Antiochum* and *Persem.*

B.

12 4. Translate:—

His lacrimis vitam damus, et *miserescimus* ultro.
Ipse viro primus manicas atque arta levari
vincla iubet Priamus, dictisque ita fatur amicis:
'Quisquis es, amissos hinc iam obliviscere Graios;
noster eris, mihique haec edissere vera roganti:
Quo molem hanc immanis equi statuere? Quis auctor?
Quidve petunt? Quae religio, aut quae machina belli?
Dixerat. Ille, dolis instructus et arte Pelasga,
sustulit exutas vinclis ad sidera palmas:
Vos, aeterni ignes, et non violabile vestrum
testor numen' ait 'vos arae ensesque nefandi,
quos fugi, vittaeque deum, quas hostia gessi:
fas mihi Graiorum sacrata resolvere iura,
fas odisse viros, atque omnia ferre sub auras,
si qua *tegunt;* teneor patriae nec legibus ullis.

(*a.*) Give the principal parts of *miserescimus*, *sustulit*, and *tegunt.*

12 5. Translate:—

Talibus *Othryadae* dictis et numine divom
in flammas et in arma feror, quo tristis *Erinys*,
quo fremitus vocat et sublatus ad aethera clamor.
Addunt se socios Ripheus et maximus armis
Epytus oblati per lunam Hypanisque Dymasque,
et lateri adglomerant nostro, iuvenisque Coroebus,
Mygdonides: illis ad Troiam forte diebus
venerat, insano *Cassandrae* incensus amore,
et gener auxilium Priamo Phrygibusque ferebat,
infelix, qui non sponsae praecepta furentis
audierit.

(*a.*) Make notes on *Othryadae*, *Erinys*, and *Cassandrae.*

(*b.*) Scan the 6th line.

12 6. Translate:—

Adparent dirae facies inimicaque Troiae
numina magna deum.
Tum vero omne mihi visum considere in ignis
Ilium et ex imo verti Neptunia Troia;
ac veluti summis antequam in montibus ornum
cum ferro accisam crebrisque bipennibus instant
eruere agricolae certatim,—illa usque minatur
et tremefacta comam concusso vertice nutat,
volneribus donec paulatim evicta supremum
congemuit, traxitque iugis avolsa ruinam.
Descendo, ac ducente *deo* flammam inter et hostis
expedior; dant tela locum, flammaeque recedunt.

(*a.*) What are the reasons given to Aeneas by Venus for the fall of Troy?

(*b.*) Decline, in singular and plural, *volneribus* and *deo.*

Value.

12 7. Translate:—

Hic mihi nescio quod trepido male numen amicum
confusam eripuit mentem. Namque avia cursu
dum sequor, et nota excedo regione viarum,
heu, misero coniunx fatone erepta Creusa
substitit, erravitne via, seu lassa resedit,
incertum; nec post oculis est reddita nostris.
Nec prius amissam respexi animumque reflexi,
quam tumulum antiquae Cereris sedemque sacratam
venimus; hic demum collectis omnibus una
defuit, et comites natumque virumque fefellit.

(*a.*) Scan the 4th line.

C.

12 8. Translate:—

Iam satis terris nivis atque dirae
grandinis misit pater et rubente
dextera sacras iaculatus arces
terruit urbem,
terruit gentis, grave ne rediret
saeculum Pyrrhae nova monstra questae,
omne cum Proteus pecus egit altos
visere montis,
piscium et summa genus haesit ulmo,
nota quae sedes fuerat columbis,
et superiecto pavidae natarunt
aequore dammae.
vidimus flavum Tiberim retortis
litore Etrusco violenter undis
ire deiectum monumenta regis
templaque Vestae,
Iliae dum se nimium querenti
iactat ultorem, vagus et sinistra
labitur ripa Iove non probante
uxorius amnis.

(*a.*) What thought does Horace wish to convey in this ode and to whom is it addressed?

(*b.*) Scan the first stanza.

12 9. Translate:—

Mercuri, facunde *nepos Atlantis*,
qui feros cultus hominum recentum
voce formasti catus et decorae
more palaestrae,
te canam, magni Iovis et deorum
nuntium curvaeque lyrae parentem,
callidum quicquid placuit iocoso
condere furto.
te, boves olim nisi reddidisses
per dolum amotas, puerum minaci
voce dum terret, *viduus pharetra*
risit Apollo.
quin et Atridas duce te superbos
Ilio dives Priamus relicto
Thessalosque ignis et iniqua Troiae
castra fefellit.

(*a.*) Explain the significance of *nepos Atlantis, viduus pharetra risit Apollo.*

Value.

12 10. Translate:—

at vulgus infidum et meretrix retro
periura cedit, diffugiunt cadis
cum faece siccatis amici,
ferre iugum pariter dolosi.
serves iturum Caesarem in ultimos
orbis Britannos et iuvenum *recens*
examen Eois timendum
partibus Oceanoque rubro.
eheu, cicatricum et *sceleris* pudet
*fratrum*que. quid nos dura refugimus
aetas? quid intactum nefasti
liquimus? unde manum iuventus
metu deorum continuit? quibus
pepercit aris? o utinam nova
incude diffingas retunsum in
Massagetas Arabasque ferrum.

(*a.*) Make notes on *recens examen* and *sceleris fratrum.*

12 11. Translate:—

namque me silva lupus in Sabina,
dum meam canto Lalagen et ultra
terminum curis vagor expeditis,
fugit inermem,
quale portentum neque militaris
Daunias latis alit aesculetis
nec Iubae tellus generat, leonum
arida nutrix.
pone me pigris ubi nulla campis
arbor aestiva recreatur aura,
quod latus mundi nebulae malusque
Iuppiter urget;
pone sub curru nimium propinqui
solis, in terra domibus negata:
dulce ridentem Lalagen amabo,
dulce loquentem.

(*a.*) Scan the first stanza.

D.

16 12. Translate into Latin:—

(*a.*) If you examine what has been done by Cneius Pompeius in all parts of the Roman state, you must grant that he is capable of undertaking any responsibility and carrying on the most important war successfully.

(*b.*) After the troops had been led into winter-quarters, the general determined to send out spies to find out in what part of the forest the enemy had hid their supplies.

(*c.*) Although the Britons fought bravely, they were unable to resist the disciplined valor of the Roman army, and after several battles they sent ambassadors to ask for peace and to promise to surrender to the Romans.

(*d.*) The Greeks having captured Troy by means of the wooden horse, burned the city and slaughtered the inhabitants; Aeneas, however, escaping through the midst of the foe, set sail and arrived at Carthage.

GEOMETRY. (Time, 3 hours.)

Value.

10 1. The areas of similar triangles are proportional to the squares on corresponding sides.

10 2. On a side of given length to draw a figure similar to a given rectilineal figure.

10 3. If the vertical angle of a triangle is bisected by a straight line which cuts the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the segments of the base, together with the square on the straight line which bisects the angle.

10 4. If two straight lines are parallel, and if one of them is perpendicular to a plane, then the other is also perpendicular to the same plane.

10 5. In a trihedral angle the sum of any two of the face-angles is greater than the third.

13 6. Through the intersection of two circles draw the greatest possible straight line terminated by the two circumferences.

13 7. Construct the triangle, having given the vertical angle, one of the sides containing it and the length of the perpendicular from the vertex to the base.

12 8. Draw a circle to pass through two given points A and B and to touch a given circle. Show that there are in general two solutions.

12 9. (*a.*) What is meant by pole and polar with respect to a given circle?
(*b.*) Prove that the polar of an external point with respect to a given circle is the chord of contact of tangents drawn from the given point to the circle.

GERMAN. (Time, 3 hours.)

5 1. Rewrite the following sentences in the passive :—

(*a.*) Der Regen macht den Boden fruchtbar.
(*b.*) Gegen Ende März bereitet man das Feld für die Saat.
(*c.*) Früher tat man das ohne Maschine.
(*d.*) Das schlechte Wetter wird die Arbeit verhindern.
(*e.*) Mein Vater hat es letzte Woche getan.

5 2. (*a.*) Change the following sentences to indirect speech :—

Er sagte, „Ich bin müde."
Er fragte mich „Sind Sie krank" ?
Der Offizier sagte, „Ich werde die Einladung annehmen."
Er sagte, „Ich werde den Scheik töten, wenn der Löwe unangenehm wird.

10 (*b.*) Change the verbs in the following sentence to (1) third person present indicative and (2) third person perfect indicative :—

Er einsteigen in die Droschke und abfahren.

Der Kutscher absetzen ihn am Palais.

Der Offizier hintergehen den Kutscher.

Der Kaiser versprechen es ihm.

5 3. (*a.*) Translate :—

(1.) He was not able to play.
(2.) He had it sent to me.
(3.) I should like to go but I am not permitted to go.
(4.) He shouldn't do it, even if he could.

Value.

5 (*b.*) Translate :—

(1.) He is not coming until Friday.

(2.) Will you have another cup of tea?

(3.) Do come in.

(4.) I have been here for a week.

(5.) I am sure you are tired.

20 4. Translate :—

(1.) Gœthe died in Weimar on the twenty-second of March, eighteen hundred and thirty-two.

(2.) We get up in the morning at half-past seven and go to school at a quarter to nine.

(3.) That is not your book, it is mine ; please give it to me.

(4.) There are many men, whom I would not like to know.

(5.) Throw that paper in the brown waste basket under the table.

(6.) This large boy writes better than his brother, but that small girl writes best of all.

(7.) If I had had money enough, I should have bought that pretty house.

(8.) I ordered ten pounds of sugar at fifteen cents a pound and two dozen eggs at fifty cents a dozen.

(9.) I picked out the hat I liked best.

(10.) We stayed at home yesterday to receive you, but you did not come.

5. Translate :—

5 (*a.*) „Ja, Sie haben richtig beobachtet. Manche denken, zu viel. Unsere Regierung sorgt dafür mehr als die aller anderen Länder, glaube ich. Zum Beispiel versichert sie die Arbeiter gegen Unfall, Krankheit und Tod. Die Versicherten und Arbeitgeber bezahlen je eine Hälfte der Prämie, und das Reich zu jeder Rente einen Zuschuß von 50 M. Es ist ein sehr gutes Mittel gegen die Armut. Dann könnte ich auch erwähnen, daß eine große Abteilung der Polizei die Privathäuser untersucht, bevor eingezogen werden darf. Das Haus darf nur so und so hoch sein ; in jedem Zimmer muß so und so viel Licht sein. Die Fußboden müssen nach Vorschrift gelegt werden, u. s. w., u. s. w."

5 (*b.*) Die kleine Gesellschaft stand in einer Galerie und sah den großen leeren Sitzungssaal an, denn die Morgensitzung war schon vorüber. Der Führer deutete mit dem Finger auf die höheren Plätze, wo der Bundesrat sitzt, dann auf die Plattform des Reichstagspräsidenten. Zum Schlusse sagte er : „Dort links sitzen die Sozialdemokraten, neben ihnen die liberalen Parteien, in der Mitte die Katholiken, und rechts haben die Konservativen ihre Plätze. Das ist alles, was ich heute zeigen kann, meine Herrschaften. Es ist schon nach elf."

8 6. Beschreiben Sie die Sehenswürdigkeiten Berlins.

7. Translate :—

4 (*a.*) Ein junger Bauer, mit dem es in der Wirtschaft nicht recht vorwärts gehen wollte, saß auf seinem Pfluge und ruhte einen Augenblick aus, um sich den Schweiß vom Angesichte zu wischen. Da kam eine alte Hexe vorbeigeschlichen und rief ihm zu : „Was plagst du dich und bringst's doch zu nichts? Geh' zwei Tage lang gerade aus, bis du an eine große Tanne kommst, die frei im Walde steht und alle anderen Bäume überragt. Wenn du sie umschlägst, ist dein Glück gemacht."

Value.

4 (*b.*) Als sie jedoch vor dem Altare standen, und die Ringe wechseln sollten, vergaß Heino, daß ihm die rechte Hand fehlte, und er streckte dem Priester den Stumpf hin. Da geschah ein Wunder; denn als der Priester den Stumpf berührte, wuchs aus ihm eine neue Hand hervor, wie eine weiße Blume uus einem braunen Ast. Aber um das Handgelenk lief ein feiner roter Streif, schmal wie ein Faden herum. Den behielt er sein ganzes Leben.

8 8. Translate :—

(1.) In a beautiful valley in Germany there once lived a youth by the name of George, who always seemed to be dreaming.

(2.) He was not at all like the other people in the valley, who were quite ordinary human-beings.

(3.) When the stars twinkled, they only thought of the cold weather, and wondered if their potatoes would freeze.

(4.) One night he dreamt of a golden swing, that hung down from the sky by two silver ropes, in which was seated a beautiful princess, who threw down a rose to him.

(5.) When he awoke, he found a lovely large bunch-of-roses lying beside him.

(6.) After he had dreamt this dream two or three times, he thought there must be some truth in it; so he set out to look for the princess.

6 9. Translate :—

Bolz. Wenn mir gerade jetzt etwas Anderes näher ist als Lachen, so ist das nur eine vorübergehende Bosheit meiner Seele. Ich sehe mich doppelt, wie ein melancholischer Hochländer. Mit Ihnen tritt meine lange glückliche Kinderzeit leibhaftig vor meine Augen; Alles, was sie von Freude und Schmerz gebracht, fühle ich so lebhaft wieder, als wäre ich noch der einst für Sie auf Abenteuer in den Wald zog und Rothkehlchen fing.—Und doch ist die schöne Gestalt, welche ich vor mir sehe, von der Gespielin so verschieden, daß ich merke, es ist nur ein holder Traum, den ich träume.— Ihre Augen glänzen so freundlich wie sonst, aber—(sich leicht verneigend) ich habe kaum noch das Recht, an alte Träume zu denken.

10 10. Beschreiben Sie die Wahl in den Journalisten.

FRENCH. (Time, 3 hours.)

8 1. Substitute the correct tense and mood form for the italicized infinitives:—

(1.) S'il (*savoir*) bien chanter, je l'inviterais plus souvent. (2.) Quand il (*venir*) nous le lui dirons. (3.) Son père désirait qu'il (*obtenir*) un bon prix. (4.) Ce n'est peut-être pas vrai; je ne (*savoir*) le croire. (5.) Il faudra que vous (*être*) chez nous à trois heures. (6.) Je doutais qu'il (*être*) parti. (7.) Ordonnez qu'il (*appeler*) les autres. (8.) Il restera à moins qu'il ne (*vouloir*) pas nous voir.

10 2. Supply the correct form of the past participle:—

(1.) Quelles sont les langues que vous avez (*étudier*). (2.) Voici la viande. J'en ai (*acheter*) deux livres. (3.) Où sont les choses que vous nous-avez (*apporter*)? (4.) Elles s'en sont (*souvenir*). (5.) Que serions-nous (*devenir*)? (6.) Ils se sont (*laver*) les mains. (7.) Quelque chose est (*tomber*). (8.) Laquelle des dames a-t-il (*voir*)? (9.) Quelle belle journée il a (*faire*)! (10.) Voilà la dame que j'ai (*entendre*) chanter.

Value.

7 3. Supply the correct past tense:—

La leçon finie, on (*passer*) à l'écriture. On ne (*entendre*) que le grincement des plumes sur le papier. Un moment, des hannetons (*entrer*); mais personne n'y (*faire*) attention, pas même les tous petits. Sur la toiture de l'école, des pigeons (*roucouler*) tout bas. De temps en temps quand je (*lever*) les yeux de dessus ma page, je (*voir*) M. Hamel immobile dans sa chaire.

10 4. Translate:—

(1.) Perhaps he is right. (2.) He is richer than I thought. (3.) Think of it, my son. (4.) You and I believe it. (5.) My uncle has just arrived. (6.) It isn't easy to speak French well. (7.) Hence my friend had spoken to them. (8.) He had been in Paris three months. (9.) Where are you going—to France or Canada? (10.) Here is something good.

10 5. Translate:—

Et moi qui savais à peine écrire! Je n'apprendrais donc jamais! Il faudrait donc en rester là! Comme je m'en voulais maintenant du temps perdu, des classes manquées à courir les nids ou à faire des glissades sur la Saar! Mes livres que tout à l'heure encore je trouvais si ennuyeux, si lourds à porter, ma grammaire, mon histoire sainte, me semblaient de vieux amis qui me feraient beaucoup de peine à quitter. C'est comme M. Hamel. L'idée qu'il allait partir, que je ne le verrais plus, me faisait oublier les punitions, les coups de règle.

10 6. Translate:—

On continua de marcher sous toutes voiles, et par un temps très frais, de sorte que, le lendemain 28, on doubla le cap Corse. Ce jour encore, on reconnut un bâtiment de guerre de 74, au large, et se dirigeant sur Bastia; mais celui-là ne causa aucune inquiétude; dès le premier moment, on reconnut qu'il n'avait point de mauvaises intentions.

Avant de quitter l'île d'Elbe, Napoléon avait rédigé deux proclamations; mais, lorsqu'il voulut les faire mettre au net, personne, pas même lui, ne les put déchiffrer, il les jeta alors à la mer et en dicta aussitôt deux autres, l'une adressée à l'armée, l'autre au peuple français; tous ceux qui savaient écrire furent aussitôt transformés en secrétaires, tout devint pupitre, tambours, bancs, bonnets, et chacun se mit à l'ouvrage. Au milieu de ce travail, on aperçut les côtes d'Antibes: elles furent saluées par des cris d'enthousiasme.

20 7. Translate:—

(*a.*) Dès cet instant commença pour moi un supplice dont l'esprit humain ne saurait se faire aucune idée. Chacun sait ou devine ce que peut être une prison; mais essayez de vous figurer une prison vivante et ambulante, dont les quatre murs vont et viennent, s'écartent et se rapprochent, tournent et retournent, se frottent les mains, se grattent, se mouchent, se secouent, se démènent, et fixent obstinément huit grands yeux noirs sur le prisonnier! J'essayai de la promenade: mon cachot à huit pattes régla son pas sur le mien. Je poussai jusqu'aux frontières du camp: les deux hommes qui me précédaient s'arrêtèrent court, et je donnai du nez contre leurs uniformes.

(*b.*) He told me that, if this were the case, he would send me back to Athens with a letter to Mrs. Simon's brother, but if I wanted to spend a few days on the mountains, he would offer me hospitality. I answered that I would accept his hospitality on the condition that he gave me back my box, which served to hold the plants that I gathered.

Value.

25 8. Write in French a short account of one of the following subjects:—

(*a.*) The Last Days of Napoleon.

(*b.*) The Return of Tistet Védène.

(*c.*) The Death of Colonel Jouve.

Greek. (Time, 3 hours.)

13 1. Translate:—

τὴν δὲ Ἑλληνικὴν δύναμιν ἤθροιζεν ὡς μάλιστα ἐδύνατο ἐπι-κρυπ-τόμενος, ὅπως ὅτι ἀπαρασκευότατον λάβοι βασιλέα. ὧδε οὖν ἐποιεῖτο τὴν συλλογήν. ὁπόσας εἶχε φυλακὰς ἐν ταῖς πόλεσι, παρ-ήγγειλε τοῖς φρουράρχοις ἑκάστοις λαμβάνειν ἄνδρας Πελοποννησίους ὅτι πλείστους καὶ βελτίστους, ὡς ἐπι-βουλεύοντος Τισσαφέρνους ταῖς πόλεσι. καὶ γὰρ ἦσαν αἱ Ἰωνικαὶ πόλεις Τισσαφέρνους τὸ ἀρχαῖον, ἐκ βασιλέως δεδομέναι, τότε δ' ἀφ-ειστήκεσαν πρὸς Κῦρον πᾶσαι πλὴν Μιλήτου.

(*a.*) Account for the case of ἐπιβουλεύοντος; the mood of λάβοι.

(*b.*) Write a note on the phrases, ὅτι ἀπαρασκευότατον, ὡς ἐπιβουλεύοντος.

(*c.*) Why has βασιλέα no article?

30 2. Translate:—

εἷς δὲ δὴ εἶπε, προσ-ποιούμενος σπεύδειν ὡς τάχιστα πορεύεσθαι εἰς τὴν Ἑλλάδα, στρατηγοὺς μὲν ἐλέσθαι ἄλλους ὡς τάχιστα, εἰ μὴ βούλεται Κλέαρχος ἀπ-άγειν· τὰ δ' ἐπιτήδεια ἀγοράζεσθαι (ἡ δ' ἀγορὰ ἦν ἐν τῷ βαρβαρικῷ στρατεύματι), καὶ συ-κευάζεσθαι· ἐλθόντας δέ Κῦρον αἰτεῖν πλοῖα, ὡς ἀπο-πλέοιεν. ἐὰν δὲ μὴ διδῷ ταῦτα, ἡγεμόνα αἰτεῖν Κῦρον, ὅστις διὰ φιλίας τῆς χώρας ἀπ-άξει· ἐαν δὲ μηδὲ ἡγεμόνα διδῷ, συν-τάττεσθαι τὴν ταχίστην, πέμψαι δὲ καὶ προ-καταληψομένους τὰ ἄκρα, ὅπως μὴ φθάσωσι μήτε Κῦρος μήτε οἱ Κίλικες κατα-λαβόντες, ὧν πολλοὺς καὶ πολλὰ χρήματα ἔχομεν ἀν-ηρπακότες.

(*a.*) Account for the mood of ἐλέσθαι, ἀποπλέοιεν, δίδῳ.

(*b.*) Write the principal parts of ἐλέσθαι, ἐλθόντας, δίδῳ, πέμψαι, φθάσωσι.

(*c.*) Remark upon the voice of ἐλέσθαι; the tense of προκαταληψομένους; the construction with φθάσωσι; the person of ἔχομεν.

17 3. Translate:—

ἔνθα δὴ Κῦρος δείσας μὴ ὄπισθεν γενόμενος κατα-κόψῃ τὸ Ἑλληνικὸν ἐλαύνει ἀντίος· καὶ ἐμ-βαλὼν σὺν τοῖς ἑξακοσίοις νικᾷ τοὺς πρὼ βασιλέως τεταγμένους καὶ εἰς φυγὴν ἔτρεψε τοὺς ἑξακισχιλίους, καὶ ἀπο-κτεῖναι λέγεται αὐτὸς τῇ ἑαυτοῦ χειρὶ Ἀρταγέρσην τὸν ἄρχοντα αὐτῶν. ὡς δ' ἡ τροπὴ ἐγένετο, διασπείρονται καὶ οἱ Κύρου ἑξακόσιοι εἰς τὸ διώκειν ὁρμήσαντες, πλὴν πάνυ ὀλίγοι ἀμφ' αὐτὸν κατ-ελείφθησαν, σχεδὸν οἱ ὁμοτράπεζοι καλούμενοι.

(*a.*) Remark upon the mood of κατακόψῃ.

(*b.*) Write the principal parts of δείσας, ἐλαύνει, ἔτρεψε, κατελείφθησαν.

15 4. Translate:—

ἐνταῦθα δι-έσχον ἀλλήλων βασιλεύς τε καὶ οἱ Ἕλληνες ὡς τριάκοντα στάδια, οἱ μὲν διώκοντες τοὺς καθ' αὑτοὺς ὡς πάντας νικῶντες, οἱ δὲ ἁρπάζοντες ὡς ἤδη πάντα νικῶντες. ἐπεὶ δ' ἤσθοντο οἱ μὲν Ἕλληνες ὅτι βασιλεὺς σὺν τῷ στρατεύματι ἐν τοῖς σκευοφόροις εἴη, βασιλεὺς δ' αὖ ἤκουσε Τισσαφέρνους ὅτι οἱ Ἕλληνες νικῷεν τὸ καθ' αὑτούς καὶ εἰς τὸ πρόσθεν οἴχονται διώκοντες, ἐνταῦθα δὴ βασιλεὺς μὲν ἀθροίζει τε τοὺς ἑαυτοῦ καὶ συν-τάττεται, ὁ δὲ Κλέαρχος ἐβουλεύετο Πρόξενον καλέσας (πλησιαίτατος γὰρ ἦν), εἰ πέμποιέν τινας ἢ πάντες ἴοιεν ἐπὶ τὸ στρατόπεδον ἀρήξοντες.

(*a.*) Account for the case of Τισσαφέρνους; the mood of νικῷεν, ἴοιεν.

Value.

11 5. Translate:—

ὃ δὲ δὴ ἔγραψα ὅτι βασιλεὺς ἐξ-επλάγη τῇ ἐφόδῳ, τῷδε δῆλον ἦν. τῇ μέν γὰρ πρόσθεν ἡμέρᾳ πέμπων τὰ ὅπλα παρα-διδόναι ἐκέλευε, τότε δὲ ἅμα ἡλίῳ ἀνα-τέλλοντι κήρυκας ἔπεμψε περὶ σπονδῶν. οἱ δ' ἐπεὶ ἦλθον πρὸς τοὺς προφύλακας. ἐζήτουν τοὺς ἄρχοντας. ἐπειδὴ δὲ ἀπ-ήγγελλον οἱ προφύλακες, Κλέαρχος τυχὼν τότε τὰς τάξεις ἐπισκοπῶν εἶπε τοῖς προφύλαξι κελεύειν τοὺς κήρυκας περι-μένειν ἄχρι ἂν σχολάσῃ.

(*a.*) Parse ὅ, τῷδε, σχολάσῃ.

14 6. Translate:—

ἐπεὶ δὲ σκοπῶν οὐ δύναμαι οὔτε σὲ αἰσθέσθαι πειρώμενον ἡμᾶς κακῶς ποιεῖν ἐγώ τε σαφῶς οἶδα ὅτι ἡμεῖς γε οὐδὲ ἐπι-νοοῦμεν τοιοῦτον οὐδέν, ἔδοξέ μοι εἰς λόγους σοι ἐλθεῖν, ὅπως εἰ δυναίμεθα ἐξ-έλοιμεν ἀλλήλων τὴν ἀπιστίαν. καὶ γὰρ οἶδα ἀνθρώπους ἤδη τοὺς μὲν ἐκ διαβολῆς τοὺς δὲ καὶ ἐξ ὑποψίας,, οἳ, φοβη-θέντες ἀλλήλους, φθάσαι βουλόμενοι πρὶν παθεῖν, ἐποίησαν ἀνήκεστα κακὰ τοὺς οὔτε μέλλοντας οὔτ' ἂν βουλομένους τοιοῦτον οὐδέν.

(*a.*) Account for the case of κακὰ, τοὺς μέλλοντας; the mood of πειρώμενον, δυναίμεθα

ENGLISH LITERATURE. (Time, 3 hours.)

14 1. "Prose, then, in the time of James, Charles I., and of the Commonwealth, had largely developed its powers."—*Stopford Brooke.*

Name the principal prose writers of this period and a book or two by each.

14 2. Keeping in mind Stopford Brooke's account of Shelley and especially your own study of "Adonais," write on the characteristics of Shelley's poetry.

15 3. (*a.*) In what ways do "The Rape of the Lock" and Wordsworth's "Ode on Immortality" illustrate the literary periods to which they belong?

(*b.*) What foundation in experience has the "Ode on Immortality"?

15 4. (*a.*) What are the best touches in Burns's description of the cotter's Saturday night?

(*b.*) "He [Burns] did the same work in Scotland in 1786 which Crabbe began in England in 1783, and Cowper in 1785."—*Stopford Brooke.* Explain this statement.

14 5. Show that Ruskin writes on economic questions from a certain characteristic point of view.

14 6. Examine the characterization in "Silas Marner" in order to disclose a principle that contributes to the unity of thought of the novel; in other words, find harmony of representation in the diversity of character.

14 7. How does Thackeray make Henry Esmond's marriage to Lady Castlewood plausible?

PHYSICAL SCIENCE. (Time, 1½ hours.)

Value.

20 1. (*a.*) Write out in full a law regarding the transmission of pressure in fluids.

(*b.*) The diameter of the plunger of a hydraulic (sometimes called a hydrostatic) press is 3 inches; the diameter of the large piston is 24 inches. What force on the plunger will support a weight of 1,920 lb. on the press?

(*c.*) When the barometer stands at 80 cm. the volume of a mass of gas is 380 c.c. If the temperature remains constant, what volume would it occupy at standard pressure?

20 2. (*a.*) The temperature of two bodies, the level of a liquid, and the potential of two points in an electric circuit are said to be analogous. Explain fully what is meant.

(*b.*) Show that there are two kinds of electrification and explain how each kind may be produced.

20 3. (*a.*) State two methods of producing cold artificially and discuss why in each case the temperature is lowered?

(*b.*) What do you understand by Absolute Zero?

20 4. (*a.*) What is a Voltaic Cell? What is meant by *Local action, Polarization, Open-circuit cells?*

(*b.*) Describe in detail a cell which is adapted to closed-circuit work.

20 5. (*a.*) Name and define the absolute units of force and of work, used in the metric system.

(*b.*) How many kilogrammeters of Kinetic energy does a body of 750 gm. mass acquire in falling freely 4 seconds?

(*c.*) How far will a 3-h.p. engine raise 2,000 lbs. in 10 seconds?

Senior Academic Grade.

LATIN. (Time, 3 hours.)

Value.

14 1. Translate:—

Ille et nefasto te posuit die,
quicumque primum, et sacrilega manu
produxit, arbos, in nepotum
perniciem opprobriumque pagi;
illum et parentis *crediderim* sui
fregisse cervicem et penetralia
sparsisse nocturno cruore
hospitis; ille *venena Colcha*
et quicquid usquam concipitur nefas
tractavit, agro qui statuit meo
te, triste lignum, te caducum
in domini caput immerentis.
quid quisque *vitet*, numquam homini satis
cautum est in horas. navita *Bosphorum*
Thynus perhorrescit neque ultra
caeca timet aliunde fata,
miles sagittas et celerem fugam
Parthi, catenas *Parthus* et Italum
robur: sed improvisa leti
vis rapuit rapietque gentis.

(*a.*) Explain the mood of *crediderim* and *vitet.*

(*b.*) Make notes on *venena Colcha*, *Bosphorum*, and *Parthus.*

12 2. Translate:—

Non usitata nec tenui ferar
pinna biformis per liquidum aethera
vates, neque in terris morabor
longius, *invidiaque maior*
urbes relinquam. non ego pauperum
sanguis parentum, non ego *quem vocas*,
dilecte Maecenas, obibo
nec Stygia cohibebor unda.
iam iam residunt cruribus asperae
pelles et album mutor in alitem
superne nascunturque leves
per digitos umerosque plumae.

(*a.*) Explain the meaning implied in *invidiaque maior* and *quem vocas.*

(*b.*) What does Horace foretell in this ode?

12 3. Translate:—

dulce et decorum est pro patria mori:
mors et fugacem persequitur virum
nec parcit imbellis iuventae
poplitibus timidove tergo.
virtus repulsae nescia sordidae
intaminatis fulget honoribus
nec *sumit aut ponit securis*
arbitrio popularis aurae.

(*a.*) Scan the first stanza.

(*b.*) Make notes on the phrase *sumit aut ponit securis.*

Value.

12 4. Translate:—

Intactis opulentior
thesauris Arabum et divitis Indiae,
caementis licet occupes
Tyrrhenum omne tuis et mare sublicis,
si figit adamantinos
summis verticibus dira Necessitas
clavos, non animum metu,
non mortis laqueis expedies caput.
campestres melius Scythae,
quorum plaustra vagas rite trahunt domos,
vivunt et rigidi Getae,
immetata quibus iugera liberas
fruges et Cererem ferunt,
nec cultura placet longior annua,
defunctumque laboribus
aequali recreat sorte vicarius.

(*a.*) What abuse does Horace attack in this ode?

8 5. Translate:—

Exegi monumentum aere perennius
regalique situ pyramidum altius,
quod non imber edax, non *Aquilo* impotens
possit diruere aut innumerabilis
annorum series et fuga temporum.
non omnis moriar, multaque pars mei
vitabit *Libitinam:*

(*a.*) Make notes on *Aquilo* and *Libitinam.*

10 6. Translate:—

Praeerat tunc Britanniae Vettius Bolanus placidius quam feroci *provincia* dignum est. Temperavit Agricola vim suam ardoremque compescuit, ne increscerent, peritus obsequi eruditusque utilia honestis miscere. Brevi deinde Britannia consularem Petilium Cerialem accepit. Habuerunt virtutes spatium *exemplorum*, sed primo Cerialis labores modo et discrimina, mox et gloriam conmunicabat: saepe parti exercitus in experimentum, aliquando maioribus *copiis* ex eventu praefecit. Nec Agricola umquam in suam famam gestis exsultavit: ad auctorem ac ducem ut minister fortunam referebat. Ita virtute in obsequendo, verecundia in praedicando extra invidiam nec extra gloriam erat.

(*a.*) Explain the case of *provincia*, *exemplorum*, and *copiis.*

10 7. Translate:—

'Quotiens causas belli et necessitatem nostram intueor, magnus mihi animus est hodiernum diem consensumque vestrum initium libertatis toti Britanniae fore; nam et universi servitutis expertes et nullae ultra terrae ac ne mare quidem securum, inminente nobis classe Romana. Ita proelium atque arma quae fortibus honesta, eadem etiam ignavis tutissima sunt. Priores pugnae, quibus adversus Romanos varia fortuna certatum est, spem ac subsidium in nostris manibus habebant, quia nobilissimi totius Britanniae eoque in ipsis penetralibus siti nec servientium litora adspicientes, oculos quoque a contactu dominationis inviolatos habebamus.

(*a.*) Tell what you know of the man who is speaking here.

8 8. Translate:—

Tu vero felix, Agricola, non vitae tantum claritate, sed etiam opportunitate mortis. Ut perhibent qui interfuerunt novissimis sermonibus tuis, constans

Value.

et libens fatum excepisti, tamquam pro virili portione innocentiam principi donares. Sed mihi filiaeque eius praeter acerbitatem parentis erepti auget maestitiam, quod adsidere valetudini, fovere deficientem, satiari vultu complexuque non contigit.

(*a.*) To what conditions in the state does Tacitus here refer?

14 9. Translate into Latin:—

(*a.*) For seven years, fellow soldiers, you have waged successful warfare under the auspices of the Roman imperium. By your patience and energy you have conquered, not only a brave enemy, but also nature herself. When marshes, mountains, and rivers wearied you, I have heard you exclaim, "When shall we be brought face to face with the enemy?"

(*b.*) That same summer a cohort of the Usipi, which had been raised in Germany, killed their officers and put to sea in an attempt to reach the continent.

(*c.*) If Agricola had not been recalled through the jealousy of Domitian, he would have brought all Britain under the power of Rome.

GERMAN. (Time, 3 hours.)

10 1. Translate:—

Daß im Eckart'ſchen Haus alles in Freude ſchwamm, verſteht ſich von ſelbſt Die Mutter begann alsbald ein gewaltiges Rumoren in allen Räumlichkeiten. Die alten Nußbaumſchränke wurden geöffnet und eine Generalmuſterung über Leinen, Tiſchzeug und dergleichen Dinge gehalten. Die Zimmer des obern Stockwerks wurden gereinigt, geweißt und tapeziert. Auch konnte man das Elternpaar ſehen, wie es die Räume zwiſchen den Fenſtern maß, um die Größe der hier anzubringenden Spiegel, Tiſchchen und Konſolen zu beſtimmen, und Herr Eckart ſchwänzte zuweilen, was ſonſt nie vorkam, ſeine Arbeitsſtunden, um mit ſeiner Gattin die Magazine der Möbel und Porzellanhändler zu durchſtreifen. Denn jetzt galt es, der Kanzleirätin zu zeigen was das Haus Eckart leiſten könne. — —

15 2. (*a.*) Bechreiben Sie den Charakter des Herrn Eckart.

10 (*b.*) Discus the Social Situation pictured in Baumbach's Schwiegersohn.

10 3. Translate:—

Marsland (von links, erregt). Ich weiß nicht mehr, wo mir der Kopf ſteht—willſt du auch etwas von mir?

Macdonald. Ja, ich bin dein alter Freund—ich will dir einen guten Rat geben.—Herr Robert, dein Bibliothekar —

Marſland. Iſt ein ganz famoſer Menſch.

Macdonald. Ja — aber weißt du — ſchicke ihn weg.

Marſland. Was?

Macdonald. Frage mich nicht, warum — weshalb — ich ſage dir kein Wort weiter.

Marsland. Na, da hört doch alles auf!

Macdonald. Sei nur nicht ſo heftig, was giebt's denn?

Marland. Meine Tochter will nach Italien reiſen — ſagt mir nicht, weshalb — mein Neffe will Geld haben, ſagt mir nicht, wozu — eben erzählt mir John, die alte Sarah hätte einen Menſchen hier im Hauſe verſteckt, ſagt mir nicht, wo — Mr. Gibſon iſt fort — ſagte mir nicht, wohin — na, iſt denn das noch nicht genug?

Value.

Macdonald (bei Seite). Alle Wetter, der Versteckte ist ja mein Neffe!
Marsland. In meinem Hause ging alles immer ordentlich her und jetzt — diese Konfusion — aber ich schaffe Ordnung — verlaß dich darauf. (Sarah kommt von links mit einem Korbe, in dem Eßwaren sind.)

15 4. Translate :—

1. Heute rede ich ihm ins Gewissen.
(2.) Was fällt Ihnen ein?
(3.) Das heißt schnell Feuer gefangen.
(4.) Ich habe mir etwas schönes eingebrockt.
(5.) Wollen Sie mich zum besten haben?
(6.) Ganz nach Belieben.
(7.) Er geniert sich ja nicht.
(8.) Das wird sich finden.
(9.) Ich habe das Leben auf die leichte Achsel genommen.
(10.) Mir steht der Verstand still.

5. Translate :—

10 (*a.*) Alles erinnerte mich an Sedan, obgleich in viel größerem Maßstabe; die enge Straße war mit waffenlosen Soldaten angefüllt, die ihr Päckchen reisefertig unterm Arm trugen, die Bevölkerung schlenderte müßig mit verbissener Miene umher, den deutschen Soldaten grimmige Blicke zuwerfend, oder in Gruppen ihre Wut laut auslassend. In den Hausthüren standen die Nachbarn und Gevattern zusammen; die Magazine waren geschlossen oder nur widerwillig geöffnet; hinter den Eisenstäben der Fleischer hing eine Ausstellung von Pferdefleisch; die Frauen gingen in Trauerkleidern umher, und die Deutschen unter ihnen haßten uns trotziger als die Franzosen.

10 (*b.*) Es war ein herzzerreißender Anblick: das vom Mond bestrahlte eisige weite Schlachtfeld schien der Schnee zu einem großen Leichentuch zu machen, dessen Schein sich in den halbgeöffneten Augen der massenweise daliegenden Toten brach, und immer zuckten im Hintergrunde die Flammensäulen wieder auf. Mehr als 150 000 hatten wir uns gegenüber gehabt und die siebzehnhundert Gefangenen, die ich abends vor mir vorüberführen sah, bewiesen, daß wir es mit einer vortrefflich organisierten und gut ausgerüsteten Armee zu thun gehabt. Die Söhne der edelsten Familien standen in ihren Reihen, die Blüte der Süd-Provinzen.

20 6 Translate :—

In the meantime the *Salle des Glaces* in the castle was decorated. We were getting ready for the festival of the crowning of the German Emperor on January the 18th. That morning I stood in the *Salle des Glaces* at the cradle of the new-born German Empire. Before me stood Germany's princes, generals, and officers with their iron crosses, paying homage with uplifted sword to the German Emperor. The latter embraced his son with tears in his eyes, while the Iron Count read out the proclamation. The next day the French made a last attempt to break through the ring of the besiegers, but it was in vain. On the 29th the forts were occupied by us. Then followed the capitulation.

FRENCH (Molière, Voltaire, Hugo). (Time, 3 hours.)

(Prière de répondre en français.)

Value.

10 1. Traduisez:—

Quand il n'y eut plus de chefs vivants qu'Enjolras et Marius aux deux extremités de la barricade, le centre plia. Le canon, sans faire de brèche praticable, avait assez largement échancré le milieu de la redoute; là, le sommet de la muraille avait disparu sous le boulet, et s'était écroulé; et les débris qui étaient tombés, tantôt à l'intérieur, tantôt à l'extérieur, avaient fini, en s'amoncelant, par faire, des deux côtés du barrage, deux espèces de talus, l'un au dedans, l'autre au dehors. Le talus extérieur offrait à l'abordage un plan incliné.

10 2. Expliquez:—

Un naufragé de la Méduse; des frères ignorantins; Le soleil ne parut pas; Ce n'était pas le rendez-vous d'Austerlitz; La Bérésina; Le jeune premier.

10 3. Traduisez:—

Je mangerai demain—ou à la Trinité; il bat le pavé; je m'en suis allé pour coucher à la belle étoile; des arbrisseaux secouaient leurs petits bras maigres avec une furie incroyable; L'avocat général l'envoya à Montreuil-sur-mer par un exprès, à franc étrier.

10 4. Traduisez:—

Oui. Premièrement, elle est nourrie et elevée dans une grande épargne de bouche. C'est une fille accoutumée à vivre de salade, de lait, de fromage et de pommes, et à laquelle, par conséquent, il ne faudra ni table bien servie, ni consommés exquis, ni orges mondés perpétuels, ni les autres délicatesses qu'il faudrait pour une autre femme; et cela ne va pas à si peu de chose, qu'il ne monte bien, tous les ans, à trois mille francs pour le moins. Outre cela, elle n'est curieuse que d'une propreté fort simple, et n'aime point les superbes habits, ni les riches bijoux, ni les meubles somptueux, où donnent ses pareilles avec tant de chaleur; et cet article-là vaut plus de quatre mille livres par an. De plus, elle a une aversion horrible pour le jeu, ce qui n'est pas commun aux femmes d'aujourd'hui.

10 5. Commentez, au point de vue de la grammaire, les expressions suivantes:—

Il file doux.

Le capitaine prit amitié pour moi.

Qui est plus criminel à votre avis, ou celui qui achète un argent dont il a besoin, ou bien celui qui vole un argent dont il n'a que faire?

Valère, ne bougez d'ici je vous prie.

Plût à Dieu que les eusse, dix mille écus.

Je parle d'un cochon de lait que votre intendant me vient d'envoyer.

10 6. Traduisez:—

Dans le temps que le czar, échappé de ce mauvais pas, se retirait tambour battant et enseignes déployées, arrive le roi de Suède, impatient de combattre et de voir son ennemi entre ses mains; il avait couru plus de cinquante lieues à cheval depuis Bender jusqu'auprès d'Yassi: il arriva dans le temps que les Russes commençaient à faire paisiblement leur retraite. Il fallait, pour pénétrer au camp des Turcs, aller passer le Pruth sur un pont à trois lieues de là. Charles XII., qui ne faisait rien comme les autres hommes, passa la rivière à la nage, au hasard de se noyer, et traversa le camp moscovite, au hasard d'être pris: il parvint à l'armée turque, et descendit à la tente du comte Poniatowski, qui m'a conté et écrit ce fait.

10 7. Quelles différences avez-vous remarquées entre le style de Voltaire et celui de Victor Hugo?

Value.

30 8. Thème:—

The first time that the girl who accompanied him came and sat with him on the seat that they seemed to have adopted, she was a girl of thirteen or fourteen, thin almost to the point of ugliness, awkward, insignificant, but who promised to have rather fine eyes. They were always raised, however, with an unpleasant assurance. She was dressed in the style at once old-fashioned and childish affected by boarders in a convent. They appeared to be father and daughter. Marius examined them. They did not seem to see him. The girl chattered without ceasing and gaily. Marius invariably found them there when he walked in the *allée*.

FRENCH (Corneille, Souvestre). (Time, 3 hours.)

(Prière de répondre en français.)

10 1. Traduisez:—

L'INFANTE.

Page, *cherchez Rodrigue et l'amenez* ici.

. . . . . .

Hélas! que dans l'esprit je sens d'inquiétude!
Je pleure ses malheurs, son *amant* me ravit;
Mon repos m'abandonne, et ma *flamme* revit.
Ce qui va séparer Rodrigue de Chimène
Fait renaître à la fois mon espoir et ma peine;
Et leur division, que je vois à regret
Dans mon esprit *charmé* jette un plaisir secret.

. . . . . .

LÉONOR.

Vous laissez *choir* ainsi ce glorieux courage,
Et la raison chez vous perd ainsi son usage?

10 2. Commentez les expressions en italique dans le passage ci-dessus.

10 3. Traduisez:—

Il vous en faut encor faire un récit;
Cet amour, qui tous deux les comble d'allégresse,
Fait-il de ce grand coeur la profonde tristesse;
Pour grands que soient les rois ils sont ce que nous sommes;
Mon coeur outré d'ennemis n'ose rien espérer;
Pour lui tout votre empire est un lieu de franchise.

10 4. Traduisez:—

NÉARQUE.

Ainsi du genre humain l'ennemi vous abuse:
Ce qu'il ne peut de force, il l'entreprend de ruse.
Jaloux des bons desseins qu'il tâche d'ébranler,
Quand il ne les peut rompre, il pousse à reculer;
D'obstacle sur obstacle il va troubler le vôtre,
Aujourd'hui par des pleurs, chaque jour par quelque autre;
Et ce songe rempli de noires visions
N'est que le coup d'essai de ses illusions:
Il met tout en usage, et prière, et menace;
Il attaque toujours, et jamais ne se lasse;
Il croit pouvoir enfin ce qu'encore il n'a pu,
Et que ce qu'on diffère est à demi rompu.

Value.

10 5. Commentez, au point de vue de la grammaire, les expressions suivantes :—

Quand il ne les peut rompre, il pousse à reculer;
Pour se donner à lui faut-il n'aimer personne?;
A raconter ses maux souvent ou les soulage;
Le roi de Perse avait fait enlever Sévère, il en fit prendre soin;
Ce même devoir me range dessous les lois de mon père.

10 6. Traduisez :—

Mais cette variété d'exhibitions qui fait de Paris la foire du monde, n'offre point seulement au promeneur un moyen de s'instruire; c'est une perpétuelle excitation pour l'imagination éveillée, un premier échelon toujours dressé devant nos songes. En la voyant, que de voyages entrepris par la pensée, quelles aventures rêvées, combien de merveilleux tableaux ébauchés! Je ne regarde jamais, près des Bains chinois, cette boutique tapissée de jasmins des Florides et pleine de magnolias, sans voir se dérouler devant mes yeux toutes les clairières des forêts du nouveau monde décrites par l'auteur d'*Atala*.

10 7. Donnez cinq examples caractéristiques de la syntaxe du 17e siècle et mettez en face de chacun la phrase telle que Souvestre l'aurait écrite.

30 8. Thème :—

For some time a cloud had been forming on the horizon. Now it is raining. Listen—that is the thunder growling. Look—a flash of lightning has rent the dark cloud.

Let us observe the effects of this sudden storm. What a universal stampede! Where are the people who, just now, were walking about so quietly in the street? They have all fled before the hail and the squalls. The economical tradesman is afraid of spoiling his new hat. The national guard has forgotten his martial attitude. The children and young girls run with cries and bursts of laughter.

GREEK. (Time, 3 hours.)

A. LUCIAN, VERA HISTORIA.

10 1. Translate :—

Ὁρμηθεὶς γάρ ποτε ἀπὸ Ἡρακλείων στηλῶν καὶ ἀφεὶς ἐς τὸν ἑσπέριον ὠκεανὸν οὐρίῳ ἀνέμῳ τὸν πλοῦν ἐποιούμην. αἰτία δέ μοι τῆς ἀποδημίας καὶ ὑπόθεσις ἡ τῆς διανοίας περιεργία καὶ πραγμάτων καινῶν ἐπιθυμία, καὶ τὸ βούλεσθαι μαθεῖν, ὅ τι τὸ τέλος ἐστὶ τοῦ ὠκεανοῦ καὶ τίνες οἱ πέραν κατοικοῦντες ἄνθρωποι. τούτου γέ τοι ἕνεκα πάμπολλα μὲν σιτία ἐνεβαλόμην, ἱκανὸν δὲ καὶ ὕδωρ ἐνεθέμην, πεντήκοντα δὲ τῶν ἡλικιωτῶν προσεποιησάμην τὴν αὐτὴν ἐμοὶ γνώμην ἔχοντας.

(*a.*) Explain the construction of βούλεσθαι, ἐστὶ; the difference between ἐνεβαλόμην and ἐνέβαλον.

(*b.*) What is meant by Ἡρακλείων στηλῶν?

10 2. Translate :—

Ἄρτι δὲ τούτων γιγνομένων ἠγγέλλοντο ὑπὸ τῶν σκοπῶν οἱ Νεφελοκένταυροι προσελαύνοντες, οὓς ἔδει πρὸ τῆς μάχης ἐλθεῖν τῷ Φαέθοντι. καὶ δὴ ἐφαίνοντο προσιόντες, θέαμα παραδοξότατον, ἐξ ἵππων πτερωτῶν καὶ ἀνθρώπων

Value.

συγκείμενοι· μέγεθος δὲ τῶν μὲν ἀνθρώπων ὅσον τοῦ Ῥοδιου Κολοσσοῦ ἐξ ἡμισείας ἐς τὸ ἄνω· τῶν δ' ἵππων ὅσον νεὼς μεγάλης φορτίδος. τὸ μέντοι πλῆθος αὐτῶν οὐκ ἀνέγραψα, μή τῳ καὶ ἄπιστον δόξῃ, τοσοῦτον ἦν· ἡγεῖτο δὲ αὐτῶν ὁ ἐκ τοῦ Ζωδιακοῦ τοξότης.

(*a.*) Explain the construction of τούτων, προσελαύνοντες, δόξῃ.
(*b.*) What is referred to by Κολοσσοῦ, τοξότης?

13 3. Translate :—

Τότε δ' οὖν ἀσπασάμενοι τὸν βασιλέα καὶ τοὺς ἀμφ' αὐτόν, ἐμβάντες ἀνήχθημεν, ἐμοὶ δὲ καὶ δῶρα ἔδωκεν ὁ Ἐνδυμίων δύο μὲν τῶν ὑαλίνων χιτώνων πέντε δὲ χαλκοῦς καὶ πανοπλίαν θερμίνην· ἃ πάντα ἐν τῷ κήτει κατέλιπον. συνέπεμπε δὲ ἡμῖν καὶ Ἱπογύπους χιλίους, παραπέμψοντας ἄχρι σταδίων πεντακοσίων. ἐν δὲ τῷ παράπλῳ πολλὰς μὲν καὶ ἄλλας χώρας παρημείψαμεν, προσέσχομεν δὲ καὶ τῷ Ἑωσφόρῳ ἄρτι συνοικιζομένῳ, καὶ ἀποβάντες ὑδρευσάμεθα. ἐμβάντες δὲ εἰς τὸν Ζωδιακὸν ἐν ἀριστερᾷ παρήειμεν τὸν ἥλιον, ἐν χρῷ τὴν γῆν παραπλέοντες· οὐ γὰρ ἀπέβημεν, καίτοι πολλὰ τῶν ἑταίρων ἐπιθυμούντων· ἀλλ, ὁ ἄνεμος οὐκ ἐφῆκεν.

(*a.*) Explain the construction of ἡμῖν ; the tense of ἐμβάντες, παραπέμψοντας.
(*b.*) What is meant by κήτει, Ἑωσφόρῳ?
(*c.*) What was Lucian's purpose in writing the *Vera Historia*?

17 4. Translate :—

Ἦν δὲ ἡ μὲν πρώτη δίκη περὶ Αἴαντος τοῦ Τελαμῶνος, εἴτε χρὴ αὐτὸν συνεῖναι τοῖς ἥρωσιν εἴτε καὶ μή· κατηγορεῖτο δὲ αὐτοῦ, ὅτι μεμήνοι καὶ ἑαυτὸν ἀποκτάνοι· τέλος δέ, πολλῶν ῥηθέντων, ὁ Ῥαδάμανθυς ἀπεφαίνετο νῦν μὲν αὐτὸν πιόμενον τοῦ ἑλλεβόρου παραδοθῆναι Ἱπποκράτει τῷ Κώῳ ἰατρῷ, ὕστερον δὲ σωφρονήσαντα μετέχειν τοῦ συμποσίου. δευτέρα δὴ ἦν κρίσις ἐρωτική, Θησέως καὶ Μενελάου περὶ τῆς Ἑλένης διαγωνιζομένων, ποτέρῳ αὐτὴν χρὴ συνοικεῖν. καὶ ὁ Ῥαδάμανθυς ἐδίκασε Μενελάῳ συνεῖναι αὐτήν, ἅτε καὶ τοσαῦτα πονήσαντι καὶ κινδυνεύσαντι τοῦ γάμου ἕνεκεν· καὶ γὰρ αὐτῷ Θησεῖ καὶ ἄλλας εἶναι γυναῖκας, τήν τε Ἀμαζόνα καὶ τὰς τοῦ Μίνωος θυγατέρας. τρίτη δ' ἐδικάσθη περὶ προεδρίας, Ἀλεξάνδρῳ τε τῷ Φιλίππου καὶ Ἀννίβᾳ τῷ Καρχηδονίῳ· καὶ ἔδοξε προέχειν ὁ Ἀλέξανδρος, καὶ θρόνος αὐτῳ ἐτέθη παρὰ Κῦρον τὸν Πέρσην, τὸν πρότερον.

(*a.*) Explain the construction of χρή, αὐτοῦ, ἐλλεβόρου; μεμήνοι, πιόμενον, εἶναι.
(*b.*) What is meant by προεδρίας?
(*c.*) Write brief notes on five of the following: Rhadamanthys, Hippocrates, Theseus, Minos, Ἀννίβᾳ, Cyrus.

B. HOMER, ILIAD, BOOK I.

10 5. Translate :—

Τὸν δ' αὖτε προσέειπε θεὰ γλαυκῶπις Ἀθήνη·
"ἦλθον ἐγὼ παύσουσα τὸ σὸν μένος, αἴ κε πίθηαι,
οὐρανόθεν· πρὸ δέ μ' ἧκε θεὰ λευκώλενος Ἥρη
ἄμφω ὁμῶς θυμῷ φιλέουσά τε κηδομένη τε·
ἀλλ' ἄγε λῆγ' ἔριδος, μηδὲ ξίφος ἕλκεο χειρί·
ἀλλ ἤτοι ἔπεσιν μὲν ὀνείδισον ὡς ἔσεταί περ·
ὧδε γὰρ ἐξερέω, τὸ δὲ καὶ τετελεσμένον ἔσται·
καί ποτέ τοι τρὶς τόσσα παρέσσεται ἀγλαὰ δῶρα

Value.

ὕβριος εἵνεκα τῆσδε· σὺ δ' ἴσχεο, πείθεο δ' ἡμῖν."

Τὴν δ' ἀπαμειβόμενος προσέφη πόδας ὠκὺς Ἀχιλλεύς·
"χρὴ μὲν σφωΐτερόν γε, θεά, ἔπος εἰρύσσασθαι
καὶ μάλα περ θυμῷ κεχολωμένον· ὣς γὰρ ἄμεινον·
ὅς κε θεοῖς ἐπιπείθηται, μάλα τ' ἔκλυον αὐτοῦ."

(*a.*) Explain the construction of *πίθηαι*, *ἔκλυον*; the derivation of *οὐρανόθεν*; the use of *πρό*.

(*b.*) Give the Attic forms for *φιλέουσα*, *ἔλκεο*, *ἔσεται*, *ὕβριος*.

10 6. Translate:—

Τὸν δ' ἄρ' ὑποβλήδην ἠμείβετο δῖος Ἀχιλλεύς·
"ἦ γάρ κεν δειλός τε καὶ οὐτιδανὸς καλεοίμην,
εἰ δὴ σοὶ πᾶν ἔργον ὑπείξομαι ὅττι κεν εἴπῃς·
ἄλλοισιν δὴ ταῦτ' ἐπιτέλλεο, μὴ γὰρ ἔμοιγε
σήμαιν'· οὐ γὰρ ἔγωγ' ἔτι σοὶ πείσεσθαι ὀΐω.
ἄλλο δέ τοι ἐρέω, σὺ δ' ἐνὶ φρεσὶ βάλλεο σῇσι·
χερσὶ μὲν οὔ τοι ἔγωγε μαχήσομαι εἵνεκα κούρης
οὔτε σοὶ οὔτε τῳ ἄλλῳ, ἐπεί μ' ἀφέλεσθέ γε δόντες·
τῶν δ' ἄλλων ἅ μοί ἐστι θοῇ παρὰ νηῒ μελαίνῃ,
τῶν οὐκ ἄν τι φέροις ἀνελὼν ἀέκοντος ἐμεῖο·
εἰ δ' ἄγε μὴν πείρησαι, ἵνα γνώωσι καὶ οἵδε·
αἶψά τοι αἷμα κελαινὸν ἐρωήσει περὶ δουρί.'

(*a.*) Explain the construction of *μ'*.

(*b.*) Scan the first three lines, noting any metrical peculiarities.

10 7. Translate:—

Ὣς ἄρα φωνήσασ' ἀπεβήσετο, τὸν δ' ἔλιπ' αὐτοῦ
χωόμενον κατὰ θυμὸν ἐϋζώνοιο γυναικός,
τήν ῥα βίῃ ἀέκοντος ἀπηύρων· αὐτὰρ Ὀδυσσεὺς
ἐς Χρύσην ἵκανεν ἄγων ἱερὴν ἑκατόμβην.
οἱ δ' ὅτε δὴ λιμένος πολυβενθέος ἐντὸς ἵκοντο,
ἱστία μὲν στείλαντο, θέσαν δ' ἐν νηῒ μελαίνῃ,
ἱστὸν δ' ἱστοδόκῃ πέλασαν προτόνοισιν ὑφέντες
καρπαλίμως, τὴν δ' εἰς ὅρμον προέρεσσαν ἐρετμοῖς.
ἐκ δ' εὐνὰς ἔβαλον, κατὰ δὲ πρυμνήσι' ἔδησαν·
ἐκ δὲ καὶ αὐτοὶ βαῖνον ἐπὶ ῥηγμῖνι θαλάσσης,
ἐκ δ' ἑκατόμβην βῆσαν ἑκηβόλῳ Ἀπόλλωνι·
ἐκ δὲ Χρυσηῒς νηὸς βῆ ποντοπόροιο.

(*a.*) Make a note on the form *ἀπεβήσετο*.

(*b.*) Give the Attic form for *ἀέκοντος*, *ἱερὴν*, *ποντοπόροιο*; the Attic word for *τήν* (line 3).

(*c.*) How do *ἵκοντο*, *νηῒ*, and *βῆσαν* differ from classical Attic usage?

(*d.*) Write a brief note on the letter *digamma* (F).

20 8. Translate into Attic prose:—

I viewed another marvel, too, in the palace. The Moon King told me that there was a large mirror set over a rather shallow well; that if one descended into the well he would hear everything that is said among us on the earth, whereas if he looked into the mirror he could see every city and every nation, just as if he were standing over them severally. I asked him to conduct me to the well, if he would. So I went and saw not only all my relatives but also my whole fatherland. Whether or not they also saw me, I cannot state with assurance.

ENGLISH LITERATURE. (Time, 3 hours.)

Value.

15 1. Write on *three* of the following:—

(*a.*) The significance of More's "Utopia" in the history of thought.

(*b.*) Why does Bunyan's "Pilgrim's Progress" live?

(*c.*) James Thomson's "Seasons."

(*d.*) Swift's Satires.

15 2. (*a.*) Write a short account of the English novel in the eighteenth century.

(*b.*) Briefly compare or contrast the "Vicar of Wakefield" with the fiction of that period.

(*c.*) Estimate Goldsmith's success as a delineator of character.

14 3. Comment on the dramatic effectiveness of the following passages:—

(*a.*) "There is a tide in the affairs of men, which, taken at the flood, leads on to fortune; . . . On such a full sea are we now afloat," etc.

(*b.*) "Here's a knocking indeed! If a man were porter of Hell-gate, he should have old turning the key," etc.

(*c.*) "I have bought
Golden opinions from all sorts of people,
Which would be worn in their newest gloss,
Not cast aside so soon."

14 4. (*a.*) Show that Macbeth has a powerful imagination.

(*b.*) What dramatic reason may be given for so endowing him?

(*c.*) Discuss the Quarrel Scene in "Julius Caesar" from the point of view of dramatic construction.

14 5. (*a.*) What is Dryden's general plan in the first part of "Absalom and Achitophel"?

(*b.*) Give the substance of two of his satirical sketches.

(*c.*) Comment on his power as a satirist.

14 6. What proposition does Ruskin maintain in the chapter on War ("Crown of Wild Olive")?

Estimate the value of the arguments he advances in supporting his view.

Or

Write on the vitality of Carlyle's book, "Heroes and Hero-worship."

14 7. What is lacking in the poetry of Pope?

Third-year Course, Commercial.

ARITHMETIC. (Time, 30 minutes.)

A. Rapid Calculation.

[NOTE.—*The time allowance for Arithmetic, Third-year Course, Commercial, is 2½ hours; after the expiration of 30 minues, answers to Section A (Rapid Calculation) will be collected, and Section B (General) will then be distributed to candidates. Candidates will complete their work on this sheet and hand it in; no other work is necessary.*]

[*All questions of equal value.*]

1. Add:—

$ 119.21
37.46
81.73
163.19
8.15
171.82
47.50
19.48
72.16
21.53
43.22
112.65
187.57
143.00
218.25
16.72
41.47
38.50
26.40
131.17
82.39
75.62

2. Find the amount of the following Mill Bill:—

4	pc. Fir 6″ x 6″ — 32′	35.00 M.	
28	pc. Fir 2″ x 4″ — 16′	29.00 M.	
9	pc. Fir 3″ x 4″ — 20′	30.00 M.	
40	pc. Fir 2″ x 10″ — 18′	29.00 M.	

3. Total the following invoice:—

7,148 lb.	@	$12.50	per cwt.....
492 „		16.75	„ .....
275 „		14.40	„ .....
2,368 „		11.60	„ .....
937 „		33.00	„ .....

4. Complete this account purchase:—

Purchase of Merchandise for account of
CHARLES M. HUDSON,
Victoria, B.C.

VICTORIA, B.C., Nov. 10, 1919.

By JONES, SEAGRAVE & COMPANY

9156 bu. Potatoes .....@ $1.56			
4385 bu. Potatoes .....@ 1.60			
2846 bu. Potatoes .....@ 1.58			
CHARGES			
Drayage and freight	147	25	
Commission 2%			
Amount charged to your account....			

5. Fill in the last column of the following table:—

WATER-POWERS OF CANADA.

Province.	Estimated Total Possible Horse-power.	Horse-power developed.	Percentage developed.
Ontario	5,800,000	760,000	
Quebec	6,000,000	640,000	
Nova Scotia	100,000	26,000	
New Brunswick	300,000	15,000	
Prince Edward Island	3,000	500	
Manitoba, Saskatchewan, Alberta, North-west Teritories	3,500,000	110,000	
British Columbia	3,000,000	250,000	
Yukon	100,000	12,700	
Total for Canada	18,803,000	1,813,210	

6. Complete the following statement:—

BRITISH COLUMBIA DRY GOODS COMPANY.

Profit and Loss Statement for 1919.

	Dry-goods Department.	Shoe Department.	Men's Wear Department.	Totals.
Sales	$165,780	$96,370	$142,960	
Goods returned	630	250	610	
NET SALES				
Cost of Goods	100,740	70,015	96,370	
GROSS PROFIT				
Overhead Charges	16,480	7,216	10,860	
NET PROFIT				

ECONOMICS AND CIVICS. (Time, 2 hours.)

Value.

8 1. (*a.*) Just what position does Canada occupy, politically, geographically, financially, and industrially, in the British Empire?

8 (*b.*) What influences has the Great War had on Canada as a part of the British Empire?

Value.

10 2. What are the main functions of the Federal, Provincial, and Municipal Governments? Can you draw a clear line between them?

7 3. (*a.*) Mention some of the mechanical inventions that caused the Industrial Revolution of the eighteenth century.

7 (*b.*) What good and what evil results did the Industrial Revolution have upon the life of the working classes?

7 (*c.*) What efforts have been made to correct the evil effects?

6 4. (*a.*) What do you understand by (*a*) Protection, (*b*) Free Trade?

10 (*b.*) What classes in Canada favour the former? the latter? Give reasons for this division of opinion.

10 5. What does the economist mean by the term "Profits"? Some economists speak of the "Profits on Capital." Others speak of profits as income secured by personal exertions. Which form of statement is correct? Are the two necessarily inconsistent?

6 6. (*a.*) What are the functions of banks in the industrial and social life of a country?

6 (*b.*) What government controls the activities of our Canadian Banks? Why?

6 (*c.*) What protection do our chartered banks offer to (1) depositors, (2) note-holders?

9 7. What do you understand by the following: Rent, interest, competition, marginal utility, unearned increment, money, value, price, nominal wage?

ARITHMETIC. (Time, 2 hours.)

B. General.

[NOTE.—*The time allowance for Arithmetic, Third-year Course, Commercial, is 2½ hours; after the expiration of 30 minutes, answers to Section A (Rapid Calculation) will be collected, and Section B (General) will then be distributed to candidates.*]

[*All questions of equal value.*]

1. Tenders are called for glazing the windows of a factory. There are 90 windows each with 16 panes 12" x 18", and 60 windows each with 12 panes 14" by 20". The lowest tender is 32c. per sq. ft. Find the cost at this price.

2. As invoice clerk for the Burrard Milling Co. you enter a car-load of wheat billed as 944 bushels. Noting the number of the car and going to the warehouse track you find the dimensions are: Length, inside, 36 ft.; width, inside, 8 ft. 6 in.; and that the average depth of wheat in the car is 3 ft. 8 in. What is the "over" or "short" error in the invoice?

3. A Vancouver dealer sells a kitchen range for $110, thereby making a profit of 25%. He had purchased the range from the manufacturers in Winnipeg at a discount of 30% from the manufacturers' list price and had paid $18 freight, Winnipeg to Vancouver. What was the manufacturers' catalogue price for this range?

4. For a derrick 48 ft. in height a construction company requires *three* guy-wires or cables each reaching from the top of the derrick to some point on the ground 45 ft. from the foot of the derrick. Allowing 10 ft. for all fastenings, what length of cable must be purchased?

5. A Canadian dealer imported 2,400 yards of carpet from England. The carpet was invoiced at 3s. 6d. per yard. He paid duty at the rate of 35 per cent. and transportation charges amounting to $250. He sold the carpet at $1.60 per yard. Find his gain and the gain per cent. (Rate of exchange at time of payment, £1 = $4.82.)

6. A merchant did a credit business one year of $78,568. The loss in bad debts amounted to 2½% of the sales. If the goods were sold at an average advance of 33⅓% of the cost, find his net gain, allowing overhead charges of 17½% of the sales.

7. How much can I realize on a note of $400 made March 20, 1919, at 90 days, if on April 15 I discount it at the bank at 8%?

8. H. C. Carpenter bought of the Van Cleve Glass Co. the following:—

3 boxes 7 x 9 @ $26.75, less 35% and 10%.
5 „ 10 x 14 @ $28.25, „ 35% „ 10%.
2 „ 16 x 20 @ $30.00, „ 25% „ 10%.
6 „ 18 x 24 @ $35.60, „ 25% „ 10%.

Terms: 60 days net, or 2% off in 10 days.
Write out a cheque for the cash payment.

9. Find the weight of a steel shaft (round) 2" diam., 18' long. (A cubic foot of steel weighs 490 lb.)

10. Why is a 3% bond "at 90" due in three years a good investment, granting that the financial standing of the company is good?

BUSINESS CORRESPONDENCE. (Time, 2 hours.)

[NOTE TO PRESIDING EXAMINER.—*Please provide candidates with plain white letter paper.*]

[*Candidates may use either pen and ink or typewriter for any portion of their work.*]

Value.

10 1. Write short sentences showing the meaning and use of: Except, complementary, stationary, precedent, access, counsel, canvas, eliminate, affect, respectively.

15 2. Mrs. J. Otis, a customer in good standing, writes a letter to the effect that a crate of peaches was delivered to her September 5th in an unsatisfactory condition. The crate had been broken open and part of the peaches stolen.
Write to Mrs. Otis.

15 3. Mrs. J. T. Roby, a customer in good standing, writes that she was called out of town unexpectedly, and that some peaches were delivered in her absence and spoiled before her return. She complains that the fruit was a total loss to her, and she wishes credit for it.
Write to Mrs. Roby.

15 4. In the stock taken over by your firm from Peter Jones there are two gross of milk-pans and various other items of kitchenware for which there is no present demand. Prepare a circular letter to be sent out to farmers who have been occasional customers of the store in past years, offering to sell this stock at half-price as long as it lasts.

15 5. Vancouver, B.C., May 6, 1920. The J. H. Cameron Co., Toronto, Ontario. Gentlemen: You have by this time, no doubt, received our order mailed on April 22, 1920, and we wish you would send the goods mentioned therein with the least possible delay.

Our offices and store were destroyed by fire soon after we sent our order, but we have secured a new location, and have started up again, although our stock is very low, owing to the great loss sustained.

Fires in such cases prove costly, and, although the Fire Insurance Companies have paid their share of the loss, yet there is still a great deal to be recorded for. Paying for repairs, etc., has reduced our reserve funds to such an extent that we are compelled to ask for a little sympathy and leniency in the matter of making payment.

Value.

We have always met our bills promptly and shall continue to do so as soon as we are again in good running condition.

We ask your careful consideration to the above favour, and await your early reply. Yours very respectfully, Howard Green & Son, Per Howard Green.

Write the Cameron Co.'s reply to Howard Green & Son.

30 6. As travelling salesman in the Prairie Provinces for the Pacific Coast Lumber Co. you are asked to investigate and report upon the advisability of opening branches with offices and lumber-yards at one or more points in those provinces.

Submit this report, discussing fully the various phases in connection with the situation. (Your report should be at least two pages in length.)

Or

Write an essay (of at least two pages) on *one* of the following subjects:—

(*a.*) The place of woman in business.

(*b.*) Factors that are determining the price of goods to-day.

(*c.*) The effect of mechanical invention on the world's progress.

TYPEWRITING.

[NOTE TO PRESIDING EXAMINER.—*Please provide each candidate with plain white letter paper and one sheet of carbon paper.*]

[NOTE.—*Candidates are allowed 5 minutes to read over this paper. Time allowed for Section A, 15 minutes. Section B is to be written in full and the time taken by each candidate to be recorded by the Presiding Examiner. Write each part of Section B on a separate sheet of paper, and hand in carbon copies with originals. A carbon copy of Section A is not required.*]

Value.

50 *Section A.*

FOUNDATION.

There are many different kinds of foundation, varying in price according to the material used and the amount of labour.

The cheapest of these is cedar posts. For small houses where there is no excavation required, foundations of cedar are satisfactory in every way and will last from ten to twenty years. They should be sunk to hard-pan to ensure a perfectly solid foundation. Alder or fir should never be used as they rot much more quickly.

Next in order of cheapness comes the concrete post foundation. The only advantage this kind has over cedar posts is that concrete posts will be standing long after the house has fallen down. The above foundations are used only when there is no excavation.

For an excavated basement the cheapest and most used foundation is a concrete wall coming to the surface of the ground.

The excavation should always go down to hard-pan, but unless absolutely necessary it should not go lower, as it is harder to drain when this is done and the work of cutting down into hard-pan is expensive owing to the extreme hardness of the same. Some hard-pan is almost as hard as concrete and will turn the point of the pick in a very short time.

The tile drains around the house should be five or six inches below the level of the excavation. If the excavation goes down to the surface of the hard-pan the tiles must be set six inches into the hard-pan. If the excavation is below the surface of the hard-pan the drains must be six inches below the level of the floor of the excavation. If this

Value.

rule is followed the basement will always be dry. If the drains are only on the same level as the excavation they are practically useless, as the water runs past into the basement and the floor will be damp.

It pays to put in good concrete. If there is too much sand and gravel for the proportion of cement the walls will crumble and break and gradually weaken.

There should never be less cement than one in five—that is, one part cement and five parts sand and gravel. The hardness or softness of concrete varies according to the different proportions of sand and gravel. A large proportion of gravel makes a harder and stronger wall, but it will not keep out the damp nearly so well, as it is more porous. Sand is used to make concrete closer; it fills up the spaces between the gravel and makes it much more water-tight. If the gravel is very fine a much smaller proportion of sand is needed. The usual formula for concrete foundation is as follows: Two parts sand, three parts gravel, one part cement.

The foundation should be allowed to set properly before the frame of the house is put up. If concrete is disturbed too soon it will crack. Care, also, must be taken to cover fresh concrete to protect it from the sun, which will dry it too quickly and crack it, and from the rain, which washes it away before it is properly hardened. In a few hours' time it will be quite set, and in about a week the work of putting up the frame can be commenced.

The floor of the basement can be made of either cedar planks or cement.

A plank floor is far cheaper than concrete and pleasanter to walk on, but, of course, does not last nearly so long. If the laundry-work is to be done in the basement a board floor will be found much less tiring. To stand for long on a cement floor is very hard on the feet.

If a concrete floor is put in there should be about six inches of crushed rock above the floor of the excavation and on top of this the concrete floor, which should be about three inches thick. The rock is to act as a drain for any water that gets past the tile drain, and by this means the floor will be absolutely dry at all times of the year. A concrete floor can be washed, and this is a great convenience, as a furnace makes a great deal of dirt.

Other more expensive foundations are: Cut stone, cobblestone, and brick.

Cut stone makes a very handsome and also very expensive foundation. Although stone in this country is very plentiful and of a very good quality, the labour of cutting and setting it is so costly that it makes the price of such a foundation very high.

Cobblestone walls for a foundation are very popular in better-class houses; this style is less expensive than either brick or cut stone, and it makes a neat and ornamental finish.

A brick foundation has no superior in quality or appearance, but this too is expensive and beyond the reach of most house-builders. There is nothing cleaner and brighter than a brick basement and a brick floor; unlike a cement floor, it is easy on the feet. If the foundations, verandah pillars, and garden paths can all be made of brick the effect is very fine. A verandah made of bricks is very nice in the summer-time, the floor is easy to wash and makes a cool place to sit in hot weather.

50

Section B.

Vancouver, B.C., May 25, 1920. Doctor Thomas C. Dean, 842 Pearl St., Kamloops, B.C. Dear Doctor: For a number of years our Kamloops collections have been almost entirely in the hands of Mr. J. M. Dixon, one of our oldest employees, with whom you are perhaps acquainted

in a business way through his having called on you from time to time in connection with your account and subscriptions to one or another of our various medical publications. We are now making a change in our system of handling collections, and we deem it expedient to explain that, in so far as is possible, we shall in the future endeavour to collect all accounts due us by mail.

We are enclosing a statement of your account as it appears on our books, showing a total debit of $46.50, of which $25 is now due and payable, according to our understanding of the arrangement made with our representative at the time you placed the order.

Should this account not agree with your records, or should you wish to make any change in the provision for future payments, Mr. Dixon will, of course, call upon you; but as it is our wish to lighten his burden as much as possible from this time forth, we should prefer that you remit by mail as payments on your account fall due.

Please state your wishes in order that we may make the necessary record in this office. Yours respectfully.

REPAYMENT OF A LOAN.

1. Simple Interest Method.
   Interest on whole loan paid annually to bondholder.
   No part of loan repaid until end of period.
   No special provision made for repayment of loan.

2. Compound Interest Method.
   No interest paid until end of period.
   No part of loan repaid until end of period.
   No special provisions made for repayment of loan.

3. Method of Equal Annual Instalments of Principal.
   Interest on portion of loan not yet repaid paid annually to bondholder.
   Loan repaid to bondholder in equal annual instalments.

4. Annuity Method.
   Equal annual payments made to bondholder. As the payments of interest become smaller the payments of principal become correspondingly larger.

5. Sinking Fund Method.
   Interest on whole loan paid annually to bondholder.
   A Sinking Fund established, most likely at a lower rate, with which to repay the loan at maturity.

REPAYMENT OF A 6% 10-YEAR LOAN OF $10,000.

Annuity Method.

Year.	Total Payment.	Interest Payment.	Payment on Principal.	Balance due on Principal.
1.	$ 1,358.6796	$ 600.0000	$ 758.6796	$ 9,241.3204
2.	1,358.6796	554.4792	804.2004	8,437.1200
3.	1,358.6796	506.2262	852.4534	7,584.6666
4.	1,358.6796	455.0800	903.5996	6,681.0670
5.	1,358.6796	400.8640	957.8156	5,723.2514
6.	1,358.6796	343.3951	1,015.2845	4,707.9669
7.	1,358.6796	282.4780	1,076.2016	3,631.7653
8.	1,358.6796	217.9059	1,140.7737	2,490.9916
9.	1,358.6796	149.4595	1,209.2201	1,281.7715
10.	1,358.6796	76.9063	1,281.7733	.....
	$13,586.80	$3,586.80	$10,000.00	

PENMANSHIP. (Time, 1 hour.)

1. Copy once:—

Filing.

"Filing" means putting away quickly a paper, card, book, fact, figure, record, or other article in such a way as to find it again easily. This is the sum and substance of it. The many methods of doing this are not always as simple as they might be, largely because of a general lack in understanding of the fundamental principles involved.

Indexing.

Filing as it is considered commercially relates to letter, document, and card filing. This is done by "indexing." Indexing is simply this: If a large number of letters are to be filed away, they are divided into groups, which are separated by "guides" in drawers. These "guides" have "tabs" which stick out from the mass of letters and which bear, printed on them, numbers, letters, names, or symbols by which the letters or cards are sorted (filed). By finding the proper tab you will find the paper or letter wanted.

A "file" is a receptacle for letters or cards. A "filing cabinet" is a cabinet of one or more drawers, wherein letters or cards are filed.

At first, guides only were put in a drawer, and letters filed between them, more or less mixed up; that is, your letter and my letter might be together, mixed with a lot of others, if our names were similar. No matter how many letters from us might be received, they would be mixed up together. In case one of these letters was wanted it would be very troublesome and tedious finding it. Nevertheless, this mixing-up of letters continued for a long time.

Finally some one conceived the idea of using a "Filing Folder," generally called simply "folder," to hold all the letters from one person or one business house. If many letters were received from you they would go into one folder together, with your name written on a tab on the edge of the folder. This is called an "Individual Folder."

Not enough letters are received from some people to warrant devoting a folder to them, so "Miscellaneous Folders" are provided. These are generally of a different colour from other folders. Into them are placed the letters which come from people who seldom write or who write but once.

Folders have the further advantage of keeping the file neater and making its contents easier to handle. If the whole correspondence of a man is wanted, it can be brought in its folder and always kept together until returned to the file.

2. Write a set of capital letters three times.

3. Make one copy of this invoice:—

Case No.	Amount.						
36	11/20 rm.	20 x 25 Dark Tea	@ $3.00	$ 1	65		
		Add 25%			41	$ 2	06
48	14/20 rm.	XXX. No. 1 White Rag	@ 3.25	2	28		
		Add 10%			23	2	51
432	16 qr.	17 x 22 Gretna	@ 2.25	36	00		
		Add 25%		9	00	45	00
4	3 qr.	XXX. Tea Green	@ 1.15	3	45		
		Add 30%		1	04	4	49
92	3 16/20 rm.	20 x 25 Old Rose Rag	@ 3.25	12	35		
		Add 15%		1	85	14	20
						$68	26

4. Multiply 142857 by 2345. Copy your problem twice.

5. Write the following addresses as for envelopes:—

Manufacturers' National Bank, Cor. 7th and State Sts., San Francisco, Calif.

Whittemore Bros., Powers Block, Toledo, Ohio.

Mr. L. C. Fuller, 567 Drexel Bldg., Philadelphia, Pa.

The Oscar Anderson Drug and Chemical Manufacturing Company, Halifax, N.S.

McLennan, McFeely & Co., Ltd., 99 Cordova St. E., Vancouver, B.C.

Charles Pendlebury, Esq., M.A., F.R.A.S., c/o George Bell and Sons, Portugal St., Lincoln's Inn, London.

SHORTHAND DICTATION.

[NOTE TO PRESIDING EXAMINER.—*Please provide candidates with plain white letter paper and No. 7 envelopes.*]

[NOTE.—*The Examiner will read each section twice; first, rapidly, and secondly, at the rate of one hundred and thirty words per minute. Candidates will write at the second reading only. When all the dictation has been given, the candidates will make either a typewritten or a pen and ink transcription of their notes and enclose each letter in a separate envelope, on which must be placed the proper address as if for mailing. The time required by each candidate for making the transcription will be noted by the Presiding Examiner. Both shorthand notes and transcription are to be handed in.*]

Value.

20 1. Vancouver, B.C., June 10, 1920. The Board of Directors of the Granville Real Estate Company, Vancouver, B.C. Gentlemen: In accordance with instructions from the President of your company, the (32) undersigned has made a careful investigation of the selling system now employed by your company in its disposal of city, suburban, and fruit-lands property at Victoria, B.C., and has made a (65) careful analysis of all the letters and other selling material employed. He has compared the system with those previously used by the company, and those now successfully used by other companies in (97) the same field.

As a result of this study, he now submits a detailed criticism of the system as a whole, and of the individual units of the system, together with recommendations which (130) he believes will lead to improvements and greater profits. Very truly yours (142).

14 2. Vernon, B.C., April 12, 1920. Foster Manufacturing Company, Toronto, Ontario. Gentlemen: We wish to thank you for your promptness in getting out and delivering conveyor system which you recently furnished (32) us for carrying fruit boxes.

Using the blue-prints furnished by you, our carpenters installed supports for the entire distance, and as soon as the conveyor arrived there was nothing to do but (65) set it in place and bolt it together. It has been working very smoothly ever since.

We wish to thank Mr. Foster personally for his many suggestions in connection with this work (97). Yours very truly (100).

22 3. Victoria, B.C., Dec. 1, 1919. Mrs. James Smith, The Oaks, Sea View Road, City. Dear Mrs. Smith: As one of our customers, you will no doubt be interested to learn (32) that our Twenty-first Annual Winter Sale of Hand Tailored Models begins December 15th and continues for two weeks.

Only twice a year do we offer reductions in price, and at these two (65) periods we do so in accordance with our policy, of which you are already aware, viz., we carry no one season's models over into the next, but sell them while the season (97) to wear them is here.

The prices will speak for themselves, and we have among these offerings garments which we really believe will appeal to you. The saving will be considerable, so if (130) you desire to get a suit or overcoat, don't wait until the best models have been picked up, but come early.

Sale starts Monday, December 15th. We are, Yours very sincerely (161).

Value.

19 4. Toronto, Ont., March 20, 1920. The Hooper Novelty Company, 1570 Broadway West, Vancouver, B.C. Gentlemen: In accordance with your request of the 10th inst., we take pleasure in sending (32) you herewith our new book on statistics regarding mailing lists.

The estimates and prices given therein are for the various trades and business lines in Canada and the United States.

If you want (65) a list for some particular territory or district, please write us, and we will quote prices and submit estimates to meet your requirements.

Our long and broad experience in the mailing-list (97) business enables us to offer suggestions to users of mailing lists—giving them ideas that are ordinarily overlooked in the make-up lists.

We would very much appreciate an acknowledgment of the receipt (130) of this book. Yours very truly (136).

25 5. Winnipeg, Man., September 8, 1919. Henry L. Ford, Esq., Calgary, Alta. Dear Mr. Ford: Thank you for your order of September 2, which Mr. Brown has just sent us. We shall (32) endeavour to ship the goods within the next ten days, as you request.

We welcome new customers to dealings with our firm, and assure them of our desire to serve them in every (65) way that the merit of our goods and our position and experience make possible. Mr. Brown speaks of you and your business in such a way as to leave no doubt in (97) our minds that our relations will be the most cordial, and the reports from the agencies also indicate that you are fortunate in your standing. You are no doubt familiar with such blanks (130) as the enclosed, and with the policy, which we maintain, for the sake of our customers not less than ourselves, of going direct to the customer for more detailed information about his (162) business than the agencies give.

I look forward to pleasant personal relations in the future. Yours most sincerely (180).

LAWS OF BUSINESS. (Time, 2 hours.)

12 1. What is a lease? Name the parties to such a contract. What does the Statute of Frauds enact regarding such contracts? What is meant by an "Overholding Tenant"?

9 2. What steps should you take to prevent the outlawing of an overdue bill or account? Is there any advantage gained in securing a judgment against an insolvent debtor? Give examples.

15 3. Under what circumstances may an endorsement on a bill or note constitute a contract? Give *pro forma* illustrations of the following endorsements of promissory notes and show the purpose and effect of each endorsement: (*a*) In full, (*b*) qualified, (*c*) conditional, (*d*) restrictive, (*e*) protest waived, (*f*) blank.

7 4. (*a.*) Write a letter to a merchant stating your opinion that it would be safe for him to give R. Smith credit to the extent of $500. Do this in such a way that you will incur no liability should Mr. Smith fail to pay.

7 (*b.*) State the various ways in which a guarantor may be relieved from his obligation.

4 5. (*a.*) What is (1) a Special, (2) a General, Power of Attorney?

10 (*b.*) Write a simple form of Power of Attorney such as might be given Robert McNair at Kamloops, B.C., authorizing him to sign receipts, and to endorse notes, drafts, etc., for James Dixon, who lives in Vancouver, but who operates a branch store in Kamloops.

Value.

5 6. (*a.*) What is the purpose of the Mechanics' and Wage-earners' Lien Act?

8 (*b.*) When recording a claim for a lien under this Act what details must be given?

5 7. (*a.*) What are the requisites of a valid will?

5 (*b.*) If a codicil is added to a will, what should it set forth clearly?

6 (*c.*) Define: Executor, administrator, intestacy, dower, legatee, devisee.

7 8. Explain the following: Embezzlement, chattel note, collateral, implied covenant, warehouse receipt, forgery, copyright.

STATUTE LAW. (Time, 2 hours.)

12 1. Draw the following:—

(*a.*) A joint and several promissory note, non-negotiable, and carrying 8% interest until paid.

(*b.*) A draft, due 3 months after it is drawn, payable to bearer, and accepted 10 days after it is drawn.

(*c.*) A cheque on the Bank of Montreal for $100, and which is intended to serve as a receipt in full for rent paid for the month of June.

(*d.*) A foreign draft in a set of two. Face of draft £35 12s.

10 2. State clearly under what conditions a promissory note given by a minor is (*a*) valid, (*b*) invalid.

10 3. Explain the respective liabilities of the following:—

(*a.*) The maker of a note.

(*b.*) The acceptor of a draft.

(*c.*) The drawer of a draft.

(*d.*) The endorser of a note.

(*e.*) The endorser of a draft.

8 4. (*a.*) Distinguish clearly the difference between assignability and negotiability. Mention (*a*) a negotiable instrument, (*b*) an assignable instrument that is not negotiable.

5 (*b.*) Is the purchaser of a negotiable instrument in any different legal position from a purchaser of a non-negotiable instrument? If so, explain.

10 5. What restrictions or conditions require to be observed in seeking incorporation under (*a*) The Dominion Companies Act, (*b*) The B.C. Companies Act, respectively, as to:—

(1.) Capital authorized.

(2.) Capital subscribed.

(3.) Capital paid in.

(4.) Proposed name of the company.

(5.) Preference shares.

Value.

10 6. A, B, C, D are Directors of a Joint Stock Company. It is found that the company is unable to meet its liabilities. All the stock is paid up and the only assets are patents and office furniture. The patents have been assigned to the bank, and the landlord has seized the office furniture for rent. The list of creditors is as follows:—

John Smith, rent	$ 500
Brown & Co., advertising	340
J. Nix, office supplies	75
Royal Bank, advanced	2,000
E. James, salary as book-keeper	135
J. Brown, wages	75
L. Ross, wages	40
A. Cann, legal services	100
	$3,265

The stock being all paid up, what liability, if any, is upon the Directors or Shareholders in connection with these claims, or any of them?

10 7. What special points of law must be observed by the officers of a company incorporated under the B.C. Companies Act when issuing a prospectus?

9 8. (*a.*) What do you understand by the seal of a company?

(*b.*) If a company issues a promissory note and does not attach its seal, is the note valid?

(*c.*) If a company issues a promissory note which is not signed, but to which the seal is attached, is the note valid?

10 9. In just what position is each of the following, in respect to (*a*) sharing of profits and losses, (*b*) liability to creditors, (*c*) authority in the management:—
General partner; limited partners; holders of common shares; holders of preference shares; bondholders.

6 10. Explain the following terms as used in connection with joint-stock companies:—
Proxy, calls, letters patent, liquidator, extra-provincial, subscribers.

ACCOUNTANCY PRACTICE. (Time, 3 hours.)

[NOTE TO THE PRESIDING EXAMINER.—*Please furnish candidates with journal and ledger paper.*]

Value.

10 1. Using Journal and Ledger only, open the books of J. M. McLeod, who began business June 1, 1920, as a Retail Grocer, with the following resources and liabilities:—
Cash, $456.78; on deposit in the Bank of Nova Scotia, $3,567.98; goods on hand, $23,679.56, on which he owes the wholesale houses $15,000; store property valued at $9,000, against which there is a mortgage of $3,000, on which there is accrued interest for 6 months at 7½% per annum; notes against sundry persons amounting to $1,800, with accrued interest to date $35.60; Victory Bonds amounting to $5,000; store fixtures which originally cost $500 but which he now values at 80% of cost.

2. The following is a summary of the business of Mr. McLeod (question 1), for the month of June:—
All moneys received were paid directly into the bank, and payments (with the exception of Petty Cash and withdrawals for personal expenses) were made by cheque. Cash sales $46,789.56; he purchased goods to the amount of $45,780, 80% of which he paid in cash, receiving a discount of 5%; his credit sales were $5,678.90, for which he collected during the month $3,786.40; he paid the wholesale houses $8,567.60 of the amount owing on June 1; he

Value.

reduced his mortgage by $1,500 and paid 7 months' interest on the whole amount; $1,100 of the notes owing him, June 1, were paid during the month, with interest $42.56; he collected the half-yearly interest on his Victory Bonds, June 2, and on June 30 his Bank allowed him $134.80 interest on deposits. His expenses (paid) were as follows: Salaries, $1,200; advertising, $3,000; insurance, $1,000, of which $800 is prepaid; light, $125; delivery expenses, $1,800; office expenses, $1,280.28. His Petty Cash payments amounted to $126.40, and he took out for personal expenses $250. He values his goods on hand, June 30, at $31,456.90. The interest accrued on bills receivable now owing him is $12.30. He estimates that $400 of the accounts receivable are uncollectable.

20 (*a.*) Journalize and Post the above transactions.

10 (*b.*) Take a Trial Balance.

10 (*c.*) Prepare Revenue Account and Balance Sheet.

3. Having rendered statements of account to the following customers, you drew upon them at 3 days' sight. The drafts were entrusted to the Bank of Montreal, and have now been collected, and the proceeds, less ¼ of 1% (the cost of collection), have been placed to your credit in the bank. You made no entries until you were notified of the collections.

A. G. Brock, Kamloops	$560
Mann & Woods, Nanaimo	750
Dartmouth & Co., Calgary	360

5 (*a.*) Give your Journal Entries.

5 (*b.*) Draw the draft on A. G. Brock.

5 (*c.*) Give Dartmouth & Co.'s entries when they accepted the draft and six days later when they paid it by cheque.

5 4. (*a.*) Machinery Account in your Ledger is debited $15,000. You consider that it has depreciated in value 10%. Close the account and bring down the balance.

5 (*b.*) Real Estate Account in your Ledger is debited $8,000, and credited $3,000. You value your property now $6,500. Show the account closed with the balance brought down.

5 (*c.*) Interest Account in your Ledger is debited $45.78 and credited $35.78. The interest accrued on bills receivable is now $24.60 and on bills payable $34.90. Enter these amounts and show the account closed with the balances brought down.

20 5. A company's net profits before making any allowance for depreciation, etc., amount to $30,000. It is decided to write 7½% off machinery, listed at $40,000, and 20% off patterns, which cost $5,000. Ten per cent. is also deducted from book debts and bills receivable, amounting to $16,000, to create a reserve for bad debts. The balance of the profits is distributed in the form of a cash dividend of $14,400 and a stock dividend for the remainder. Make the necessary Journal entries.

ACCOUNTANCY THEORY. (Time, 2 hours.)

7 1. Briefly explain the uses and advantages of the following: Synoptic journals, self-balancing ledgers, controlling accounts, special columns in cash-books, cross-entries, manifold billing systems, card and loose-leaf ledgers.

13 2. Brown & Robinson's business for the half-year ending June 30, 1920, shows a gross profit of $8,463.94. The rent was $720, taxes $180, salaries $1,200, sundry expenses $1,728.60; Brown's capital is $5,498.60 and Robinson's $8,763.50. They are to be credited with 5% per annum interest on capital.

Value.

Draw a Profit and Loss Account showing net profits, and apportion 4-11 to Brown and 7-11 to Robinson.

10 3. (*a.*) Describe the usual method of procedure in determining the net profit or loss of a business, the books having been kept (1) by Single Entry, (2) by Double Entry.

5 (*b.*) What general principles should be observed in differentiating between capital expenditure and revenue expenditure?

10 4. Austin owes Baxter $1,000 and Baxter draws on him for the full amount at 60 days. The draft is accepted by Austin, whereupon Baxter takes it to the bank for discount. The bank discounts the paper 57 days before maturity at 6% per annum. Show the entries you would make in the books of Baxter.

20 5. Draft journal entries for the following:—

(*a.*) Declaring a dividend.

(*b.*) Paying a dividend in cash.

(*c.*) Creating a Reserve.

(*d.*) Closing a Drawings Account into Capital Account.

(*e.*) Depreciating the value of machinery 10%.

(*f.*) Writing off a bad debt.

(*g.*) Providing for a contingency.

(*h.*) Providing a Reserve for bad debts.

(*i.*) Impairment of Capital.

(*j.*) Exchanging notes with Brown & Co. for accommodation.

5 6. (*a.*) What do you understand by the term "Turnover"?

10 (*b.*) Supply your own amounts for Merchandise, Sales, Purchases, and Present Inventory and write up a Merchandise Account showing the Gross Profit to be 25% on the Turnover.

10 7. If, on comparing your Bank Cash Book Balance with your Bank Pass Book Balance, you found that the two did not agree, what steps would you take to check the correctness of your Bank Cash Book? What would be the principal differences you would expect to find, and what is the name of the statement you would prepare to satisfy the auditor that your books were correct?

10 8. Journalize, as an opening entry:—

Stock on hand	$10,309.60
Sundry Creditors	7,103.56
„ Debtors	9,527.20
Reserve for Discounts on Debtors' balances	480.00
Freehold Premises	14,400.00
Mortgage on Premises	7,200.00
Plant and Machinery	4,708.04
Cash at Office	422.36
Bills Payable	1,038.40
Bank Overdraft	431.80
Capital—A. Student, ⅔	?
„ B. Student, ⅓	?

Third-year Course, Household Science.

CHEMISTRY. (Time, 2 hours.)

[*All questions are of equal value.*]

1. How do you distinguish between a physical and a chemical change, between a compound and a mixture? Give examples of chemical combination and decomposition.

2. What are the important characteristics of charcoal, lignitic coal, bituminous and anthracite coal? When could each be used to advantage as a fuel?

3. Explain the use of the suffixes -ous and -ic, also of the prefixes mon, di, tri, tetra, and per, as used in chemistry.

4. Of what does "iron-rust" consist? What conditions accelerate the rusting of iron? Discuss the methods adopted to prevent rusting.

5. What is understood by temporary and permanent hard water? How can temporary hard water be softened? What effect does the hardness of the water have upon the amount of soap used in washing?

6. How could you test for resinates and silicates in soap? What substances are used as fillers?

DRESSMAKING AND MILLINERY. (Time, 2 hours.)

Value.

8 1. (*a.*) In planning a woollen dress for a child of eight years (length of dress 30 inches), give the essential points in:—
(1.) Suitable material, width, amount, cost.
(2.) Suitable pattern; its position on material.
(3.) Cutting.
(4.) Fitting.
(5.) Seaming.
(6.) Finishing.
(7.) Pressing.
(8.) Decorating.

1 (*b.*) Compare full cost of dress with the probable cost of a similar ready to wear.

1 (*c.*) Indicate briefly what use can be made of the scraps of material left over.

3 2. Give the essential points to be considered in the choice of a ready-made cloth suit for yourself.

3 3. In what places do commercial patterns vary most from actual measurements of the figure. Tell how you would alter them to adapt them for use. Illustrate by pencil sketches.

2 4. (*a.*) Discuss the straight-line system of drafting as compared with commercial standard patterns for the use of the home dressmaker.

2 (*b.*) Discuss the same question from the standpoint of a dressmaker in business.

MILLINERY.

12 1. State briefly the essential points in:—
(*a.*) Making of a wire frame.
(*b.*) Taking measurements for any hat.
(*c.*) Covering a velvet hat.

Value.

(*d.*) Choice of colour.

(*e.*) The functions of trimming.

(*f.*) Choice of a best hat for a High School girl.

4 2. Name some of the materials used in millinery that may be renovated, and tell how to renovate any one of them.

TEXTILES.

2 1. (*a.*) What effect has the development of mercerization had on the textile industry?

2 (*b.*) Give the name of cottons best suited for mercerization and processes used.

4 2. Give three examples of materials made from woollen yarns and three from worsted yarns. State the advantage of one over the other.

6 3. What adulterations are used in the manufacture of cotton, linen, silk, and wool? How would you detect adulterations in wool or silk fabrics?

50 Marks for practical work.

DIETETICS. (Time, 2 hours.)

8 1. Explain what is meant by "potential energy value" and "physiological energy value" of the proximate principles found in foods. Tell briefly how these have been calculated.

20 2. Write a note on the standards of two of the following in the diet. Give your authority:—

(*a.*) Fuel.

(*b.*) Protein.

(*c.*) Mineral salts.

(*d.*) Vitamines.

(*e.*) Water.

14 3. Explain the meaning of "vitamines." Classify them, tell their uses, and name their sources according to recent investigation.

8 4. Discuss briefly the following luncheon as part of a 2,800-calorie daily dietary for sedentary persons in Vancouver in June:—

Cream of Tomato Soup.
Croutons.

Macaroni and Cheese. Lettuce and Radish Salad.
Bread. Butter.

Steam Suet Pudding.
Hard Sauce.
Coffee.

18 5. Discuss from the standpoints of digestibility and metabolism *three* of the following:—

(*a.*) The cornmeal in muffins and the cornmeal in porridge.

(*b.*) Baking-powder biscuits and yeast-bread.

(*c.*) Pie as dessert.

(*d.*) Baked muffins and doughnuts.

(*e.*) The outside cut from a roast and a cut from near the centre.

(*f.*) Cooked and uncooked vegetables as food.

Value.

10 6. Write out a list of ten dishes you would serve to:—
(*a.*) A patient on fluid diet.
(*b.*) A patient allowed solids and just off fluid diet.

3 7. (*a.*) What is the standard for milk in the diet of: (1) infants; (2) children; (3) adults.

3 (*b.*) What would you include with milk in the dietary of children up to eight years of age?

3 (*c.*) What particularly would you exclude?

6 8. Discuss tea and coffee as beverages in the diet of: (*a*) children; (*b*) adults.

5 9. (*a.*) Give five reasons why a mother should train her children to eat porridge.

2 (*b.*) Why should she train them to eat it without sugar?

PHYSIOLOGY, HYGIENE, AND HOME-NURSING. (Time, 2 hours.)

8 1. Discuss the body-cells under the following headings:—
(*a.*) Structure.
(*b.*) Length of life.
(*c.*) Growth and development.
(*d.*) Function.

4 2. Explain fully the meaning of any *one* of the following:—
(*a.*) Digestion of food.
(*b.*) Absorption of food.
(*c.*) Metabolism.

[*Answer* two *of the next three questions.*]

3 3. (*a.*) Explain why normal condition and circulation of the blood is desirable.

3 (*b.*) How would you proceed to remedy poor circulation?

3 4. (*a.*) Give reasons why suitable muscular exercise is beneficial to health.

3 (*b.*) Write a note on suitable muscular exercise for girls of your age.

3 5. (*a.*) Describe the structure and function of the spinal nerves.

3 (*b.*) Explain the relation between the nervous system and the formation of habits and character.

HOME SANITATION.

7 1. Tell briefly the story of bacteria under the following headings:—
(*a.*) General description and history.
(*b.*) Shape and size.
(*c.*) Method of growth and multiplication.
(*d.*) Why a study of this form of life is necessary in Home Economics.
[*Answer* either *question 2* or *question 3.*]

4 2. Describe the best kind of site for a home, giving reasons for your answer.

4 3. Explain any *four* of the following: studs; trap; flashings; soil-pipe; septic tank; sill.

Value.

5 4. Write on *one* of the following:—

(*a.*) The kind, amount, and disposal of kitchen garbage in a small town—no public scavenger.

(*b.*) Private *versus* public laundries.

(*c.*) The best finishings for kitchen walls.

HOME-NURSING.

2 1. (*a.*) What are the general symptoms of the onset of tuberculosis of the lungs?

2 (*b.*) What are home remedies for this disease?

2 (*c.*) What precautions would you take to prevent the spread of this disease?

4 2. Write on *one* of the following:—

(*a.*) The preparation of the sick-room for a patient.

(*b.*) The resuscitation of the drowning.

(*c.*) The care of the teeth of children.

50 Marks for practical work.

COOKERY—THEORY. (Time, 2 hours.)

4 1. (*a.*) Name four points that are essential to success in the home-canning of vegetables and give reasons why these must be considered.

2 (*b.*) Give your opinion in regard to canning fruit without sugar.

6 2. (*a.*) Name the different substances used in making flour mixtures light and describe the action of one of them.

2 (*b.*) Why are flour mixtures made light?

4 3. (*a.*) Describe the changes which occur during the conversion of the following materials into a loaf of bread: flour, salt, water, yeast.

2 (*b.*) What are the causes and the remedy for sour bread?

8 4. Write out basic ingredients for any *four* of the following:—

(*a.*) One cup cheap, mediumly thick cream sauce.

(*b.*) One cup cheap custard sauce.

(*c.*) One pint cream of tomato sauce.

(*d.*) Four pints beef-soup stock.

(*e.*) A one-egg cheese foamy omelet.

(*f.*) Four 1-lb. (approx.) loaves white bread.

6 5. How long and at what temperature would you cook the following dishes: (*a*) Muffins; (*b*) Parker House rolls; (*c*) mutton stew; (*d*) broiled lamb chops ¾" thick; (*e*) roast beef (6 lb.); (*f*) cooked salad dressing; (*g*) lemon gelatine jelly; (*h*) steamed salmon (4 lb.); (*i*) oatmeal porridge; (*j*) baked custard; (*k*) cauliflower; (*l*) scrambled eggs.

3 6. In cooking acid and starchy mixtures:—

(*a.*) Why cook the starch or flour over steam 10 minutes?

(*b.*) Why leave out the sugar during the above process?

(*c.*) Why not cook the starch-mush after the acid is added to it?

Value.

6 7. List the full market order for serving ten persons the following menu:—

Cream of Tomato Soup.
Croutons.
Lamb Chops. Scalloped Potatoes.
Fresh Buttered Green Peas.
Relish.
Bread. Butter.
Baked Apples. Whipped Cream.
Baking-powder Biscuits.
Coffee.

3 8. (*a.*) Name three methods of cooking meat that aim at the "extraction of the juices" and name three that aim at "retention of juices." Opposite each answer name two cuts that you would buy for that purpose.

(*b.*) Name two essentials to be observed in making "made-over meat" dishes.

9. In deep-fat frying:—

2 (*a.*) What fat would you use and why?

2 (*b.*) What will be the defects in the fried article if the fat be above or below the temperature required?

50 For practical work.

DRAWING AND DESIGN. (Time, 2 hours.)

50 (*a.*) The drawings for the year should be placed in a folder and laid on your desk. These will be collected and marks awarded.

50 (*b.*) Design a border 2½ inches wide, taking the motif from the flower provided. The design to be suitable for an embroidered neck-band for a child's overall. Show the stitches on the design and finish in colour.

Third-year Course, Technical.

ELECTRICITY. (Time, 2 hours.)

[*The value of all questions is the same.* Ten *questions constitute a full paper, but at least* two *must be chosen from each section.*]

SECTION I.

1. The separate resistances of four conductors A, B, C, and D, are respectively 5, 12, 24, and 100 ohms. Find their joint resistance when connected (*a*) in series, (*b*) in parallel. Show all working in detail.

2. The E.M.F. of a battery is 24 volts and its internal resistance is 3 ohms. What is the resistance of an external resistance connected to such a battery when the current flowing is found to be 2 amperes? Name and show by a diagram of connections that you understand *two* of the instruments used in this example.

3. Describe one form of "Wheatstone" bridge. What is it used in measuring? What is this unit?

4. Almost all direct-current instruments are constructed on the "d'Arsonval principle." Clearly describe and sketch the construction of *one* such instrument.

5. What is a "permeameter"? Of what use is it to an electrical designer?

SECTION II.

6. Describe clearly one form of "primary cell." For what purposes are primary cells suitable, and for what unsuitable?

7. What is a "storage battery"? What does it store? How is it constructed? How is it "charged"?

8. What do you understand by "capacity"? Where is it of service? What is the theoretical unit? Why is the practical unit not the same as the theoretical? What is the practical unit?

9. Show by a diagram how to "wire up" (*a*) two bells to be rung from one station, (*b*) one bell to be rung from either of two stations, (*c*) five electric lamps, all to be controlled from one switch. The current in the last case is supplied from 110-volt A.C. mains.

10. Write a brief essay on incandescent electric lamps.

SECTION III.

11. What is a "series" motor? (D.C.) For what purposes are such motors used? How are they "controlled"?

12. Write a short description of a compound wound "interpole" direct-current generator, suitable for generating 25 amperes at 110 volts. Where would such a generator be useful?

13. Describe as fully as you can an A.C. integrating watt-hour meter. For what purposes are such meters used? What are the two principal kinds? Where is each used?

14. What is the meaning of the expression "root-mean-square"? Describe fully and show its necessity in electrical work.

15. Write a short but clear description of a "transformer." Who invented this apparatus? For what purpose was it invented? Use in illustration of your answer any transformer you have seen.

MECHANICS. (Time, 2 hours.)

[*The value of all questions is the same.* Ten *questions constitute a full paper, but at least* two *must be chosen from each section.*]

SECTION I.

1. A windlass is used to hoist a weight. If the diameter of the drum on which the rope winds is 4 inches and the distance from the axis to the centre of the handle is 14 inches, how great a weight can be raised by a force of 96 lb. applied to the handle?

2. The diameter of a driving pulley is 27 inches and its speed is 100 r.p.m., what must be the diameter of the driven pulley for it to make 75 r.p.m.?

3. Explain clearly the following terms (as applied to gear-wheels): *Pitch*, *root*, *thickness*, *pinion*, and *rack*.

4. Describe a "Weston" differential pulley-block. What are its advantages?

5. A man can exert a pull of 40 lb. on a lever. He wishes to raise a weight of 3 tons, using a "jack" having 4 threads to the inch and 2½ inches diameter, his longest lever being 24 inches long. Will he succeed? If not, how would you suggest that he overcome the difficulty?

SECTION II.

6. How could you use "Archimedes' principle" to find the ratio between the weights of a cubic inch of lead and a cubic inch of water? What is this ratio called?

7. Salt water weighs .037 lb. per cubic inch. A conical vessel having a circular bottom 13 inches diameter is filled to a depth of 18 inches with salt water. What is the *total* pressure on the bottom?

8. What is "Pascal's Law"? Two vessels are connected at the base by a pipe 1 inch in diameter. The first vessel has a diameter of 2 inches. The second has a diameter of 4 inches. Each vessel is fitted with a weightless piston, and on the first is placed a weight of 10 lb. and on the second a weight of 40 lb. What will happen? Explain clearly by means of a diagram.

9. Sketch and describe a "hydraulic jack."
10. Describe, with sketches, (*a*) the suction and lift pump, (*b*) the suction and force pump.

SECTION III.

11. Show that you understand the following terms: Sensible and latent heats, wet and dry and superheated steam.

12. James Watt is sometimes called the "inventor of the steam-engine." Is this true? If not, why is Watt's name so honoured in connection with the steam-engine?

13. What do you understand by an "indicator diagram"? How is one produced Of what use is it to an engineer?

14. What is the meaning of the term "brake-horse-power"? How is the b.h.p. obtained?

15. Describe as fully as you can *one* form of machine for utilizing the power of falling water.

WOOD AND METAL WORK—THEORY.

WOODWORK. (Time, 1 hour.)

[*Answer* three *questions only. The value of all questions is the same.*]

1. Give neat sketches showing the meaning of the following terms: Haunched tenon, Exterior birdsmouth, Bare-face tongue, Raised panel, Bolection mould.

2. Name the members in compression and those in tension in a king-post roof-truss. What kind of a roof-truss would you use to span a building 40 feet wide? Give the width and thickness of the different members of the truss.

3. Draw to a scale ¼" to a foot a line diagram of one end of a hipped roof 20 feet wide. Determine geometrically the true lengths and all bevels of common rafters, hip rafters, and jack rafters. Roof to rise 6 inches to the foot run.

4. Describe how you would obtain the lengths and bevels of the rafters by the "steel square." Refer to the arms of the square as the blade and tongue.

METALWORK. (Time, 1 hour.)

[*Answer* three *questions only. The value of all questions is the same. Illustrate your answers fully with sketches.*]

1. Explain how you would proceed to solder (*a*) tin plate, (*b*) galvanized iron. Describe tools and materials used and explain why they are used.

2. Make a sketch of any forge you are familiar with and explain how you would use it efficiently.

3. Sketch and describe the use of the following: (*a*) A diamond-pointed drill; (*b*) a lathe-dog; (*c*) a tool-post for a lathe.

4. Explain carefully how you would proceed to cut 10 threads per inch on work between centres if the lead screw of the lathe had 4 threads per inch.

DRAUGHTING. (Time, 2 hours.)

Project: Make a freehand sketch of the machine detail supplied and mark the measurements thereon. From this sketch make a finished drawing.

GEOMETRY. (Time, 2 hours.)

[*Answer* seven *questions only. All questions are of equal value.*]

1. ABC and DEF are two right-angled triangles having right angles at B and E; also AB = DE and AC = DF. Show that the triangles are equal in all respects.

2. Two points P and Q are taken in the side XY of a square so that PX = QY. P and Q are joined to Z, the mid point of the opposite side. Can the triangle PQZ be equilateral? Explain fully.

3. From the following extract from a surveyor's field-book draw a plan to the scale of ½" to 1 chain, and find the area in acres:—

	Links.	
	1,800	
	1,100	200
600	500	
	200	300
	From A	

4. Prove that the angles made by a tangent to a circle with a chord drawn from the point of contact are respectively equal to the angles in the alternate segments of the circle.

5. Find the equation of the straight line which passes through the points (2, 4); (—7, —2). Put into words the meaning of the equation. Where will the line cut the axes of co-ordinates?

6. A point P moves in such a way that it is always as far from a point A as it is from a straight line BC. If A is 1 inch from BC, construct the locus of P. What is the name of the locus? (N.B.—*Seven* well-placed points on the locus will suffice in your answer.)

7. A, B, C are three points marked on a sheet of steel, such that AB = 6", BC = 5", CA = 4". It is required to drill three circular holes, touching externally in pairs, having A, B, and C respectively as their centres. Show by purely geometrical methods how the circles may be placed. Give proof.

8. The vertical angle of a triangle ABC is bisected by a straight line AD which meets the base BC in D. State and prove any facts you know about the ratio of the segments BD, DC.

9. Construct an L-shaped figure of outside dimensions 4" and 3" and width of legs 1". Construct a similar figure whose area shall be one-half that of the original. Show *all* construction lines, but omit proof.

CHEMISTRY. (Time, 2 hours.)

[*The value of all questions is the same.* Ten *questions constitute a full paper, but at least* two *must be chosen from each section.*]

SECTION I.

1. Give as full a description as you can of the manufacture of sulphuric acid.

2. How is coal-gas manufactured and purified? What are the by-products? What are their commercial uses?

3. How is gasolene obtained from crude oil? What other substances are furnished by this natural product?

4. Trace the manufacture of tool-steel from iron ore.

5. What is common washing-soda? How is it manufactured? What is the principal by-product? How is this collected?

SECTION II.

6. Explain briefly yet clearly the terms: *Graphic formula, valency, diffusion, equation,* and *neutralisation.*

7. $8H_2O+3Fe_2=2Fe_3O_4+8H_2$.
Describe fully the experiment represented by the above equation. Calculate the volume of hydrogen which could be obtained when 84 lb. of Fe were fully used up. Temperature 25° C. Barometer 770 mm. (Fe = 56; H = 1; O = 16.)

8. What is meant by the following laws: "The law of constant proportions"; "The law of multiple proportions." Illustrate your answer by reference to the two oxides of hydrogen.

9. Write briefly of the discoveries of any *three* of the following: Dalton, Cavendish, Dumas, Priestley, Scheele, Curie.

10. For what purposes could a Liebig's condenser be used? Describe briefly one such use.

SECTION III.

11. "Sulphur has many *allotropic* modifications." What does this statement mean? Describe clearly how you would proceed to obtain these modifications.

12. On the outside of an overheated "air-tight" stove there is sometimes seen a light-blue flame playing on the iron. What is this flame? How is it produced? How would you proceed to prepare a gas-jar full of this gas?

13. How would you prove that air is dissolved in natural water? What is the usual percentage? How could you determine this percentage if you were supplied with two quarts of water? Of what use is this air to fish?

14. By boiling 8 (eight) grams of magnesium metal in water a gas is obtained. How would you conduct this experiment? What gas is obtained? How much should be obtained at N.T.P.? How could you illustrate by this experiment the composition of pure water? (Mg = 24.)

15. A diamond is heated to a bright redness in a glass tube through which pure oxygen is passing. What gas is produced? How would you test this gas? What other substances could be used quite as well as a diamond? Why?

ARITHMETIC AND ALGEBRA. (Time, 2¼ hours.)

[*Answer* eight *questions only. All questions are of equal value.*]

1. Compute by contracted methods correct to 3 significant figures:—
$$\frac{96.421 \times 13.98}{141.6}.$$

2. Construct a formula to give the number of yards of material a yards wide required to make a spherical balloon of capacity b cubic feet. Using logarithms, complete the calculation when $a = 1\frac{1}{2}$, $b = 2000$, $\pi = 3.142$.

3. The length of an indicator diagram is 4″, the end ordinates are 1″, .22″, and the other ordinates are 1″, .81″, .71″, .55″, .45″, .38″, .33″, .29″, and .26″; the scale of pressure is 60 lb. per sq. in. to one inch. Find by Simpson's Rule the mean pressure.

4. Draw a straight line graph showing the relation between the diameter and circumference of any circle from 0″ to 3″ in diameter, given that the circumference of a circle 3″ in diameter is 9.42″. Find from your graph the circumference when the diameter is 1.2″, and the diameter when the circumference is 6″.

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

(*b.*) Evaluate, without actual multiplication, $\frac{120\times 239-119}{119\times 239+120}$.

6. (*a.*) Factorize :—

(i.) $ac+bd+bc+ad$.

(ii.) 871^2-801^2.

(iii.) $(a+b)^3-(a-b)^3$.

(*b.*) Expand without actual multiplication, $(a-b-c)^2$ and $(4+2a+b)(4-2a-b)$.

7. (*a.*) Express using indices, "The bth. power of a exceeds the ath root of b by the qth root of the pth power of a."

(*b.*) Simplify $\frac{6^{\frac{3}{2}}\times 3^{\frac{1}{4}}\times 2^{-\frac{1}{2}}}{12^{-1}\times 4^{\frac{1}{3}}\times 3^{\frac{2}{3}}}$.

(*c.*) Evaluate $\frac{\sqrt{6}-\sqrt{3}}{3-2\sqrt{3}}$ correct to two decimal places.

8. Solve the equations, each to one decimal place :—

(*a.*) $x^2+y^2=25$; $x+y=2$.

(*b.*) $3x^2-8x=14$.

Check, graphically, your result in equation (*a*).

9. The volume of a sphere varies as the cube of its diameter.

Which is the better bargain, oranges of 3″ diameter at 90c. per dozen or oranges of $2\frac{1}{2}$″ diameter at 60c. per dozen ?

10. The following table gives what is called "the expectation of life" at various ages. Illustrate graphically.

Age in Years.	10.	15.	20.	25.	30.	35.	40.	45.	50.
Expectation (Years).....	49.6	45.2	41.0	37.0	33.1	29.2	25.6	22.2	18.9

At what age can a man expect to live 20 more years ? What is the expectation of life at age 32 ?

TRIGONOMETRY. (Time, 2 hours.)

[*Answer* seven *questions only. All questions are of equal value.*]

1. (*a.*) The tangent of an angle is .75 ; construct the angle.

(*b.*) ABC is an acute-angled triangle, and AD is the perpendicular from A on BC. Write down the sine, cosine, and tangent of every acute angle in the figure.

2. (*a.*) Find from the tables sin 17° 13′, sin 117° 13′, cos 21° 14′, cos 121° 14′.

(*b.*) Find the angles given by the following: $\sin\theta=.9401$, $\cos\beta=.3882$, $\tan\alpha=-1.9600$.

3. A road is inclined to the horizontal at an angle of 15°. How far above the level of his starting-place is a man who walks 4,000 yards along the road ? How far above would he be if the 4,000 yards were measured horizontally ?

4. From the top of a cliff an observer finds that the angles of depression of two buoys 300 yards apart are 39° and 26°. The buoys and the observer are in the same vertical plane. What is the height of the cliff?

5. In any triangle ABC prove:—

   (*a.*) $\cot \frac{A}{2} = \tan \left(\frac{B+C}{2}\right)$.

   (*b.*) $c \cos B + b \cos C = a$.

6. By using a formula adapted for logarithmic calculation, find the smallest angle of the triangle whose sides are 271 yards, 334 yards, and 409 yards respectively.

7. In the triangle ABC, having given $a = 121$ yards, $B = 71°$, $C = 42° 30'$, find b.

8. (*a.*) Derive a formula for $\cos (P + Q)$ in terms of the sines and cosines of P and Q. Deduce $\cos 2\theta$.

   (*b.*) If $\tan \alpha = \frac{4}{5}$, $\tan \beta = \frac{1}{9}$, show that $\alpha + \beta = 45°$ if α and β are acute angles.

9. The current through a tangent galvanometer is given by the formula $C = \frac{H r \tan \theta}{2 \pi n}$.

   If $c = .25$ ampères, $r = 12$ cm., $\theta = 19°$, $n = 5$, find H.

PHYSICS. (Time, 2 hours.)

[*The value of all questions is the same.* Ten *questions constitute a full paper, but at least* two *must be chosen from each section.*]

SECTION I.—HEAT.

1. Express in the Centigrade scale the following temperatures Fahrenheit, showing clearly all working details: 10°, —7°, 0°, 180°, 212°.

2. Describe clearly the "metallic thermometer." Is it as sensitive as the mercury thermometer? Is it used in scientific experiments? Why?

3. A ball of copper at 98° C. is put into a copper vessel containing 2 lb. of water at 15° C., and the temperature of the water, ball, and vessel after the experiment is 21° C.; the weight of the vessel is 1 lb. and the specific heat of copper is .095. Find the weight of the copper ball.

4. A well-corked flask with a narrow glass tube passing through the cork is carefully filled with water, which has previously been boiled for a long time. The water stands in the glass tube 6 inches above the cork. The flask has at first a temperature of 70° F. It is carefully cooled to 33° F. Describe the motion of the column of liquid throughout the whole time of cooling.

5. A board painted red exposed to the sky on a clear night covers itself with dew. Alongside it is exposed a piece of polished silver. The silver remains undimmed. Explain clearly the cause of the difference.

SECTION II.—SOUND.

6. Does the loudness of a sound depend upon the length of its wave? If not, on what does it depend? Does the pitch of a musical sound depend upon its loudness? If not, what is the real cause of the variation of pitch?

7. A tube 9 inches in length closed at one end resounds to the vibrations of a tuning-fork. Required the length of the wave and the number of vibrations per second (temperature 62° F.).

8. Describe clearly an experiment to prove that two sounds may produce silence.

9. Describe and sketch the mechanism of the human ear.

10. At a distance of 6 feet from a sounding-bell the intensity of the sound is represented by 1 (one). What number would represent the intensity at a distance of 30 feet? Upon what law is your answer based? Does this law apply to other *forces* besides sound?

SECTION III.—LIGHT.

11. A person stands 12 feet from the edge of a stream. He sees a trout at an apparent distance of 6 feet from the edge of the water. The water is 2 feet deep. Could the person by firing a rifle-bullet at the fish succeed in hitting it? Explain clearly and give a diagram.

12. What is "mono-chromatic" light? How could you measure the wave-length of such light?

13. Explain clearly, using diagrams, the meaning of the terms "spherical aberration" and "chromatic aberration" as applied to a lens.

14. Describe any form of photometer and show how it could be used to measure the candle-power of an electric lamp.

15. Describe clearly the instrument by means of which the constitution of the stars has been found.

University Matriculation (Junior).

HISTORY. (Time, 2 hours.)

[*Answer* five *questions only. Each question has 20 marks.*]

1. What is meant by the "Fertile Crescent," and where is it situated? Show how the Babylonians, Assyrians, and Chaldeans in turn struggled to possess it.

2. Account for the rise of the Athenian Empire, and estimate the part played by Pericles in making Athens "the Teacher of the Greek world."

3. Compare the Roman Empire under Augustus and Diocletian, and show how the ancient civilization was breaking down. In how far did this decadence lead to the Triumph of Christianity?

4. Show how Charlemagne was able to revive the Roman Empire of the West. Describe the important features of his system of government.

5. "The Crusades were a clash between two different civilizations, the Mohammedan and the Christian." Discuss, with especial reference to the effects of the Crusades upon Europe.

6. "The Church was incomparably the most important institution of the Middle Ages." Discuss, with especial reference to:—

   (*a.*) The organization of the Church.

   (*b.*) Church and State.

   (*c.*) The Mendicant Orders.

7. What were the chief characteristics of the Renaissance (*a*) in Italy, (*b*) outside of Italy.

8. Give a short account of the Reformation in Germany and the British Isles.

9. What were the points at issue between the Stuart Kings and Parliament?

ENGLISH LITERATURE. (Time, 2 hours.)

[*Candidates will answer Section A, and* either *Section B* or *Section C.*]

SECTION A. POEMS OF THE ROMANTIC REVIVAL.

Value.

14 1. Quote ten or twelve lines from Wordsworth, excluding the sonnets. State concisely what thought in this quotation appeals most to you, and why.

21 2. Write about a page on each of the following:—

   (*a.*) The "Ode to the West Wind" as characteristic of Shelley.

   (*b.*) The character of Andrea del Sarto.

   (*c.*) The thought and the style of the "Ode on a Grecian Urn."

15 3. (*a.*) Make a brief note of explanation on each of the following quotations, naming the author and poem from which each is taken:—

   (i.) Our wills are ours, to make them thine.

   (ii.) And all to left and right
   The bare black cliff clang'd round him.

   (iii.) The still sad music of humanity.

   (iv.) A shielded scutcheon blush'd with blood of queens and kings.

   (*b.*) In your opinion, which of the above passages possesses the greatest poetic effectiveness? Why?

SECTION B. "THE MERCHANT OF VENICE."

Value.

17 1. (*a.*) In about two pages analyse the character of Shylock.
(*b.*) To what extent is he an appealing figure?

18 2. Write on *two* of the following (about a page on each) :—
(*a.*) The dramatic value of the last act of this play.
(*b.*) The wit of Gratiano.
(*c.*) Jessica's attitude towards her father.

15 3. Give the context of each of the following and explain :—
(*a.*) For this fool gudgeon, this opinion.
(*b.*) Hard food for Midas, I will none of thee.
(*c.*) I have set up my rest.
(*d.*) Therefore I scant this breathing courtesy.
(*e.*) But whilst this muddy vesture of decay
Doth grossly close it in, we cannot hear it.

SECTION C. "HENRY V."

17 1. Discuss, in about two pages, the nature and purpose of the various elements of comedy introduced into this play.

18 2. Discuss the three characteristics of King Henry that, in your opinion, are most closely connected with the development of the play.

15 3. Give the context of each of the following and explain :—
(*a.*) The strawberry grows underneath the nettle.
(*b.*) His vanities forespent
Were but the outside of the Roman Brutus.
(*c.*) A largess universal like the sun
His liberal eye doth give.
(*d.*) Doth rise and help Hyperion to his horse.
(*e.*) Would I were with him, wheresome'er he is.

GERMAN TRANSLATION. (Time, 2 hours.)

48 1. Translate :—

(*a.*) Es wurde alſo ein Tag zum Wettfliegen feſtgeſetzt, und zur beſtimmten Stunde erhob ſich die ganze Geſellſchaft in die Luft. Einer ſuchte es dem andern zuvorzutun. Da es aber faſt keinen Zweifel unterlag, daß der Adler den Sieg davontragen würde, ſo gedachte ihn der Zaunkönig durch eine Liſt zu überkommen. Was tat er? Er verſteckte ſich zwiſchen den Beinen des Adlers, indem er demſelben in die Federhoſen kroch, ohne daß es der Adler merkte. Als nun der Adler ſich höher erhoben hatte als alle andern Vögel und müde war, da flog der Zaunkönig hervor und über ihn hinauf, ſo daß alle Vögel ihn als ihren König anerkennen mußten.

(*b.*) Endlich war er fertig. Glückſelig eilte er zum Palaſte. Aber welch ein Schreck ergriff ihn! in der Ferne ſah er die holde Emma auf ſchnaubendem Roſſe, welches ſie aus jener Rübe gezaubert hatte, entfliehen. Zornſchnaubend ſchleuderte er der Fliehenden ſeine Blitze nach, aber es war zu ſpät, — ſie war aus ſeinem Bereich. — Grollend kehrte der Berggeiſt, der von nun an überall Rübenzähler oder Rübezahl genannt wurde, in ſein unterirdiſches Reich zurück.

Value.

(*c.*) Da überfiel den armen Muſikanten eine große Angſt; denn er dachte, daß ſein Spiel dem Rübezahl — denn daß dieſer es war, hatte er längſt erkannt — am Ende nicht gefallen könnte, und daß er ihn dann zur Strafe für ſeine Dreiſtigkeit an den erſten beſten Baum aufknüpfen würde. Zitternd ergriff er daher die Flöte, aber der Gedanke an ſeine ferne Braut und an das Glück, das ihm am Ende durch Rübezahl beſchert werden könnte, machte ihm neuen Mut; furchtlos ließ er daher ſein Lied ertönen und gab ſich die größte Mühe, ſeinen Zuhörer zufrieden zu ſtellen.

(*d.*) „Daß euch der Kuckuck hole!" ſchrie der Gaſt, „da habt ihr mir ja mein Bein mit ausgeriſſen!"

Und wirklich ſo war's auch, das Bein ſtak im Stiefel und lag mit demſelben auf der Erde. Voll Schrecken ſtarren die beiden den Gaſt an; ehe ſie ſich aber davon erholt haben, zieht der Fremde den Handſchuh ſamt ſeiner Hand ab und wirft ſie dem Wirt an den Kopf. Dann ergriff er ſeinen Kopf, hob ihn ab und warf ihn dem Hausknecht auf den Rücken, worauf der Kopf gar ſchrecklich zu lachen anfing und die Treppe hinunterkollerte.

12 2. Translate (at sight):—

Ein Herr wollte ein Paar Schuhe kaufen. Er ging daher in einen Schuhladen, und ſagte zu dem Kaufmann: „Zeigen Sie mir, bitte, die beſten Schuhe, die Sie haben" Nachdem der Herr mehrere Paare anprobiert hatte, fand er ein Paar, welches ihm paßte. „Wie viel koſtet dieſes Paar?" fragte er den Kaufmann. „Fünfzehn Mark," war die Antwort. „Das iſt viel zu viel," ſagte der Herr, „Sie ſollten mir die Schuhe billiger laſſen, denn ich bin ein Freund von Ihrem Geſchäft und kaufe immer hier." Der Kaufmann aber erwiderte: „Das iſt alles recht ſchön unb gut! Allein gerade von meinen Freunden muß ich leben, denn meine Feinde kaufen nichts von mir."

24 3. Translate:—

One day a Count was travelling along a lonely country road. He went into a small inn and ordered a simple meal—boiled eggs, white bread and fresh butter, and a glass of beer. The shameless innkeeper asked five pounds for the meal. The Count smiled and said, "Are eggs and bread and butter scarce here?" "No," said the cunning innkeeper, "but Counts are very scarce."

16 4. Write in German a short description of your own home, *or* of Vancouver.

LATIN AUTHORS AND SIGHT TRANSLATION. (Time, 2½ hours.)

[*Candidates will answer* either *A, B, and E,* or *C, D, and E.*]

A.

10 1. Translate:—

'Tu face nescio quos esto contentus amores
indagare tua, nec laudes adsere nostras.'
Filius huic Veneris, '*Figat* tuus omnia, Phoebe,
te meus arcus,' ait, 'quantoque animalia cedunt
cuncta *deo*, tanto minor est tua gloria *nostra*.'

(*a.*) Account for the case of *te, deo, tanto, nostra;* the mood of *figat.*

Value.

11 2. Translate:—

Plus etiam, quam quod superis contingere fas est,
nescius adfectas. Placeat sibi *quisque* licebit:
non tamen ignifero quisquam consistere in axe
me valet excepto. Vasti quoque rector Olympi,
qui fera terribili iaculatur fulmina dextra,
non *agat* hos currus: et quid Iove maius habemus?

(*a.*) Account for the case of *plus, quisque, me;* the mood of *agat.*

12 3. Translate:—

At tu, funesti ne *sim* tibi muneris auctor,
nate, cave, dum resque sinit, tua corrige vota.
Scilicet ut nostro genitum te sanguine credas,
pignora certa petis? do pignora certa *timendo,*
et patrio pater esse metu probor. Adspice vultus
ecce meos: utinamque oculos in pectora *posses*
inserere, et patrias intus deprendere curas!

(*a.*) Parse *timendo.*

(*b.*) Account for the mood of *sim, posses.*

(*c.*) Scan the last two lines.

7 4. Translate:—

Quod simul ac sensere, ruunt tritumque relinquunt
quadriiugi spatium, nec quo prius ordine currunt.
Ipse pavet; nec qua commissas *flectat* habenas,
nec scit qua sit iter; nec, si *sciat,* imperet illis.

(*a.*) Account for the mood of *flectat, sciat.*

B.

19 1. Translate:—

Eo cum de improviso celeriusque omnium *opinione* venisset, Remi, qui proximi Galliae ex Belgis sunt, ad eum legatos Iccium et Andocumbogium, primos civitatis suae, miserunt qui *dicerent* 'se suaque omnia in fidem atque in potestatem populi Romani permittere; neque se cum reliquis Belgis consensisse neque contra populum Romanum omnino coniurasse, paratosque esse et obsides dare et imperata *facere* et oppidis recipere et frumento ceterisque rebus iuvare; reliquos omnes Belgas in armis esse, Germanosque, qui cis Rhenum *incolant,* sese cum his coniunxisse, tantumque esse eorum omnium furorem ut ne Suessiones quidem, fratres consanguineosque suos, qui eodem *iure* et eisdem legibus utantur, unum imperium unumque magistratum cum ipsis habeant, deterrere *potuerint* quin cum his consentirent.'

(*a.*) Account for the case of *opinione, iure;* the mood of *dicerent, facere, incolant, potuerint.*

11 2. Translate:—

ubi vineis actis, aggere exstructo turrim procul constitui viderunt, primum irridere ex muro atque increpitare vocibus, quod tanta machinatio ab tanto spatio *instrueretur:* 'quibusnam manibus aut quibus viribus praesertim homines tantulae *staturae* (nam plerumque omnibus Gallis prae magnitudine corporum suorum brevitas nostra *contemptui* est) tanti *oneris* turrim in muro sese collocare *confiderent?*

(*a.*) Account for the case of *staturae, contemptui, oneris;* the mood of *instrueretur, confiderent.*

10 3. Translate:—

Huius est civitatis longe amplissima auctoritas omnis orae maritimae regionum earum, quod et naves habent Veneti plurimas, quibus in Britanniam navigare

Value.

consuerunt, et scientia atque *usu* nauticarum rerum reliquos antecedunt et in magno impetu maris atque aperto, paucis *portibus* interiectis, quos tenent ipsi, omnes fere, qui eo mari uti consuerunt, habent vectigales. Ab his fit initium *retinendi* Silii atque Velanii, quod per eos suos se obsides, quos Crasso *dedissent*, reciperaturos existimabant.

(*a.*) Account for the case of *usu*, *portibus;* the mood of *retinendi*, *dedissent.*

C.

14 1. Translate:—

id metuens veterisque memor *Saturnia belli*,
prima quod ad Troiam pro caris gesserat Argis—
necdum etiam causae irarum saevique dolores
exciderant animo; manet alta mente *repostum*
iudicium Paridis spretaeque iniuria formae,
et genus invisum, et rapti Ganymedis honores.

(*a.*) Account for the case of *belli.*

(*b.*) Explain *id*, *Saturnia*, *iudicium Paridis.*

(*c.*) Scan the last two lines.

13 2. Translate:—

'nulla tuarum audita *mihi* neque visa sororum,
o—quam te memorem, virgo? namque haud tibi vultus
mortalis, nec vox hominem sonat; O, dea certe,—
an Phoebi soror? an Nympharum sanguinis una?—
sis felix, nostrumque leves, *quaecumque*, laborem,
et, quo sub caelo tandem, quibus orbis in oris
iactemur, doceas; ignari *hominum*que locorumque
erramus, vento huc vastis et fluctibus acti.

(*a.*) Account for the case of *mihi*, *quaecumque*, *hominum;* the mood of *sis*, *iactemur.*

13 3. Translate:—

grates persolvere dignas
non *opis* est nostrae, Dido, nec quidquid ubique est
gentis Dardaniae, magnum quae sparsa per orbem.
Di tibi, si qua pios respectant numina, si quid
usquam iustitia est et mens sibi conscia *recti*,
praemia digna *ferant.* quae te tam laeta tulerunt
saecula? qui tanti talem genuere parentes?

(*a.*) Account for the case of *opis*, *gentis*, *recti;* the mood of *ferant.*

D.

12 1. Translate:—

Erat ob has causas summa difficultas, quod naves propter magnitudinem nisi in alto constitui non poterant; militibus autem, ignotis locis, impeditis manibus, magno et gravi armorum onere oppressis, simul et de navibus *desiliendum* et in fluctibus consistendum et cum hostibus erat pugnandum; cum illi aut ex arido aut paululum in aquam progressi, omnibus membris expeditis, notissimis locis, audacter tela coniicerent, et equos insuefactos incitarent. Quibus rebus nostri perterriti, atque huius omnino generis pugnae imperiti, non eadem alacritate ac *studio*, *quo* in pedestribus uti proeliis consueverant, utebantur.

(*a.*) Account for the case of *generis*, *studio*, *quo.*

(*b.*) Parse *desiliendum.*

6 2. Translate:—

Caesar questus, quod, cum ultro in continentem legatis missis pacem ab se petissent, bellum sine causa *intulissent*, ignoscere *imprudentiae* dixit

Value.

obsidesque imperavit; quorum illi partem statim dederunt, partem ex longinquioribus locis arcessitam paucis *diebus* sese daturos dixerunt.

(*a.*) Account for the case of *imprudentiae, diebus;* the mood of *intulissent.*

8 3. Translate:—

Dum ea geruntur, legione ex consuetudine una *frumentatum* missa, quae appellabatur septima, neque *ulla* ad id tempus belli suspicione interposita, cum pars hominum in agris remaneret, pars etiam in castra ventitaret, ii, qui pro portis castrorum in statione erant, Caesari renuntiarunt, pulverem maiorem quam consuetudo *ferret* in ea parte videri quam in partem legio iter fecisset.

(*a.*) Account for the case of *ulla;* the mood of *ferret.*

(*b.*) Parse *frumentatum.*

5 4. Translate:—

Collaudatis militibus, atque *iis*, qui *negotio* praefuerant, quid fieri velit, ostendit, atque omnes ad portum Itium convenire iubet, quo ex portu commodissimum in Britanniam traiectum esse cognoverat.

(*a.*) Account for the case of *iis, negotio.*

9 5. Translate:—

Itaque ex legionibus fabros deligit, et ex continenti alios arcessi jubet; Labieno scribit, ut, *quam plurimas* posset, iis *legionibus*, quae sunt apud eum, naves *instituat.* Ipse, etsi res erat multae operae ac *laboris*, tamen commodissimum esse statuit, omnes naves subduci et cum castris una munitione coniungi.

(*a.*) Account for the case of *legionibus, laboris;* the mood of *instituat.*

(*b,*) Write a note on the phrase *quam plurimas.*

E.

20 Translate into English:—

Caesar postquam ex Menapiīs in Trēverōs vēnit, duābus dē causīs Rhēnum trānsīre cōnstituit: quārum ūna erat quod Germānī auxilia contrā sē Trēverīs mīserant; altera, nē ad eōs Ambiorīx receptum habēret. Hīs cōnstitūtīs rēbus paulō suprā eum locum quō ante exercitum trādūxerat facere pontem īnstituit. Nōtā atque īnstitūtā ratiōne, magnō mīlitum studiō, paucīs diēbus opus efficitur. Fīrmō in Trēverīs ad pontem praesidiō relictō, nē quis ab hīs subitō mōtus orīrētur, reliquās cōpiās equitātumque trādūxit.

Nota atque instituta ratione: translate "the principle of construction being thoroughly familiar."

LATIN GRAMMAR AND COMPOSITION. (Time, 2 hours.)

15 1. Write the ablative singular of *civis, mare, vis, fructus, spes;* the genitive plural of *pes, cornu, pedes, vis, vir, flumen, parens, nox, ager, iter.*

5 2. Compare *malus, bene, saepe, magnus, facilis.*

4 3. Write all the infinitives of *quaero.*

10 4. Write: (*a*) The third plural imperfect subjunctive of *volo;* (*b*) the second plural present imperative of *obliviscor;* (*c*) the second plural perfect indicative of *possum;* (*d*) the second singular future indicative passive of *capio;* (*e*) the third plural present indicative of *eo;* (*f*) the first plural imperfect subjunctive of *fio;* (*g*) the second singular present indicative of *malo;* (*h*) the second singular present indicative active of *fero;* (*i*) the second singular present indicative of *adorior;* (*j*) the first singular imperfect subjunctive of *proficiscor.*

Value.

16 5. Write the principal parts of *nolo, recipio, audeo, reperio, sumo, cognosco, intersum, fio, fallo, posco, curro, veto, gero, cado, attingo, iaceo.*

6 6. What part of what noun, adjective, or verb are the following: *eorundem, alicui, fore, plura, vestri, nonvult?*

4 7. Decline together *aliud corpus.*

40 8. Translate into Latin:—

(*a.*) They returned to the city at daybreak.

(*b.*) Let us beg Caesar to spare the women and children.

(*c.*) It is much easier to help our friends than our enemies.

(*d.*) I do not think that I have seen a more beautiful girl.

(*e.*) We were not able to find out why he did not use the cavalry.

(*f.*) They could not be persuaded to wait any longer.

(*g.*) He sent centurions ahead to select a suitable place for a camp.

(*h.*) Caesar had to do everything at once.

(*i.*) The tribes who dwell beyond the Rhine sent envoys to Caesar to seek peace.

(*j.*) Caesar ordered the gates to be closed so that no one should go out of the town.

AGRICULTURE. (Time, 2 hours.)

(*See* paper set on this subject for the Third-class Teachers' Examination (Non-professional).)

FRENCH TRANSLATION. (Time, 2 hours.)

[N.B.—*Candidates should work slowly and revise carefully. Every sentence is framed to illustrate some point of grammar or syntax. Careless work entails serious loss of marks.*]

Value.

30 1. Translate into good English:—

C'était sous le gouvernement de Napoleon 1er, Humboldt et Gay-Lussac faisaient à Paris leurs expériences pour la construction des baromètres: ils vinrent à manquer de tubes en verre. A cette epoque d'industrie peu avancée, on n'en fabriquait qu'en petite quantité, et en Allemagne seulement. Or la douane allemande en interdisait l'exportation.

"Essayons un moyen," dit Humboldt. Et il envoie au fabriquant allemand l'ordre de lui expédier une douzaine de tubes dûment fermés et cachetés à chaque bout, et portant cette étiquette: "Air allemand."

Les tubes arrivent à la frontière. L'inspecteur des douanes examine l'envoi. Apres avoir bien réfléchi, "L'air, se dit-il, n'est pas dans la liste des articles prohibés. Laissez passer!"

C'est ainsi que les précieux tubes arrivèrent à Paris, sans même avoir payé de droit.

N.B.—*Douane* = customs; *étiquette* = label.

30 2. Put into French with great care and accuracy:—

I admit that the common or medicinal plants and the many varieties of minerals did not attract me as much as the living species. The amusing monkey gallery, the pool of the ugly seals (phoques), the cages of wild beasts born in various parts of the world, caused me real surprise. A fine lioness had

Value.

just died, but two terrible panthers were coming from India, where they had lived until then. They had, with them, their cubs, that had just been born and that would live, henceforth, in a narrow cage. We returned by the winding paths of the big garden where there are numerous birds of all the countries of the world.

20 3. Put into French:—

(1.) At 8 a.m. we have coffee or chocolate with bread and butter and toast. (2.) At last he shut his eyes and slept soundly. (3.) Jean and Henry are going to see the Boulevards. (4.) In the centre could be seen the band. (5.) They are starting for Versailles to-day. (6.) He also pointed out to us the little homes which she called her hamlet, where princesses, disguised as shepherdesses, used to come. (7.) This chapel is open to visitors four times a week, on Mondays, Tuesdays, Thursdays, and Fridays, from 12 to 3. (8.) Piercing cries were heard and several persons threw themselves on the ground. (9.) Henry enjoyed himself very much. (10.) The journey was very pleasant although it was very hot that day.

20 4. Translate into French:—

(1.) You ought to come soon. (2.) These are the letters of which I spoke. (3.) I do not know which one he knows. (4.) What he says is true. (5.) Remember this. (6.) He is wrong; that is certain. (7.) That house is not Paul's; it is mine. (8.) He often sent me to them. (9.) Don't make fun of them. (10.) I have been here for three hours.

FRENCH GRAMMAR. (Time, 2 hours.)

10 1. Combine each of the following groups of words so as to form a correct sentence:—

Group (*a.*) fleur; blanc; jardin.

Group (*b.*) Henri; garçon; imagination; vif.

Group (*c.*) Paris; ville; beau.

Group (*d.*) deux; beau; cheval; pré.

Group (*e.*) homme; vieux; viendra; demain.

12 2. Rewrite the following sentences, changing the genders:—

(*a.*) Le paysan était fou.

(*b.*) C'est la belle ouvrière.

(*c.*) J'ai connu un comte muet.

(*d.*) Le danseur s'est levé de bonne heure.

(*e.*) Nul acteur ne parlait mieux.

(*f.*) Le nègre pêcheur sortit vite.

10 3. Reply, in French, in complete sentences, to the following questions:—

(*a.*) À quelle heure vous êtes-vous levé ce matin?

(*b.*) Qu'avez-vous pris pour votre petit déjeuner?

(*c.*) Quel âge avez-vous?

(*d.*) Quel temps fait-il aujourd'hui?

(*e.*) Qu'allez-vous faire après les examens?

16 4. Answer the following questions (in French) in complete sentences, substituting personal pronouns for the parts printed in italics:—

(*a.*) M'avez-vous envoyé *les livres?*

(*b.*) A-t-il vendu *son cheval à mon voisin?*

Value.

(*c.*) Est-ce qu'il vend *du vin?*

(*d.*) Est-ce qu'il a envoyé *des élèves à cette école?*

(*e.*) Est-il allé chercher *sa mère dans le jardin?*

10 5. Give the comparative and superlative of:—

Un bon élève; il est peu travailleur; un beau drame; une langue difficile; un mauvais exemple.

20 6. Put the verb printed in italics in the tense required by the context:—

(*a.*) Je *pouvoir* partir demain.

(*b.*) *Savoir* votre opinion, je serai content d'avoir votre appui.

(*c.*) Je *voir* (past def.) deux oiseaux sur le gazon.

(*d.*) *Dire* ce que vous avez vu.

(*e.*) Je *venir* vous voir la semaine prochaine.

(*f.*) Je *s'en aller* bientôt.

(*g.*) Restez ce soir afin que je *être* sûr d'avoir votre opinion demain.

(*h.*) Est-ce qu'il a *obéir* à ses parents?

(*i.*) Il m'a complètement *décevoir.*

(*j.*) Est-ce que la porte est *ouvrir?*

10 7. Put the following in the plural:—

Le bois épais, son oeil bleu, un journal anglais, son premier travail, le meilleur bateau, ce troupeau de moutons, un gros clou, un caillou blanc, un jeu dangereux, un bal masqué.

12 8. Supply the correct verb-form:—

(*a.*) Personne n'est *arriver.*

(*b.*) Je ne veux pas boire bien que je *avoir* bien soif.

(*c.*) Quant aux rues de cette ville il n'en est pas une qui *valoir* les boulevards de Paris.

(*d.*) Quels livres avez-vous *acheter?*

(*e.*) Il faut que vous *être* ici à huit heures demain matin.

(*f.*) Je partirai à moins qu'il *venir* à temps.

University Matriculation (Junior); and Intermediate Grade.

GEOMETRY. (Time, 2½ hours.)

15 1. If the square described on one side of a triangle is equal to the sum of the squares described on the other two sides, then the angle contained by these two sides is a right angle.

15 2. (*a.*) Prove that the opposite angles of any quadrilateral inscribed in a circle are together equal to two right angles.

(*b.*) State and prove the converse of this theorem.

15 3. If from the point of contact of a tangent to a circle a chord is drawn, the perpendiculars dropped on the tangent and chord from the middle point of either arc cut off by the chord are equal.

Value.

15 4. In any triangle the sum of the squares on two sides is equal to twice the square on half the third side, together with twice the square on the median which bisects the third side.

10 5. (*a.*) State the conditions under which transverse common tangents *cannot* be drawn to two circles.

(*b.*) If two direct common tangents are drawn to two circles, the parts of the tangents intercepted between the points of contact are equal.

15 6. Through a given point within a circle draw a chord of given length. State when this is impossible.

15 7. Define *the locus of a point.* Two straight lines OX, OY cut at right angles; and Q and R are points in OX and OY respectively. Plot (freehand) the locus of the middle point of QR when the sum of OQ and OR is constant, and give a theoretical proof.

CHEMISTRY. (Time, 2 hours.)

[*All questions are of equal value. Answer* seven *only.*]

1. Describe an experiment by means of which water is decomposed. Illustrate your description by means of a diagram. How could you test the substances obtained to show their properties?

2. If 1 litre of oxygen at normal temperature and pressure weighs 1.42 grams, what volume of oxygen could be obtained by heating 3.456 grams of mercuric oxide? If all this gas were converted into ozone, what volume would result? The gases being in each case measured at normal temperature and pressure.

3. Describe two methods for the preparation of nitrogen, showing by means of diagrams the use of each particular piece of apparatus employed. Nitrogen is described as an inactive substance. How would you satisfy yourself that this is true?

4. State what you understand by the law of definite proportions. From a consideration of at least two chemical compounds show that this law represents the facts.

5. What is the source of most of our chlorine? How would you carry out the electrolysis of hydrochloric acid? What gases result?

6. How can acetylene be prepared? Write the equation representing the reaction taking place. What weight of each of the reacting substances would be necessary to yield 1.456 litres of acetylene at normal temperature and pressure, the weight of 1 litre under these conditions being 1.16 grams?

7. How does sulphur occur in nature? What are its most characteristic properties? What oxides does it form?

8. If you were given three solutions that were suspected to contain hydrochloric, nitric, and sulphuric acid respectively, how would you proceed to test this supposition? (Hg = 200.0, C = 12.00, O = 16.00, Ca = 40.1, H = 1.008.)

NOTE.—Hg = 200.0, C = 12.00, O = 16.00, Ca = 40.1, H = 1.008.

University Matriculation (Junior).

PHYSICS. (Time, 2 hours.)

[Ten *questions constitute a full paper.*]

Value.

10 1. A force of 50 poundals acts on a mass of 10 pounds for 15 seconds. Find the velocity produced, the acceleration, and the momentum.

10 2. Two men are cutting logs with a crosscut saw. To move the saw requires a force of 50 pounds. If 50 strokes of length 2 feet each are made per minute, find the work done by each man in 20 minutes.

10 3. Describe an experimental proof of the truth of the Principle of Archimedes.

10 4. What are the two common types of wave-motion? Describe them.

10 5. The thermal capacity of 56 grams of copper is 5.264 calories. What is the specific heat of copper?

10 6. Write an account of the nature and source of heat.

10 7. What are the three modes of heat transference? Give one example of each.

10 8. The velocity of a bullet is 1,200 feet per second. If the sound of the bullet striking the target reaches the marksman 6 seconds after the shot was fired, find the distance of the target. Take the velocity of sound through air to be 1,129 feet per second.

10 9. What are the three features by which musical notes are distinguished from each other? How are they represented in the sound-wave?

10 10. State a law of reflection of light. How can this law be demonstrated by experiment?

10 11. Show by a drawing how to obtain the position and relative size of the image of an object placed 40 centimetres away from a convex lens of 20 centimetres focal length.

10 12. What have you learned about the magnetic field of the earth?

10 13. Explain clearly what we mean by the terms electrical conductor and electrical non-conductor or insulator. Give three examples of each. Show how to electrify a piece of metal by friction.

10 14. What must be the E.M.F. of a battery in order to ring an electric bell which requires an electric current of 1/10 ampere, if the resistance of the bell and its connection is 200 ohms and that of the battery is 20 ohms?

10 15. Describe any kind of primary cell. How is polarization avoided in the case you select?

GERMAN GRAMMAR. (Time, 2 hours.)

32 1. Translate :—

(1.) Put the chair between the window and the door.

(2.) I am going home; my sister is already at home.

(3.) We get up at half past seven and go to school at a quarter to nine.

(4.) That is not your hat, it is mine; please give it to me.

(5.) In the night of the 23rd of August, 1572, 30,000 Huguenots were killed in France. (Numbers to be written in full.)

Value.

(6.) The fox is the most cunning of all animals, but the horse is the noblest.

(7.) He can learn to speak German if he wants to.

(8.) The lady, whose son always behaves badly, visited us yesterday.

10 2. Translate :—

(1.) Without his dog. (2.) Towards the garden. (3.) Beside the window. (4.) Through the water. (5.) Out of the house. (6.) During the summer. (7.) On account of his health. (8.) With her friends. (9.) Against the wall. (10.) In the park.

5 3. Change the infinitives in the following sentences to third person singular, present indicative :—

(1.) Das Kind fallen auf den Boden.

(2.) Der Knabe werfen den Ball.

(3.) Die Dame ſich begeben auf den Weg.

(4.) Der Adler davontragen den Sieg.

(5.) Der Zaunkönig verkriechen in die Zäune.

15 4. Rewrite the following sentences (1) in the imperfect, (2) in the future, (3) in the pluperfect tense :—

(1.) Der Schwamm liegt auf dem Pult.

(2.) Das Pferd frißt den Hafer.

(3.) Mein Bruder geht in die Schule.

(4.) Der Freund verläßt das Schiff.

(5.) Mein Vater kommt heute an.

4 5. (*a.*) Rewrite the following sentences in the passive :—

(1.) Der Knecht füttert das Pferd.

(2.) Der Hund begleitete den Wagen.

4 (*b.*) Write the comparative and superlative forms of :—

(1.) Der gute Schüler.

(2.) Er ſchreibt gern.

30 6. Complete the following sentences by inserting appropriate articles, giving correct endings to the adjectives and making the verbs agree—the verbs of the first sentence to be present tense ; second, imperfect ; third, perfect ; fourth, pluperfect ; fifth, future. Then rewrite the sentences in the plural throughout :—

(1.)— treu— Knecht füttern— alt— Pferd und— klein— Hund.

(2.)— arm— Rotkehlchen kommen in— kalt— Winter an—hell— Fenſter.

(3.)— gut— Sohn— alt— Landmannes— geben— klein— Vogel etwas zu freſſen.

(4.)— ſchlau— Fuchs umherwandern in— ſchön— Garten.

(5.)—klug— Reiſender wünſchen— bequem— Platz an— warm— Ofen zu haben.

GREEK. (Time, 2 hours.)

Value.

10 1. Write the dative singular and plural of ὄρνις, τριήρης, πατήρ, ἡγεμών; the accusative singular of ἀνήρ, νύξ, ἀσπίς; the vocative singular of πελταστής.

10 2. Write the dative singular and plural in all genders of τίς, ἐγώ, ἀληθής, χαρίεις, οὗτος.

18 3. Write the pluperfect indicative active of λύω; the aorist indicative passive of ἀθροίζω; the perfect indicative passive of πέμπω; the pluperfect indicative passive of ἄγω; the imperfect indicative passive of δηλόω; the aorist subjunctive active of πράττω; the aorist subjunctive passive of ἀθροίζω; the aorist optative passive of φοβέω; the present optative active of τιμάω.

7 4. What part of what verb, noun, or adjective is each of the following: ἀθροισθέντων, ποιοῖεν, ὄρνιν, χαρίεν, πατέρε, γέρον, ταῦτα?

25 5. Translate into Greek:—

(*a.*) If you were to break down the gates we would not be grateful.

(*b.*) Do not ask us why we have not sent hoplites.

(*c.*) We destroyed the bridges so that we might check the enemy.

(*d.*) They would have marched against the foe, if Clearchus had not wished to lead them away.

(*e.*) We were afraid that Cyrus would not be well disposed to the Greeks.

15 6. Translate into English:—

(*a.*) λέγει δὲ ὅτι οἱ Ἕλληνες νικῶσι τὸ καθ' ἑαυτούς.

(*b.*) ἐμοὶ οὖν οὔπω δοκεῖ ὥρα εἶναι ἡμῖν τοῦτο σκέπτεσθαι.

(*c.*) οὐκ ἔστι πᾶσι δὴ εὐδαίμοσιν εἶναι.

(*d.*) ἡγεμόνα αἰτεῖτε Κῦρον ἵνα διὰ φιλίας χώρας ἀπάγῃ.

(*e.*) μὴ αἰτιάσησθε τὸν ἄρχοντα ὅτι ἀπαράσκευός ἐστιν.

15 7. Translate into English.

ὁ δὲ οἶνος ἐκ τῆς βαλάνου ἐπεποίητο τῆς ἀπὸ τοῦ φοίνικος, καὶ ὁ σῖτος μελίνης ἦν· ταύτης γὰρ ἦν ἡ χώρα πλήρης. ἀμφιλέγουσι δέ τι ἐνταῦθα οἵ τε τοῦ Μένωνος στρατιῶται καὶ οἱ Κλεάρχου· καὶ ὁ Κλέαρχος κρίνει ἀδικεῖν τὸν τοῦ Μένωνος καὶ παίει. ὁ δὲ ταῦτα τοῖς φίλοις ἔλεγεν. οἱ δὲ στρατιῶται ἐπεὶ ἤκουσαν ἐχαλέπαινον καὶ ὠργίζοντο ἰσχυρῶς τῷ Κλεάρχῳ.

University Matriculation (Junior); and Intermediate Grade.

ALGEBRA. (Time, 2 hours.)

14 1. (*a.*) Multiply $x^{\frac{3}{2}} - xy^{\frac{1}{2}} + x^{\frac{1}{2}}y - y^{\frac{3}{2}}$ by $x + x^{\frac{1}{2}}y^{\frac{1}{2}} + y$.

(*b.*) Divide $a^3 + b^3 + 3ab - 1$ by $a + b - 1$.

16 2. Factor:—

(*a.*) $1 + y - x^2(1 - y) + 2xy$ into two factors.

(*b.*) $4(xy + ab)^2 - (x^2 + y^2 - a^2 - b^2)^2$ into four factors.

(*c.*) $a^9 - a^6 - 64a^3 + 64$ into six factors.

12 3. Find the H.C.F. and L.C.M. of $x^4 + ax^3 + a^3x + a^4$ and $x^4 - 3ax^3 + 4a^2x^2 - 3a^3x + a^4$.

Value.

12 4. Given $\sqrt{5} = 2.23607+$, find, to four decimal places, the value of

$$\frac{7\sqrt{5}+15}{\sqrt{5}-1} \times \frac{\sqrt{5}-2}{3+\sqrt{5}}.$$

20 5. Solve :—

(*a.*) $\dfrac{4x-5}{6x+9} + \dfrac{5x-6}{8x+12} = \dfrac{55}{108}$.

(*b.*)
$$\left.\begin{aligned} \frac{9}{x} - \frac{2}{y} &= 4 \\ \frac{10}{z} - \frac{6}{x} &= 8 \\ \frac{21}{y} + \frac{45}{2z} &= 12 \end{aligned}\right\}.$$

(*c.*)
$$\left.\begin{aligned} x^2 - xy + 2y^2 &= 4 \\ x^2 - 3xy &= -2 \end{aligned}\right\}.$$

11 6. (*a.*) If $ax^2 + bx + c = 0$ be the general expression of a quadratic equation, derive the formula for solving a quadratic equation.

(*b.*) Solve $9x^2 - 18x + 7 = 0$.

Or

6. (*a.*) Show that the points $(3, -4)$, $(9,4)$, $(12, 8)$ lie on a straight line and write its equation.

(*b.*) Find graphically the roots of the equation $4x^2 - 16x + 9 = 0$. Verify the solution algebraically.

15 7. The majority against a certain motion is equal to $6\frac{2}{3}\%$ of the total number voting. If 12 of those who voted against the motion had voted for it, the motion would have been carried by a single vote. Find the number voting on each side.

University Matriculation (Junior).

ENGLISH COMPOSITION. (Time, 2 hours.)

10 1. The uncouth tanks were waddling over the ground.
The ground at Vimy Ridge was scarred and pitted.
This rendered it the more difficult to cross.
The tanks were like prehistoric monsters in appearance.
They advanced steadily to destroy the strongholds of the machine-guns.
The brave Canadians were eager to close with the enemy.
They clambered over the tangled debris.
This debris had been left by the ceaseless pounding of the British guns.
Combine the above sentences into *one well-arranged* sentence.

15 2. (*a.*) By its correct use in a sentence show clearly the meaning of each of the following words used as *nouns expressing feeling:* Glow, vehemence, ardor, ecstacy, fervor, cordiality.

(*b.*) Discuss any *two* principles of Narration *or* Description, referring by way of illustration to the prose works of the composition course.

Value.

20 3. Write a carefully constructed paragraph of about a page on *one* of the following:—
The Character of Rosalind.
Gareth's Character as Knight.
Fruit-picking in British Columbia.
Aerial Travel in 1930.

55 4. Write an essay of not less than two pages on *one* of the following:—
(*a.*) Stratford-on-Avon ("Sketch book").
(*b.*) Nelson's Devotion to His Country ("Life of Nelson").
(*c.*) The Queen's Arrival at Kenilworth Castle ("Kenilworth").
(*d.*) Eppie

"A child more than all other gifts,
Brings hope with it and forward-looking thoughts."
—("Silas Marner.")

BOTANY. (Time, 2 hours.)

25 1. Write an account of the light relation of leaves under the following heads:—
(*a.*) Light in relation to the manufacture of food by leaves.
(*b.*) Modifications of leaf position, shape, and structure according to the direction or intensity of light.

25 2. Classify fruits:—
(*a.*) On the basis of structure.
(*b.*) On the basis of methods of seed dispersal.
Describe examples and make diagrams.

25 3. Describe briefly an example of each of the four divisions of plants: Thallophytes, Bryophytes, Pteridophytes, and Spermatophytes. In what respects may each plant be regarded as representative of the group to which it belongs?

25 4. Describe an economic plant belonging to each of the following families:
(*a*) Gramineæ; (*b*) Rosaceæ; (*c*) Leguminosæ.
Give reasons for placing in their respective families the plants chosen.

University Matriculation (Senior).

HISTORY. (Time, 3 hours.)

[*Answer* five *questions only. All questions have equal value.*]

1. "The Restoration of 1660 restored the Stuarts but not the Stuart system." Discuss with special reference to the causes of the Revolution of 1688.

2. Illustrate by reference to France under Louis XIV. and Prussia under Frederick the Great the strength of absolute monarchy in Europe during the seventeenth and eighteenth centuries.

3. In how far did the French Revolution destroy the Old Régime in France?

4. Trace the course of the French Revolution from the assembling of the States General to the death of Robespierre.

5. In how far may Napoleon Bonaparte be called the creator of nineteenth century Europe?

6. Show how the Congress of Vienna failed to settle the problems before it. Was a more democratic settlement possible?

7. Compare and contrast the movements for greater unity in Germany and Italy during the years 1815-1870.

8. Trace the growth of democratic institutions in England from 1815 to 1884.

9. Write a short account of the Third French Republic, with special reference to:—
   (*a.*) Its system of government.
   (*b.*) Church and State.
   (*c.*) The French Colonial Empire.

10. Discuss the causes which brought about the World War of 1914-18.

ENGLISH LITERATURE. (Time, 3 hours.)

Value.

12 1. Discuss the nature of the miracle play, its origin, and manner of presentation.

6 2. What were three of the characteristic themes of Anglo-Saxon poetry? Give examples of each.

6 3. Write very briefly upon the significance of each of the following in the history of our literature:—
   (*a.*) Malory's Morte d'Arthur.
   (*b.*) Bacon.
   (*c.*) Marlowe.

14 4. Do you find Chaucer or Spenser the more interesting poet? Give at least three adequate reasons for your preference.

12 5. Discuss Chaucer's power as a delineator of character. Confine your remarks to two of the pilgrims.

10 6. Give the context and explain:—
   (*a.*) And everemore he hadde a sovereyn prys.
   (*b.*) His purchas was wel bettre than his rente.

Value.

(*c.*) Sowninge in moral vertu was his speche.

(*d.*) For he was Epicurus owne sone.

(*e.*) Wel coude he fortunen the ascendent.

14 7. Discuss Spenser's skill in the use of allegory as seen in the description of the Dragon of Error or the House of Pride.

12 8. Discuss three weaknesses you find in "Comus" as a form of dramatic composition.

Or

Write upon the philosophical ideas in "Comus" that most appeal to you as applicable to life at the present time.

14 9. Halleck speaks of Milton as having "an instinctive feeling for the poetic value of words and phrases." Discuss to what extent this statement applies to "Comus." Use frequent illustrations.

PHYSICS. (Time, 3 hours.)

10 1. State Newton's Laws of Motion. Explain clearly, using practical examples, what you understand by each law.

10 2. A body of mass 10 pounds having a horizontal velocity of 1,600 feet per second just penetrates a wall of stone 4 feet thick. Calculate the average force with which the wall resists the projectile. Take "g" = 32.

8 3. State Boyle's Law. How can it be proved by experiment? What light does the kinetic theory of gases throw upon this law?

8 4. Describe fully a laboratory method for measuring the velocity of sound in air. What effect has the temperature of the air upon the velocity?

8 5. A stopped pipe is 4 feet long and an open one 12 feet long. Compare the pitch and quality of the two pipes.

8 6. The bars of a gridiron pendulum are made of iron and brass. If the iron bars are 80 cm. long, how long must the brass bars be? (Coefficient of linear expansion for brass, 0.000019; coefficient of linear expansion for iron, 0.0000121.)

8 7. Describe an experimental method for determining the latent heat of vaporization of water.

8 8. A candle and a gas flame of four candle-power are placed 6 feet apart. Find the two positions on the line joining these two light sources where a screen may be placed so as to be equally illuminated by each source.

8 9. Show how to find the focal length of a convex lens.

8 10. If you were given a voltaic cell, wire with an insulating covering, and a bar of soft iron one end of which was marked, how would you proceed to magnetize the iron so that the marked end would be a north pole? Give a diagram.

8 11. A cell has an internal resistance of 0.3 ohms and its E.M.F. on open circuit is 1.8 volts. If the poles are connected by a conductor of resistance 1.2 ohms, what is the current produced, and what is the potential difference between the poles of the cell?

8 12. Describe a method of measuring the resistance of an incandescent lamp. Would the value of the current through the lamp affect the result?

University Matriculation (Senior); and Senior Grade.

TRIGONOMETRY. (Time, 3 hours.)

Value.

10 1. (*a.*) Prove $\cos(A - B) = \cos A \cos B + \sin A \sin B$.

(*b.*) Prove $\sin 2A = \dfrac{2 \tan A}{1 + \tan^2 A}$.

10 2. The latitude of Bombay is 19° N. Find its distance from the equator, taking the diameter of the Earth to be 7,920 miles.

10 3. (*a.*) Prove $\dfrac{2 \sin\theta \cos\theta}{1 - \sin\theta + \sin^2\theta - \cos^2\theta} = \cot\theta$.

(*b.*) If $p \cot\theta = \sqrt{q^2 - p^2}$, find $\sin\theta$.

10 4. Express in simplest form :—

(*a.*) $\sin^3 120° \cot 210° - 2 \sec^2 315° + 3 \cos 240° \tan 135° - \tan^2 300°$ and give the numerical value.

(*b.*) $\dfrac{\cos(90° + A) \sec(-A) \tan(180° + A)}{\sec(360° + A) \sin(180° + A) \cot(90° - A)}$.

10 5. In any triangle prove :—

(*a.*) $\dfrac{\sin A}{a} = \dfrac{\sin B}{b} = \dfrac{\sin C}{c}$.

(*b.*) $\cos A = \dfrac{b^2 + c^2 - a^2}{2bc}$.

10 6. Given $B = 45°$, $c = \sqrt{12}$, $b = \sqrt{8}$ solve the triangle.

10 7. Solve for all the positive angles less than four right angles :—

(*a.*) $2 \cos^2\theta = 1 + \sin\theta$.

(*b.*) $\cot\theta + \tan\theta = 2 \sec\theta$.

10 8. Prove :—

(*a.*) $\cos(30° + A) \cos(30° - A) - \sin(30° + A) \sin(30° - A) = \frac{1}{2}$.

(*b.*) $\cot\theta - \cot 2\theta = \operatorname{cosec} 2\theta$.

(*c.*) $\dfrac{\cos\alpha + \sin\alpha}{\cos\alpha - \sin\alpha} = \tan 2\alpha + \sec 2\alpha$.

10 9. Given $a = 3$, $b = 7$, $C = 98° 13'$, solve the triangle, having given $\cos 81° 47' = \frac{1}{7}$.

10 10. At 9 a.m. a ship, which is sailing in a direction E. 40° S. at the rate of 8 miles an hour, observes a fort in a direction 50° North of East. At 11 a.m. the fort is observed to bear N. 20° W. Find the distance of the fort from the ship at each observation.

University Matriculation (Senior).

LATIN COMPOSITION, SIGHT TRANSLATION, AND ROMAN HISTORY. (Time, 3 hours.)

Value.

1. Translate into Latin:—

16 (*a.*) I do not think that he would have gone away if he had not been afraid that some one would try to injure us.

(*b.*) As soon as he had been placed in command of the garrison he issued orders that no one was to leave the camp before daybreak.

24 (*c.*) The Helvetii decided to go forth from their boundaries for two reasons: First, because they were hemmed in on all sides by the character of their country, on one side by a river, on another by a mountain, (and) on the third by a lake: in the next place they were desirous of wandering about more widely to make war upon their neighbours. In accordance with these plans they called a council and bound themselves by pledge and oath that they would attempt to get possession of the supreme power of the whole of Gaul.

40 2. Translate into English:—

Sulpicius describes in a Letter to Cicero the Comfort he derived in Time of Sorrow from the Thoughts suggested by the Ruins he beheld on the Greek Coast.

Ex Asia rediens cum ab Aegina Megaram versus navigarem, coepi regiones circumcirca prospicere. Post me erat Aegina, ante Megara, dextra Piraeus, sinistra Corinthus quae oppida quondam tempore florentissima fuerunt, nunc prostrata et diruta ante oculos jacent. Coepi ego-met mecum sic cogitare: 'Hem! nos homunculi indignamur si quis nostrum interiit aut occisus est, quorum vita brevior esse debet, cum uno loco tot oppidûm cadavera projecta jacent.' Visne tu te, Servi, cohibere, et meminisse hominem te esse natum? Crede mihi, cogitatione ea non mediocriter sum confirmatus. *Cicero.*

20 3. Write on *four* of the following:—

(*a.*) The struggles of the Plebeians for equality.

(*b.*) The Servian reforms.

(*c.*) The Second Punic War.

(*d.*) The Conquest of Italy.

(*e.*) Cato, Veii, Hiero, Perseus, Allia, Pyrrhus.

GERMAN TRANSLATION. (Time, 3 hours.)

1. Translate:—

8 (*a.*) Wiederum waren Jahre vorüber.—Auf einem abwärts führenden ſchattigen Waldwege wanderte an einen warnen Frühlingsnachmittage ein junger Mann mit kräftigem, gebräuntem Antlitz. Mit ſeinen ernſten grauen Augen ſah er geſpannt in die Ferne, als erwarte er endlich eine Veränderung des einförmigen Weges, die jedoch immer nicht eintreten wollte. Endlich kam ein Karrenfuhrwerk langſam von unten herauf. „Holla! guter Freund!" rief der Wanderer dem nebengehenden Bauern zu, „geht's hier reht nach Immenſee?"

8 (*b.*) Draußen aber legte ſich der Abend mehr und mehr über Garten und See, die Nachtſchmetterlinge ſchoſſen ſurrend an den offenen Türen vorüber, durch welche der Duft der Blumen und Geſträuche immer ſtärker hereindrang; vom Waſſer herauf kam das Geſchrei der Fröſche, unter

Value.

den Fenstern schlug eine Nachtigall, tiefer im Garten eine andere; der Mond sah über die Bäume. Reinhardt blickte nach einer Weile auf die Stelle, wo Elisabeths feine Gestalt zwischen den Laubgängen verschwunden war; dann rollte er sein Manuskript zusammen, grüßte die Anwesenden und ging durchs Haus an das Wasser hinab.

18 2. Translate :—

The moon no longer shone through the window-panes ; it had become dark ; but the old man still sat with folded hands in his arm-chair staring before him into space. Gradually the dim light around about him changed to a broad dark lake, upon the surface of which, so far away that the old man's eyes could scarcely perceive it, there floated above broad leaves a single, white water-lily.

3. Translate :—

9 (*a.*) Eine Leiter wurde angelegt, sie fing im Nu an zu rauchen und zu brennen, wie Zunder, sie wurde weggerissen. Da rauschten die Wasserstrahlen aller Spritzen in die Flamme unter mir, ich hörte deutlich, wie jeder einzelne Strahl auf der glühenden Mauer anschlug. Eine neue Leiter wurde angelegt, es war unten totenstill und Sie können denken, daß auch ich keine Lust hatte, in meinem feurigen Ofen Spectakel zu machen. Unten riefen die Leute : „es geht nicht," da klang eine volle Stimme durch : „höher die Leiter"—sehen Sie, ich wußte auf der Stelle, daß dies die Stimme meines Retters war.

9 (*b.*) Aber Sie sind zu gütig, Herr Oberst, wenn Sie alle diese Demonstrationen auf mich allein zurückführen ; mein Antheil daran ist doch gering. Ich habe nichts gethan, als die öffentliche Meinung ein wenig redigirt. Diese vielen Menschen sind keine Puppen, welche ein gewandter Puppenspieler an den Drähten umherziehen konnte. Alle diese Stimmen gehören tüchtigen und ehrenwerthen Personen an, und was sie Ihnen gesagt haben, das ist in der That die allgemeine Meinung der Stadt, das heißt, die Ueberzeugung der Besseren und Verständigen in der Stadt. Wäre sie es nicht, so hätte ich mich diesen braven Leuten gegenüber sehr vergeblich bemüht, auch nur einen von ihnen in Ihr Haus zu führen.

4. Translate :—

8 (*a.*) Plötzlich ließ sich ein rascher Männertritt hören ; Eugenia verbarg sich unwillkürlich im Schatten einer Säule und sah die hohe Gestalt des Aquilinus heranschreiten. Sie sah, wie er sich vor die Statue stellte, dieselbe lange betrachtete und endlich den Arm um ihren Hals legte, um einen leisen Kuß auf die marmornen Lippen zu drücken. Dann hüllte er sich in seinen Mantel und ging langsam hinweg, sich mehr als einmal nach dem glänzenden Bilde, umschauend.

8 (*b.*) Hierauf legte sie ihren Schlüsselbund auf den Altar und ging aus dem Kloster hinaus. Sie stieg hernieder durch die Einsamkeit des Berges und wanderte, bis sie in einem Eichenwalde auf einen Kreuzweg gelangte, wo sie unschlüssig, nach welcher Seite sie sich wenden sollte, sich an einen Quell niedersetzte, der da für die Vorüberziehenden in Stein gefaßt und mit einer Bank versehen war. Dort saß sie, bis die Sonne aufging, und wurde feucht vom fallenden Tau.

12 5. Discuss the above passages in their proper context.

20 6. Write in German the story of Der Bibliothekar. *or* one of Keller's Legenden.

University Matriculation (Senior); and Senior Grade.

ALGEBRA. (Time, 3 hours.)

Value.

9 1. (*a.*) Simplify $\dfrac{\sqrt{45x^3} - \sqrt{80x^3} + \sqrt{5a^2x}}{a-x}$.

(*b.*) Find the value of $\dfrac{1}{3\sqrt{5}-6}$, given $\sqrt{5} = 2.236 + -$ ——.

9. 2. (*a.*) Use your knowledge of proportion to solve $\dfrac{x^2-2x+3}{2x-3} = \dfrac{x^2-3x+5}{3x-5}$.

(*b.*) If b is a mean proportional between a and c, show that $4a^2 - 9b^2$ is to $4b^2 - 9c^2$ in the duplicate ratio of a to b.

8 3. The volume of a gas under pressure varies inversely as the pressure. The volume of a certain quantity of gas under pressure 15 (pounds on the square inch) is 96 (cubic feet). Find the volume under a pressure 18.

8 4. The 8th term of an A.P. is double the 13th term. Show that the 2nd term is double the 10th term.

12 5. Show that the sum of $2n$ terms of the series

$$1 - \tfrac{1}{3} - \tfrac{1}{9} + \tfrac{1}{27} + \tfrac{1}{81} - \tfrac{1}{243} - \tfrac{1}{729} + \tfrac{1}{2187} + \text{——is } \tfrac{3}{5}\left\{1 - (-1)^n 3^{-2n}\right\}.$$

12 6. (*a.*) Form the quadratic equation whose roots are $5 \pm \sqrt{6}$.

(*b.*) If the roots of $x^2 - px + q = 0$ are two consecutive integers, prove that $p^2 - 4q - 1 = 0$.

8 7. Out of 16 consonants and 5 vowels, how many words can be formed each containing 4 consonants and 2 vowels?

12 8. (*a.*) Find to 4 places of decimals $\sqrt[4]{620}$, using the binomial theorem.

(*b.*) Find the coefficient of x^m in the expansion of $\left(x^2 + \dfrac{1}{x}\right)^{2m}$.

12 9. Find:—

(*a.*) The characteristic of log 54 to base 3.

(*b.*) $\log_{10} (.0125)^{\frac{1}{3}}$.

(*c.*) The number of digits in 3^{45}.

Given $\log_{10} 2 = .30103$, $\log_{10} 3 = .47712$.

10 10. If each year a man saves £10 more than he did the previous year, and if he saved £20 the first year, in how many years will his savings amount to £1,700?

University Matriculation (Senior).

LATIN AUTHORS. (Time, 3 hours.)

10 1. Translate:—

Et quoniam semper adpetentes *gloriae* praeter ceteras gentes atque avidi laudis fuistis, delenda est vobis illa macula Mithridatico bello superiore concepta, quae penitus iam insedit ac nimis inveteravit in populi Romani nomine, quod is, qui uno die tota in Asia, tot in civitatibus, uno nuntio atque una significatione litterarum cives Romanos necandos trucidandosque denotavit, non modo adhuc poenam nullam suo dignam scelere suscepit, sed ab illo tempore

Value.

annum iam tertium et vicesimum regnat, et ita regnat, ut se non Ponti neque Cappadociae latebris occultare *velit*, sed emergere ex patrio regno atque in vestris vectigalibus, hoc est in Asiae luce versari.

(*a*.) Account for the case of *gloriae;* the mood of *velit*.

6 2. Translate:—

A quo periculo prohibete rem publicam, et mihi credite, *id* quod ipsi videtis: haec fides atque haec ratio pecuniarum, quae Romae, quae in foro versatur, implicata est cum illis pecuniis Asiaticis et cohaeret; ruere illa non possunt, ut haec non eodem labefacta motu *concidant*.

(*a*.) Account for the case of *id;* the mood of *concidant*.

8 3. Translate:—

Quem enim imperatorem possumus ullo in numero putare, cuius in exercitu centuriatus *veneant* atque venierint? quid hunc hominem magnum aut amplum de re publica cogitare qui pecuniam ex aerario depromptam ad bellum administrandum aut propter cupiditatem provinciae magistratibus diviserit aut propter avaritiam Romae in quaestu reliquerit? Vestra admurmuratio facit, Quirites, ut agnoscere *videamini*, qui haec *fecerint*.

(*a*.) Account for the mood of *vencant, videamini, fecerint*.

2 4. Translate:—

Non modo ut sumptum faciat in militem nemini vis adfertur, sed ne cupienti quidem cuiquam permittitur.

6 5. Translate:—

De huius autem hominis felicitate, de quo nunc agimus, hac utar moderatione dicendi, non ut in illius potestate fortunam positam esse dicam, sed ut praeterita meminisse, reliqua sperare *videamur*, ne aut invisa dis immortalibus oratio nostra aut ingrata esse *videatur*.

(*a*.) Account for the mood of *videamur, videatur*.

5 6. Translate:—

Quid tam singulare, quam ut ex senatus consulto legibus solutus consul ante fieret, quam ullum alium magistratum per leges capere licuisset? quid tam incredibile, quam ut iterum eques Romanus ex senatus consulto triumpharet?

(*a*.) Explain Cicero's words.

6 7. Translate:—

Quare nolite dubitare quin huic uni *credatis* omnia, qui inter tot annos unus *inventus sit*, quem socii in urbes suas cum exercitu venisse *gaudeant*.

(*a*.) Account for the mood of *credatis, inventus sit, gaudeant*.

4 8. Under what circumstances was this speech delivered?

12 9. Translate:—

vix positum castris simulacrum: arsere coruscae
luminibus flammae arrectis, salsusque per artus
sudor iit, terque ipsa solo—mirabile *dictu*—
emicuit, parmamque ferens hastamque trementem.
extemplo temptanda *fuga* canit aequora Calchas;
nec *posse* Argolicis exscindi Pergama telis,
omina ni repetant Argis, numenque *reducant*,
quod pelago et curvis secum avexere carinis.

(*a*.) Account for the case of *fuga, quod;* the mood of *posse, reducant;* parse *dictu*.

12 10. Translate:—

quos ubi confertos audere in proelia vidi,
incipio super *his:* 'iuvenes, fortissima frustra

Value.

pectora, si vobis audentem extrema cupido
certa sequi, quae sit rebus fortuna videtis:
excessere omnes, adytis arisque relictis,
di, quibus imperium hoc steterat; succurritis urbi
incensae: *moriamur*, et in media arma ruamus.
una salus victis nullam sperare salutem.'

(*a.*) Account for the case of *his;* the mood of *moriamur.*

(*b.*) Scan lines 6 and 7.

5 11. Translate:—

qualis ubi in lucem coluber mala gramina pastus,
frigida sub terra tumidum quem bruma tegebat,
nunc positis novus exuviis nitidusque iuventa,
lubrica convolvit sublato pectore terga
arduus ad solem, et linguis micat ore trisulcis.

12 12. Translate:—

ergo age, care pater, cervici *inponere* nostrae;
ipse subibo umeris, nec me labor iste gravabit;
quo res cumque cadent, unum et commune periclum,
una salus ambobus erit. mihi parvus Iulus
sit comes, et longe *servet* vestigia coniunx.
vos, famuli, quae dicam, animis advertite vestris.
est urbe *egressis* tumulus templumque vetustum
desertae Cereris, iuxtaque antiqua cupressus,
religione patrum multos servata per annos:
hanc ex diverso sedem veniemus in unam.

(*a.*) Account for the case of *egressis;* the mood of *servet;* parse *inponere.*

8 13. Translate:—

solane perpetua maerens carpere iuventa,
nec dulces natos, Veneris nec praemia noris?
id cinerem aut Manes credis curare sepultos?
esto, aegram nulli quondam flexere mariti,
non Libyae, non ante Tyro; despectus Iarbas,
ductoresque alii, quos Africa terra triumphis
dives alit: placitone etiam pugnabis amori?

4 14. Give in outline the general plan of the first four books of the Aeneid, showing how Books II. and IV. fit into it.

GERMAN GRAMMAR AND COMPOSITION. (Time, 3 hours.)

20 1. Translate:—

(*a.*) Two young Americans who had been studying one winter in Leipsig, decided to take a holiday trip and see some other parts of Germany. It was a beautiful day as they set off for the station and as they did not have much luggage, they did not think it necessary to take a taxi. They were a accompanied by the family with whom they had been living, and chatted with them on the platform while waiting about a quarter of an hour for their train. They were fortunate enough to have a compartment to themselves, but later on, an old gentlemen got aboard, who recognized them as Americans, but he told them that their pronunciation was very good.

Value.

16 (*b.*) The friends had a letter of introduction to Professor Schmidt and drove in a cab to his house in Beethoven Street. The maid said that the Professor was at home and asked them to come in and sit down. Soon the Professor appeared and greeted them very kindly. After he had read their letter, he asked for his friend Professor Wienhold and was pleased to hear that he was quite well. He then introduced the Americans to his wife and daughters and they all had coffee together in the garden.

32 2. Translate :—

(1.) Erich said that we must go down town and make our purchases.

(2.) The farther we went, the more tired we became.

(3.) Luther is said to have thrown his inkwell at the devil.

(4.) I am more interested in the Gœthe-house.

(5.) You have given us one of the finest evenings we have ever experienced.

(6.) It would give me great pleasure to show you the castle.

(7.) I knew I should not do much studying in such a lovely and romantic place.

(8.) Hatto had the Mouse-tower built on an island in the Rhine.

10 3. Translate :—

In der Verſammlung wurden allerlei Reden gehalten, die eine Maus ſagte dies, die andere das, aber einen ordentlichen Rath wußte doch keine zu geben. Endlich trat ein junges Mäuſchen hervor, es war dasjenige, welches den weißen Fleck auf dem Kopf hatte. "Ihr lieben Freunde," ſagte das hübſche Ding, "ich will euch ſagen, was wir thun müſſen, damit wir von dieſer böſen Katze nicht immer ſo geplagt werden." Alle Mäuſe ſpitzten die Ohren um recht zu hören, was ſolch ein kluges Mäuſchen zu ſagen hatte. Dieſes fuhr fort: "Wir müſſen der Katze eine Schelle an den Schwanz hängen: wenn dieſelbe dann herbeiſchleicht, hören wir das Klingeln und wir können uns ſchnell in unſere Löcher flüchten.

22 4. Write in German a description of Germany geographically, *or* Travelling in Germany.

GEOMETRY. (Time, 3 hours.)

10 1. Prove that if two triangles are equiangular to one another, their corresponding sides are proportional.

10 2. Show that if two figures are similar and similarly situated, the lines joining corresponding points all pass through a fixed point.

10 3. PQRS is a cyclic quadrilateral. PQ = a, QR = b, RS = c, SP = d. Prove that

$$\frac{bc+ad}{cd+ab} = \frac{PR}{SQ}$$

10 4. ABC is a triangle. BD is drawn to meet AC in D, so that the angle CBD = angle BAC. Prove rectangle CD.AB = rectangle DB.BC.

10 5. Show that straight lines which are cut by parallel planes are cut proportionally.

10 6. State and prove any fact you know about the sum of the face angles of a convex solid angle.

Value.

10 7. Describe how you would proceed to find a point in the ceiling of a room equidistant from three given points on the floor.

10 8. Prove that if a straight line be perpendicular to each of two intersecting straight lines in a plane, then it is perpendicular to every straight line in the plane.

10 9. Construct a regular pentagon of 1 inch side, and make a similar figure of double the area. Give proof.

10 10. ABC is an equilateral triangle and X is a movable point in BC. On the same side of AX as C is an equilateral triangle AXY. Prove that the locus of Y is a straight line.

FRENCH GRAMMAR. (Time, 3 hours.)

10 1. Insert the required form of the verbs in the following sentences:—

(*a.*) Il (*courir*) demain dans les rues de la ville.

(*b.*) Ils (*lire*) (present indicative) tranquillement leurs journaux.

(*c.*) Ils ont (*acquérir*) de grandes richesses.

(*d.*) Elle a (*moudre*) le café pour le petit déjeuner.

(*e.*) Jean (*prendre*) un cachet de quinine en rentrant ce soir.

(*f.*) Il a (*pleuvoir*) toute la journée.

(*g.*) Cette mainère d'agir ne m'a pas (*plaire*).

(*h.*) Les fleurs (*croître*) sans soins dans ce climat.

(*i.*) Jeannette a (*coudre*) toute la matinée.

(*j.*) Qu'il (*venir*) ou non je ferai mes devoirs.

10 2. Change the gender of the words printed in italics by substituting others and make all necessary changes:—

(*a.*) S'*il* eût été élégant et gentil, il eût fait plaisir à voir, car c'était le meilleur danseur: mais le pauvre garçon avait l'air d'un vieux paysan endimanché et *Emilie le* trouva beaucoup plus vilain que dans ses guenilles de tous les jours.

(*b.*) Le *héros* de ce conte de fée est un cruel sorcier menteur qui a rendu fou le *serviteur* favori du *prince.*

(*c.*) Son *neveu Louis,* ancien acteur du *Théâtre* français, a été nommé directeur perpétuel du nouvel *établissement* pour l'éducation de petits *garçons* muets.

10 3. Give the primary tenses of: *prendre, moudre, pleuvoir, coudre, croître.*

10 4. Change the principal sentences in the way indicated and make any other changes thus rendered necessary:—

(*a.*) Il y a des hommes qui sont aussi sots. (Negative.)

(*b.*) Je connais des élèves qui le savent par coeur. (Introduce *peu.*)

(*c.*) Nous avons trouvé un livre qui est assez bon marché. (Introduce *ne . . . que.*)

(*d.*) C'est le médecin que je connais. (Introduce *meilleur.*)

(*e.*) Voila l'élève qui a gagné le prix. (Introduce *le plus jeune.*)

20 5. Put into French:—

(*a.*) If you will come to-morrow you will please her.

(*b.*) It is absurd to think of it.

(*c.*) That's an example to be followed.

Value.

(*d.*) This house is to let.

(*e.*) I am afraid that he knows it already.

(*f.*) Remember those who have died for their country.

(*g.*) Are you not the servant? Yes, sir, I am.

(*h.*) Are you happy girls? Yes, mother, we are.

(*i.*) She is older than you think.

(*j.*) Long live the French.

40 6. Put into French :—

Nothing equals the calm of the country. There neither luxury, nor the arts, nor the hundred-armed monster, called industry, have penetrated. Revolution has scarcely been felt there: and the last war, of which the soil shows imperceptible traces, is that of the Huguenots against the Catholics; and the tradition of this remains so uncertain and so faint that if you question the inhabitants, they will reply that those things happened at least two thousand years ago. A dog scarcely condescends to bark at you. Children hide behind the hedge to escape from your eyes and from your questions.

GREEK AUTHORS. (Time, 3 hours.)

9 1. Translate :—

ΚΥΚ. Κατέλαβον ἐν τῷ ἄντρῳ ἀπὸ τῆς νομῆς ἀναστρέψας πολλούς τινας, ἐπιβουλεύοντας δῆλον ὅτι τοῖς ποιμνίοις· ἐπεὶ γὰρ ἐπέθηκα τῇ θύρᾳ τὸ πῶμα—πέτρα δέ ἐστι παμμεγέθης—καὶ τὸ πῦρ ἀνέκαυσα ἐναυσάμενος ὃ ἔφερον δένδρον ἀπὸ τοῦ ὄρους, ἐφάνησαν ἀποκρύπτειν αὐτοὺς πειρώμενοι· ἐγὼ δὲ συλλαβών τινας αὐτῶν, ὥσπερ εἰκὸς ἦν, κατέφαγον λῃστάς γε ὄντας.

(*a.*) Comment on the use of δῆλον ὅτι.

(*b.*) Explain the construction of ποιμνίοις, θύρᾳ, πειρώμενοι.

17 2. Translate :—

ΑΛΕΞ. Ἐχρῆν μέν, ὦ Μίνως, μηδὲν πρὸς ἄνδρα οὕτω θρασὺν ἀποκρίνασθαι. ἱκανὴ γὰρ ἡ φήμη διδάξαι σε, οἷος μὲν ἐγὼ βασιλεύς, οἷος δὲ οὗτος λῃστὴς ἐγένετο. ὅμως δὲ ὅρα εἰ κατ' ὀλίγον αὐτοῦ διήνεγκα, ὃς νέος ὢν ἔτι παρελθὼν ἐπὶ τὰ πράγματα καὶ τὴν ἀρχὴν τεταραγμένην κατέσχον καὶ τοὺς φονέας τοῦ πατρὸς μετῆλθον, κἄτα φοβήσας τὴν Ἑλλάδα τῇ Θηβαίων ἀπωλείᾳ, στρατηγός τε ὑπ' αὐτῶν χειροτονηθεὶς οὐκ ἠξίωσα τὴν Μακεδόνων ἀρχὴν περιέπων ἀγαπᾶν ἄρχειν ὁπόσων ὁ πατὴρ κατέλιπεν, ἀλλὰ πᾶσαν ἐπινοήσας τὴν γῆν καὶ δεινὸν ἡγησάμενος, εἰ μὴ ἁπάντων κρατήσαιμι, ὀλίγους ἄγων ἐσέβαλλον ἐς τὴν Ἀσίαν, καὶ ἐπί τε Γρανικῷ ἐκράτησα μεγάλῃ μάχῃ καὶ τὴν Λυδίαν λαβὼν καὶ Ἰωνίαν καὶ Φρυγίαν καὶ ὅλως τὰ ἐν ποσὶν ἀεὶ χειρούμενος ἦλθον ἐπὶ Ἰσσόν, ἔνθα Δαρεῖος ὑπέμεινε μυριάδας πολλὰς στρατοῦ ἄγων.

(*a.*) Give the principal parts of ἀποκρίνασθαι, ἐγένετο, διήνεγκα, κατέλιπεν, ἐσέβαλλον.

(*b.*) Explain the construction of ἐγένετο, αὐτοῦ, ἀπωλείᾳ, ὁπόσων.

15 3. Translate :—

ΜΕΝ. Ληρεῖς, ὦ οὗτος· εἰ γοῦν ἐθεάσω τὸν Μαύσωλον αὐτόν,—λέγω δὲ τὸν Κᾶρα, τὸν ἐκ τοῦ τάφου περιβόητον—εὖ οἶδα οὐκ ἂν ἐπαύσω γελῶν, οὕτω ταπεινὸς ἔρριπτο ἐν παραβύστῳ που λανθάνων ἐν τῷ λοιπῷ δήμῳ τῶν νεκρῶν, ἐμοὶ δοκεῖν τοσοῦτον ἀπολαύων τοῦ μνήματος, παρ' ὅσον ἐβαρύνετο τηλικοῦτον ἄχθος ἐπικείμενος· ἐπειδὰν γάρ, ὦ ἑταῖρε, ὁ Αἰακὸς ἀπομετρήσῃ ἑκάστῳ τὸν τόπον,—δίδωσι δὲ τὸ μέγιστον οὐ πλέον ποδός—ἀνάγκη ἀγαπῶντα κατακεῖσθαι πρὸς τὸ μέτρον συνεσταλμένον.

Value.

(*a.*) What is referred to in *τάφου*?

(*b.*) Explain the construction of *ἄχθος*, *γελῶν*, *δοκεῖν*, *ἀπομετρήσῃ*.

(*c.*) Parse *ἐθεάσω*.

9 4. Translate :—

Τοὐντεῦθεν ἡμῖν αὐτομάτων τῶν στεφάνων περιρρυέντων ἐλελύμεθα καὶ εἰς τὴν πόλιν ἠγόμεθα καὶ εἰς τὸ τῶν Μακάρων συμπόσιον. αὕτη μὲν οὖν ἡ πόλις πᾶσα χρυσῆ, τὸ δὲ τεῖχος περίκειται σμαράγδινον· πύλαι δέ εἰσιν ἑπτά, πᾶσαι μονόξυλοι κινναμώμινοι· τὸ μέντοι ἔδαφος τῆς πόλεως καὶ ἡ ἐντὸς τοῦ τείχους γῆ ἐλεφαντίνη· ναοὶ δὲ πάντων θεῶν βηρύλλου λίθου ᾠκοδομημένοι, καὶ βωμοὶ ἐν αὐτοῖς μέγιστοι μονόλιθοι ἀμεθύστινοι, ἐφ' ὧν ποιοῦσι τὰς ἑκατόμβας. περὶ δὲ τὴν πόλιν ῥεῖ ποταμὸς μύρου τοῦ καλλίστου τὸ πλάτος πήχεων ἑκατὸν βασιλικῶν, βάθος δὲ πεντήκοντα, ὥστε νεῖν εὐμαρῶς.

Explain the case of *πλάτος*, *πήχεων*; the mood of *νεῖν*.

B. EURIPIDES, ALCESTIS.

16 5. Translate :—

ΘΕ. καὶ ζῶσαν εἰπεῖν καὶ θανοῦσαν ἔστι σοι.
ΧΟ. καὶ πῶς ἂν αὐτὸς κατθάνοι τε καὶ βλέποι;

ΘΕ. ἤδη προνωπής ἐστι καὶ ψυχορραγεῖ.
ΧΟ. ὦ τλῆμον, οἵας οἷος ὢν ἁμαρτάνεις!

ΘΕ. οὔπω τόδ' οἶδε δεσπότης πρὶν ἂν πάθῃ.

ΧΟ. ἐλπὶς μὲν οὐκέτ' ἐστὶ σῴζεσθαι βίον;
ΘΕ. πεπρωμένη γὰρ ἡμέρα βιάζεται.
ΧΟ. οὔκουν ἐπ' αὐτῇ πράσσεται τὰ πρόσφορα;
ΘΕ. κόσμος γ' ἕτοιμος ᾧ σφε συνθάψει πόσις.
ΧΟ. ἴστω νυν εὐκλεής γε κατθανουμένη

γυνή τ' ἀρίστη τῶν ὑφ' ἡλίῳ μακρῷ.

(*a.*) Comment on the forms *αὐτός*, *κατθάνοι*.

(*b.*) Explain the case of *ἀρίστη*, *μακρῷ*, *οἵας*; the mood of *βλέποι*, *πάθῃ*, *κατθανουμένη*.

(*c.*) What is the force of *γάρ* in the seventh line?

11 6. Translate :—

ΑΛ. Ἄδμηθ', ὁρᾷς γὰρ τἀμὰ πράγματ' ὡς ἔχει,
λέξαι θέλω σοι πρὶν θανεῖν ἃ βούλομαι.
ἐγώ σε πρεσβεύουσα κἀντὶ τῆς ἐμῆς

ψυχῆς καταστήσασα φῶς τόδ' εἰσορᾶν,
θνῄσκω, παρόν μοι μὴ θανεῖν ὑπὲρ σέθεν

ἀλλ' ἄνδρα τε σχεῖν Θεσσαλῶν ὃν ἤθελον
καὶ δῶμα ναίειν ὄλβιον τυραννίδι.
οὐκ ἠθέλησα ζῆν ἀποσπασθεῖσα σοῦ
σὺν παισὶν ὀρφανοῖσιν.

(*a.*) Explain the construction of *παρόν*; the form *κἀντί*.

9 7. Translate :—

ΗΡ. καὶ τόνδε τοὐμοῦ δαίμονος πόνον λέγεις,
σκληρὸς γὰρ ἀεὶ καὶ πρὸς αἷπος ἔρχεται,
εἰ χρή με παισὶν οὓς Ἄρης ἐγείνατο
μάχην συνάψαι, πρῶτα μὲν Λυκάονι,
αὖθις δὲ Κύκνῳ, τόνδε δ' ἔρχομαι τρίτον
ἀγῶνα πώλοις δεσπότῃ τε συμβαλῶν.
ἄλλ' οὔτις ἔστιν ὃς τὸν Ἀλκμήνης γόνον
τρέσαντα χεῖρα πολεμίαν ποτ' ὄψεται.

Value.

(*a.*) What would be the difference in meaning if *συμβαλῶν* were replaced by *συμβαλών*?

14 8. Translate :—

ΦΕ. ἦκω κακοῖσι σοῖσι συγκάμνων, τέκνον·
ἐσθλῆς γάρ (οὐδεὶς ἀντερεῖ) καὶ σώφρονος
γυναικὸς ἡμάρτηκας. ἀλλὰ ταῦτα μὲν
φέρειν ἀνάγκη καίπερ ὄντα δυσμενῆ.
δέχου δὲ κόσμον τόνδε καὶ κατὰ χθονὸς
ἴτω· τὸ ταύτης σῶμα τιμᾶσθαι χρεών,
ἥτις γε τῆς σῆς προύθανε ψυχῆς, τέκνον,
καί μ' οὐκ ἄπαιδ' ἔθηκεν οὐδ' εἴασε σοῦ
στερέντα γήρᾳ πενθίμῳ καταφθίνειν,
πάσαις δ' ἔθηκεν εὐκλεέστερον βίον
γυναιξὶν ἔργον τλᾶσα γενναῖον τόδε.

(*a.*) What bearing does this scene have on the development of the plot?

(*b.*) Describe the character of Admetus.

GREEK COMPOSITION, SIGHT TRANSLATION, AND HISTORY. (Time, 3 hours.)

A. COMPOSITION.

50 Translate into Greek :—

(1.) Alexander sent a large army to guard this mountain.

(2.) After he had heard this, he went away during the night.

(3.) The whole country was so strong that the enemy could not march through it.

(4.) We got many soldiers so that we might fight against the barbarians.

(5.) Since this is so, you will not be able to stay any longer.

(6.) Every one was ferried over by Charon in a small boat.

(7.) Odysseus told the Cyclops that he was a Greek named "No-one."

(8.) If Polyphemus had seen Odysseus before, he would not have been deceived on this occasion.

(9.) Whenever Hermes came to the river Styx, he brought a large number of corpses.

(10.) Let him tell what he wishes.

B. SIGHT TRANSLATION.

(The Ten Thousand have Difficulties in getting Home.)

30 Ἐκ τούτου διαβαίνουσι πάντες εἰς τὸ Βυζάντιον οἱ στρατιῶται. καὶ μισθὸν μὲν οὐκ ἐδίδου ὁ Ἀναξίβιος, ἐκήρυξε δὲ λαβόντας τὰ ὅπλα καὶ τὰ σκεύη τοὺς στρατιώτας ἐξιέναι, ὡς ἀποπέμψων τε ἅμα καὶ ἀριθμὸν ποιήσων. ἐνταῦθα οἱ στρατῶται ἤχθοντο ὅτι οὐκ εἶχον ἀργύριον ἐπισιτίζεσθαι εἰς τὴν πορείαν, καὶ ὀκνηρῶς συνεσκευάζοντο. καὶ ὁ Ξενοφῶν Κλεάνδρῳ τῷ ἁρμοστῇ ξένος γεγενημένος προσελθὼν ἠσπάζετο αὐτὸν ὡς ἀποπλευσόμενος ἤδη. ὁ δὲ αὐτῷ λέγει· "Μὴ ποιήσῃς ταῦτα· εἰ δὲ μή," ἔφη, "αἰτίαν ἕξεις, ἐπεὶ καὶ νῦν τινες ἤδη σε αἰτιῶνται ὅτι οὐ ταχὺ ἐξέρπει τὸ στράτευμα."

N.B.—ὀκνηρῶς] cf. ὀκνέω. αἰτίαν] "blame." ἁρμοστῇ] "governor." ἐξέρπει] ἐξέρχεται.

C. HISTORY.

20 1. Write brief notes on *five* of the following: Pericles, Thucydides, Brasidas, Lysandros, Theramenes, Kleon.

2. Write somewhat fully on *two* of the following :—

The capture of Sphakteria and its results.

The military strategy of the Spartans and the Athenians in the Peloponnesian War.

The relation of Athens to the other members of the Athenian Empire.

FRENCH LITERATURE. (Time, 3 hours.)

Value.

10 1. Compare and contrast the works of Corneille and Racine.

10 2. Appreciate the *Satires*, *Epitres*, and the *Art poétique* of Boileau.

10 3. Explain the importance of J. J. Rousseau in French literature and in French thought.

10 4. Which was the greater novelist, Balzac or Hugo? Give reasons for your answer.

5. Translate the following passages and comment on the words or expressions in *italics*:—

10 (*a.*) Rien ne saurait exprimer la fraîcheur et la grâce de ces petites allées sinueuses qui s'en vont serpentant capricieusement sous leurs perpétuels berceaux de feuillage, découvrant à chaque détour une nouvelle profondeur plus mystérieuse et plus verte. Quand le soleil de midi embrase jusqu'à la tige, l'herbe profonde et serrée des prairies, quand les insectes bruissent avec force et que la caille glousse avec amour dans les sillons, la fraîcheur et le silence semblent se refugier dans *les traînes*. Vous y pouvez marcher une heure sans entendre d'autre bruit que le vol d'un merle effarouché à votre approche, ou le saut d'une petite grenouille verte et brillante comme une émeraude qui dormait dans son hamac de joncs entrelacés.

20 (*b.*) Il méprise l'idéal classique, le culte de la beauté sublime, le style soutenu avec sa correction, sa dignité, son élégance monotones; il affiche, au contraire, le goût *du mystérieux, du grotesque, du hideux* même. Il se moque des règles de Malherbe et de Boileau, des subtilités métriques, des ornements mythologiques, des *périphrases* (Victor Hugo s'appelle le dévastateur du vieil A B C D, *le Robespierre et le Danton du dictionnaire*); il y substitue les hardiesses, les bizarreries même, de style et de versification, les images insolites, éblouissantes, le mot *propre*. Le *vers* devient plus sonore, plus mélodieux. "Ils ont senti et révélé la valeur sentimentale des syllabes graves ou aiguës, lourdes ou légères, traînantes ou rapides. Dans ce réveil des sonorités du vers la *rime* a été reconstituée pleine, riche, éclatante à la fois par le sens et par le son du mot qui la porte."

10 (*c.*) On le voit s'annoncer de loin par les traits de feu qu'il lance au-devant de lui. L'incendie augmente, l'Orient paraît tout en flammes: à leur éclat on attend l'astre longtemps avant qu'il se montre; à chaque instant on croit le voir paraître; on le voit enfin. Un point brillant part comme un éclair, et remplit aussitôt tout l'espace; le voile des ténèbres s'efface et tombe; l'homme reconnaît son séjour et le trouve embelli. La verdure a pris, durant la nuit, une vigueur nouvelle; le jour naissant qui l'éclaire, les premiers rayons qui la dorent, la montrent couverte d'un brillant réseau de rosée, qui réfléchit à l'oeil la lumière et les couleurs.

20 (*d.*) ANDROMAQUE.

Dois-je les oublier, s'il ne s'en souvient plus?
Dois-je oublier Hector privé de funérailles,
Et traîné sans honneur autour de nos murailles?
Dois-je oublier son père à mes pieds renversé,
Ensanglantant l'autel qu'il tenoit embrassé?
Songe, songe, Céphise, à cette nuit cruelle
Qui fut pour tout un peuple une nuit éternelle.
Figure-toi Pyrrhus, les yeux étincelants,
Entrant à la lueur de nos palais brûlants,
Sur tous mes frères morts se faisant un passage,
Et de sang tout couvert échauffant le carnage.

Songe aux cr.. les vanqueurs, songe aux cris des mourants,
Dans la flamme *étouffés*, sous le fer *expirants*.
Peins-toi dans ces horreurs Andromaque éperdue:
Voilà comme Pyrrhus vint s'offrir à ma vue;
Voilà par quels exploits il sut se couronner;
Enfin voilà l'epoux que tu me veux donner.
Non, je ne serai point complice de ses crimes;
Qu'il nous prenne, s'il veut, pour dernières victimes.
Tous mes ressentiments lui seroient asservis.

ENGLISH COMPOSITION. (Time, 3 hours.)

Value.

22 1. Make a study of the following paragraph, considering (*a*) its sentence-structure, (*b*) the aids to force employed by the author, (*c*) its descriptive quality:—

THE "NARCISSUS" ENTERING THE CHANNEL.

Under white wings she skimmed low over the blue sea like a great tired bird speeding to its nest. The clouds raced with her mast-heads; they rose astern enormous and white, soared to the zenith, flew past, and falling down the wide curve of the sky seemed to dash headlong into the sea—the clouds swifter than the ship, more free, but without a home. The coast to welcome her stepped out of space into the sunshine. The lofty headlands trod masterfully into the sea; the wide bays smiled in the light; the shadows of homeless clouds ran along the sunny plains, leaped over valleys, without a check darted up the hills, rolled down the slopes; and the sunshine pursued them with patches of running brightness. On the brows of dark cliffs white lighthouses shone in pillars of light. The Channel glittered like a blue mantle shot with gold and starred by the silver of the capping seas. The "Narcissus" rushed past the headlands and the bays. Outward-bound vessels crossed her track, lying over, and with their masts stripped for a slogging fight with the hard sou'wester. And, inshore, a string of smoking steamboats waddled hugging the coast, like migrating and amphibious monsters, distrustful of the restless waves.—*Joseph Conrad.*

8 2. Write on the subject, "Some of my Difficulties in Written Composition," a paragraph containing at least one periodic sentence and two loose sentences. Classify your sentences.

10 3. Criticize the following:—

(*a.*) It's jake.

(*b.*) He sticks up for his home town.

(*c.*) Come over here and have a glass of Near Beer.

(*d.*) He looked at the man's car and told him he would consider buying it.

(*e.*) He had money in the bank that had been his father's.

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

(*a.*) Ballads and the part they have played in the development of English Literature.

(*b.*) One of my favourite novelists of the present day.

(*c.*) Labour in Canada and the One Big Union.

(*d.*) One or two Canadians who have become very prominent since 1914.

CHEMISTRY. (Time, 3 hours.)

[*All questions are of equal value. Answer* ten *only.*]

1. What do you understand by the law of combining weights? Explain carefully how this may be considered a generalization of other chemical laws. Assuming a combining weight for oxygen, describe an experiment by means of which the combining weight of some other element may be found.

2. Define the terms "hydroxide" and "hydrate." What conditions determine whether a hydrate will give up or take up water. Illustrate your answer by reference to the hydrates of copper.

3. What fraction of a gram molecular volume of oxygen can be obtained by heating 15.0 grams of mercuric oxide? What volume will this amount of gas occupy at 740 mm. pressure and 35° C.? (Hg = 200.0, O = 16.00.)

4. What is the source of most of the bromine of commerce? How may the element be prepared in the laboratory? Write a chemical equation illustrating the reaction involved. Compare the stability of compounds containing bromine with those containing chlorine. Describe experiments illustrating this comparison.

5. Describe the preparation and properties of two oxides of sulphur. What volume of sulphur dioxide would result from the roasting of 2.85 grams of pyrite. the gas being measured over mercury at 760 mm. and 20° C.? (Fe = 55.9, S = 32.06.)

6. What do you understand by the periodic law? How do the properties of the elements vary (*a*) as the atomic weight increases along a series, (*b*) as the atomic weight increases down a column?

7. What acids can be prepared from the element phosphorus? What are the more common salts formed from these acids?

8. Describe a method for the preparation of sodium carbonate upon a commercial scale, giving equations for any chemical reactions involved. Discuss the properties of sodium carbonate both as a solid and in solution. What hydrates may it form?

9. What are the chief ores of copper? Give a method for the separation of the metal from one of these ores. What properties of the metal render it useful?

10. How are ethylene and methane prepared in the laboratory? What structural formulæ would you assign to these substances? Show by means of these structural formulæ the characteristic manner in which ethylene and methane react with the halogens.

11. You are given solutions marked 1, 2, 3, 4, and 5 respectively. No. 1 contains a salt of bismuth, No. 2 a salt of mercuric mercury, No. 3 a salt of copper, No. 4 a salt of zinc, No. 5 a salt of calcium. How would you detect the presence of the metal in each case? Give equations to illustrate the chemical reactions involved.

Applied Science Matriculation for Returned Soldiers.

ALGEBRA. (Time, 3 hours.)

Value.

10 1. Two numbers are in the ratio of 3 to 4, and if 7 be subtracted from each, the remainders are in the ratio of 2 to 3. Find the numbers.

10 2. The volume of a pyramid varies jointly as its height and the area of its base. When the area of the base is 60 square feet and the height 14 feet, the volume is 280 cubic feet. What is the area of the base of a pyramid whose volume is 390 cubic feet and whose height is 26 feet?

8 3. The clocks of Venice strike from 1 to 24. How many strokes does one of these clocks make in the day?

12 4. If a man travelling goes 5 miles the first day, 10 miles the second day, 20 miles the third day, and so on, increasing in geometrical progression, how far will he travel in a week?

14 5. (*a.*) For what value of k will the equation $x^2+2(1+k)x+k^2=0$ have equal roots?

(*b.*) Form the equation whose roots are $\frac{-a}{5}$ and $\frac{b}{6}$.

12 6. From 4 officers and 8 privates, in how many ways can 6 be chosen (*a*) to include *exactly* one officer; (*b*) to include *at least* one officer?

10 7. A man has 6 friends; in how many ways may he invite one or more of them to dinner?

12 8. (*a.*) Find the 10th term of $(x^2-x)^{17}$.

(*b.*) What is the coefficient of x^{16} in the expansion of $(x^2-2x)^{10}$?

12 9. (*a.*) Define logarithm.

(*b.*) Find the value of $\frac{3.274\times.0059}{14.83\times.077}$ to four significant digits. Given:—

log 3274 = 3.5150.
log 59 = 1.7709.
log 1483 = 3.1712.
log 77 = 1.8865.
log 1691 = 3.2282.

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