PART III.

# APPENDICES.

# APPENDIX A.

## HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1929.

The High School Entrance Examination was held on June 26th, 27th, and 28th at 184 centres throughout the Province.

The number of pupils who were successful in obtaining certificates follows:—

| | |
|---|---|
| On recommendation | 4,220 |
| On examination | 1,689 |
| Total | 5,909 |

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

| District. | Name. | School. | Marks obtained. |
|---|---|---|---|
| No. 1 | Pansy M. Bartle | Cloverdale, Saanich | 501 |
| No. 2 | Hazel I. Carter | Quennell, Nanaimo | 532 |
| No. 3 | Laura A. Nixon | Sir Alexander Mackenzie, Vancouver | 528 |
| No. 4 | Channing B. Hawkins | Edmonds Street, Burnaby | 517 |
| No. 5 | Ellen E. Horsley | Promontory, Chilliwack | 521 |
| No. 6 | Irene M. Blackbourn | Stuart Wood, Kamloops | 499 |
| No. 7 | David L. Yuen | Vernon | 532 |
| No. 8 | Cynthia J. Docksteader | Trail | 496 |
| No. 9 | Eileen M. M. Moore | Cranbrook | 511 |
| No. 10 | James Stenstrom | Ocean Falls | 538 |

## HIGH SCHOOL AND UNIVERSITY MATRICULATION EXAMINATIONS, 1929.

The following are the results of the June Examinations:—

| | No. of Candidates. | No. passed in all Subjects. | No. granted Supplementals. | No. granted Partial Standing.* |
|---|---|---|---|---|
| Grade IX | 581 | 242 | 155 | 103 |
| Grade X | 326 | 114 | 94 | 74 |
| Grade XI. (Normal Entrance) | 304 | 149 | 57 | 95 |
| Grade XI. (Junior Matriculation) | 2,276 | 1,180 | 449 | 625 |
| Grade XI. (Normal Entrance and Junior Matriculation) | 133 | 85 | 19 | 29 |
| Grade XII | 564 | 152 | 77 | 323 |
| Third-year Commercial | 186 | 125 | 10 | 51 |
| Third-year Household Science | 47 | 7 | 9 | 30 |
| Third-year Technical | 75 | 32 | 31 | 12 |
| Totals | 4,492 | 2,086 | 901 | 1,342 |

* Candidates who fail to obtain the necessary aggregate mark are given credit for a pass standing in all subjects in which they obtain 50 per cent. or more.

As the principals and teachers of high schools have the right, under the regulations of the Council of Public Instruction, to determine promotions in Grades IX. and X., the number of candidates sitting for examination in these grades is comparatively small. Students of these two grades who are granted supplementals or standing in four or more subjects on the June Examinations, and satisfy their principal by oral or written examinations given at the opening of school in September that they have gained a fair standard of proficiency in the subjects in which they failed in June, may be promoted by the principal to the next grade without further Departmental Examinations.

The following summary shows the average mark obtained in each paper at the June Examination by Junior and Senior Matriculation candidates from high and superior schools:—

| Subject. | Average Mark. | |
|---|---|---|
| | Junior Matriculation. | Senior Matriculation. |
| English Composition | 57.4 | 49.2 |
| English Literature | 56.9 | 54.0 |
| History | 56.8 | 56.5 |
| Algebra | 55.5 | 51.1 |
| Geometry | 58.6 | 53.9 |
| Chemistry | 60.0 | 57.4 |
| Physics | 64.4 | 44.7 |
| Botany | 60.5 | ..... |
| Agriculture | 60.9 | ..... |
| Latin Authors | 51.7 | 44.6 |
| Latin Composition | 61.4 | 59.4 |
| Greek | 43.1 | 56.7 |
| French Translation | 57.9 | ..... |
| French Grammar | 58.3 | ..... |
| French Literature | ..... | 58.2 |
| French Language | ..... | 59.4 |
| Trigonometry | ..... | 63.5 |
| Biology | ..... | 38.6 |

His Excellency the Governor-General's silver medals which are awarded annually to the five leading Junior Matriculation students have been won this year by the following:—

| Name. | High School. | Percentage. |
|---|---|---|
| Denis Lane Kirby | Kitsilano, Vancouver | 87.3 |
| Malcolm Ross McPhail | Prince of Wales, Vancouver | 86.8 |
| Verda Lucille Benedict | Burnaby, South; Burnaby | 86.6 |
| Mark Collins | John Oliver, Vancouver | 85.0 |
| Edna Goranson | Magee, Vancouver | 84.7 |

Denis Lane Kirby, Kitsilano High School, Vancouver, was the winner of the Royal Institution Scholarship of $150 awarded annually by the University of British Columbia to the student obtaining the highest marks in the Junior Matriculation Examination.

The winners of the Royal Institution Scholarships of $100 each which are awarded annually to the six Matriculation students who obtain the highest standing in their respective districts were:—

| District. | Name. | High School. | Percentage. |
|---|---|---|---|
| No. 1 | Jane Thompson Potts | Victoria | 81.9 |
| No. 2 | Arnold Charles White | Qualicum Beach | 82.5 |
| No. 3 | Mavis Rich | King George, Vancouver | 82.8 |
| No. 4 | Malcolm Ross McPhail | Prince of Wales, Vancouver | 86.8 |
| No. 5 | James Douglas McMynn | Grand Forks | 79.7 |
| No. 6 | Frances Maud Anderson | Nelson | 80.3 |

The winner of the Royal Institution Scholarship of $150 awarded by the University of British Columbia on the results of the Senior Matriculation Examination was Bessie Harriette Riley, Britannia High School, Vancouver, who obtained 803 marks out of a possible 1,000.

Supplemental Examinations were held at ten centres during the week August 26th to August 31st. At these examinations 317 were successful in obtaining Normal Entrance and Junior Matriculation standing and 50 in obtaining Senior Matriculation standing.

# APPENDIX B.

## HIGH SCHOOL ENTRANCE EXAMINATION, JUNE, 1929.

ARITHMETIC.

PART I. (Time, 1 hour.)

[NOTE.—*The questions on this paper can be solved mentally, but candidates who find any of the problems too difficult to perform mentally may work them out with pen and ink in the space left at the bottom of the page. The answer to each question must be placed on the blank to the right of the question.*]

[*All fractional parts of answers must be given in lowest terms.*]

| | Answer. | Value. |
|---|---|---|
| 1. Write 1,508.006 in words. | ..... | 2 |
| 2. (*a.*) $15\frac{2}{3} + 1\frac{1}{9} =$ | ..... | 1 |
| (*b.*) $100 - 37\frac{2}{11} =$ | ..... | 1 |
| (*c.*) $3\frac{1}{2} \times \frac{3}{7} =$ | ..... | 1 |
| (*d.*) $16 \div \frac{4}{5} =$ | ..... | 1 |
| 3. (*a.*) $436 - .04 =$ | ..... | 1 |
| (*b.*) $436 \times .04 =$ | ..... | 1 |
| (*c.*) $436 \div .04 =$ | ..... | 1 |
| 4. (*a.*) 27% of a number is 81; find the number. | ..... | 1 |
| (*b.*) If $\frac{2}{9}$ of a yard of silk cost 72 cents, find the cost per yard. | ..... | 1 |
| 5. (*a.*) From a piece of copper wire 23 feet long, 8 feet 9 inches are cut. What is the length of the remaining part? | .....ft.....in. | 1 |
| (*b.*) A piece of copper wire 22 feet 6 inches long is cut into 5 equal parts. Find the length of each part. | .....ft.....in. | 1 |
| 6. (*a.*) How many ¾-lb. packages can be filled from 6 lb. of tea? | ..... | 1 |
| (*b.*) How many pint bottles can be filled from a can containing 4 gallons 2 quarts of milk? | ..... | 2 |
| 7. What is the area of:— | | |
| (*a.*) a rectangle 25 ft. 8 in. long and 18 ft. wide? | .....sq. ft. | 2 |
| (*b.*) a square each of whose sides is 7½ ft.? | .....sq. ft. | 2 |
| (*c.*) a circle which has a diameter of 28 ft.? | .....sq. ft. | 3 |
| 8. (*a.*) How many strips of carpet 27 inches wide will cover a floor 16 feet wide? | ..... | 2 |
| (*b.*) If 1 sq. in. of a rectangle 8 inches by 12 inches represents ⅝ of an acre, how many acres does the whole rectangle represent? | ..... | 2 |
| 9. (*a.*) How many cubic feet of water will a tank hold which is 7 feet 9 inches long, 4 feet wide, and 5 feet deep? | ..... | 2 |
| (*b.*) What is the volume of a cylinder which has a diameter of 14 feet and a height of 10 feet? | .....cu. ft. | 3 |

| | Answer. | Value. |
|---|---|---|
| 10. (*a.*) A bureau marked at $35 sold at 30% discount. What was the selling price? | ..... | 2 |
| (*b.*) I bought a furnace for $440 at a reduction of 20%. What was the price before reduction? | ..... | 2 |
| (*c.*) Because of better feeding, a cow's milk-yield changed from 13 lb. a day to 15.6 a day. What was the per cent. of increase? | ..... | 3 |
| (*d.*) What is the net price when the catalogue price is $75 less 20% and 10%. | | |
| 11. How much will it cost to insure a house for $4,000 for three years at 28c. per $100 a year? | ..... | 3 |
| 12. A real-estate agent sold a house for $6,600 cash, charging the owner 5% commission: | | |
| (*a.*) What is the amount of the agent's commission? | ..... | 1 |
| (*b.*) How much money should the owner receive from the agent? | ..... | 1 |
| 13. A merchant imports coffee in cans containing 40 pounds each. If the coffee is valued at 30c. a pound: Find:— | | |
| (*a.*) the specific duty he pays on each can at 3¼c. a pound. | ..... | 1 |
| (*b.*) the ad valorem duty at 15%. | ..... | 2 |

PART II. (Time, 1½ hours.)

[*Solve five questions only. All the work must be shown. One of the marks assigned to each problem will be given for orderly arrangement.*]

1. If it cost $8,000,000 last year to educate 129,675 children in a certain city, how much did it cost per child? (Find result to nearest cent.)

2. What is the value at 35c. a pound of the butter-fat in 475 pounds of milk, if 3.9% of the milk is butter-fat?

3. Find the total cost of the following lumber at $45 per M. board-feet:—
   30 joists each 2″ by 4″ and 16 feet long;
   6 sills each 4″ by 6″ and 26 feet long;
   2 beams each 2″ by 10″ and 18 feet long.

4. A city borrowed on August 7, 1927, enough money at 5¼% to build 7.6 miles of street at $17,500 per mile. If the interest on the loan has to be paid on December 31st of each year, find the amount that had to be paid as interest on December 31, 1927.

5. A town contains taxable property valued at $1,575,000. In 1928 the town collected in taxes 2.85% of the value of the property. Find:—
   (*a.*) the amount the town collected in taxes that year;
   (*b.*) the amount that was expended in the maintenance of the schools, if 34% of the taxes collected were used for that purpose.

6. If one sq. ft. of sheet zinc weighs 2½ lb., how much will a triangular piece of the same sheet weigh, the base being 3 ft. 8 in. and the altitude 2 ft. 6 in.?

CANADIAN HISTORY. (Time, 2¼ hours.)

Value.

**24** 1. Write the *number* of the best answer in the parentheses at the right of the page:—

(*a.*) Representative government was introduced into Canada by the: (1) Union Act, (2) Constitutional Act, (3) Quebec Act, (4) King's Proclamation ..... ( )

(*b.*) The French were first given the right to hold public office in Canada in: (1) 1841, (2) 1791, (3) 1763, (4) 1774 ..... ( )

(*c.*) The National Policy dealt with: (1) Canada's immigration, (2) the building of the C.P.R., (3) the purchase of the Hudson's Bay Company lands, (4) Canada's tariff ..... ( )

(*d.*) Responsible government was granted by the: (1) Act of Union, (2) British North America Act, (3) Constitutional Act, (4) Quebec Act ..... ( )

(*e.*) The leader of the Indian Loyalists who emigrated to Canada after the conclusion of the American War of Independence was: (1) Pontiac, (2) Matonabbee, (3) Joseph Brant, (4) Tecumseh ( )

(*f.*) After the union of the Hudson's Bay Company and the North-West Company in 1821 the first governor of the united Company was: (1) Sir George Simpson, (2) Lord Selkirk, (3) John McLaughlin, (4) Alexander Mackenzie ..... ( )

(*g.*) The Quebec Act gave satisfaction chiefly to the (1) French-speaking Canadians, (2) English-speaking Canadians, (3) recently-arrived United Empire Loyalists ..... ( )

(*h.*) The troublesome question of the Clergy Reserves was settled in 1854 by an Act of Parliament which provided that the proceeds of the sale of the lands should be given to the: (1) Episcopal Church, (2) municipalities, (3) various churches, (4) Presbyterian Church ..... ( )

(*i.*) David Thompson's fame as an explorer rests chiefly on his explorations of: (1) the Thompson River Valley, (2) the Columbia River Valley, (3) Northern British Columbia, (4) the coast of British Columbia ..... ( )

(*j.*) The Rush-Bagot Treaty, which was entered into in 1817 between Great Britain and the United States, dealt with: (1) the boundary between Maine and New Brunswick, (2) the Atlantic fisheries, (3) naval forces on the Great Lakes, (4) the Alaskan boundary ..... ( )

(*k.*) The Rebellion Losses Bill, 1849, was strongly opposed by (1) Lord Elgin, (2) the Reformers, (3) the British Government, (4) the Conservatives ..... ( )

(*l.*) The chief issue in the election of 1911, which resulted in the defeat of the Laurier government, was: (1) Reciprocity in natural products with the United States, (2) Canada's naval policy, (3) Manitoba School Question, (4) Canada's railway policy ( )

**11** 2. In each blank fill in the word or words necessary to make the statement complete:—

The Governor-General of Canada is appointed by the.....
.....on the advice of the.....
government. The present Governor-General is.....
..... According to the British North America Act, a general election must be held at least once every.....
years. British Columbia has.....members in the House of Commons; the number for Quebec is fixed at.....
Before a bill becomes law it must be passed by the.....

Value.

....., the .....
and receive the assent of the .....
The present premier of British Columbia is.....
..... who succeeded
..... in August last.

**11** 3. In each blank fill in the word or words necessary to make the statement complete:—

The real beginning of railway construction in Canada dates from 1851, when a bill was passed through Parliament providing for the construction of the Grand Trunk Railway. The first part of this railway extending from the western boundary of Upper Canada to the city of Quebec was completed in 1853. Three years later the main line was completed to Sarnia. The building of a government railway to connect Upper and Lower Canada with the Atlantic provinces had been agreed upon as one of the terms of Confederation; accordingly, in 1876 the.....
Railway was opened from .....
to Riviere du Loup. The Canadian Pacific Railway was partly constructed as a government work during the premiership of.....
..... Progress in construction, however, was very slow, and the people of.....,
who had entered Confederation in 1871 on condition that the building of the railway through their province should be commenced within.....
years, protested vigorously at the delay. The next premier, .....
....., decided that the road should be built by a private company, and in 1880 the Canadian Pacific Railway Company was formed. This Company prosecuted the work with commendable energy, and, as a result, the road was completed to the Pacific Coast in five years. The president of the railway is.....
.....

The Grand Trunk Pacific Railway was built while.....
.....was premier of Canada.
This railway and the.....,
built about the same time, were later taken over by the Federal Government and are to-day operated under the name of the.....
..... The president of the railway is ..... .....

**7** 4. In each blank fill in the word or words necessary to make the statement complete:—

(1.) McGill University is located at.....
(2.) The Pacific Great Eastern Railway is owned and operated by.....
(3.) The chief source of revenue of every municipality is .....
.....
(4.) The Legislative Assembly of British Columbia consists of.....
members.
(5.) The first Chief Justice of British Columbia was.....
.....
(6.) The Premier of Canada is.....
and the leader of the opposition in the House of Commons is .....
.....

**11** 5. Write a fairly full account of *one* of the following:—

(*a.*) Lord Durham's work in Canada.
(*b.*) The United Empire Loyalists.

**16** 6. Write *briefly* on *two* of the following:—

(*a.*) San Juan Dispute.

Value.

(*b.*) The Nootka Affair.

(*c.*) The acquisition by the Federal Government of the lands held by the Hudson's Bay Company in the North-West.

**20** 7. Give a brief account of the service which each of the following rendered to his Province or to Canada:—

(*a.*) Sir James Douglas.

(*b.*) Egerton Ryerson.

(*c.*) Sir Guy Carleton.

(*d.*) Tecumseh.

---

DRAWING. (Time, 2¼ hours.)

**18** 1. Select three examples of work from your drawings, as follows:—

(*a.*) A nature drawing;

(*b.*) A design in colour;

(*c.*) A drawing of any object or model—shaded with pencil or crayon.

**26** 2. Draw a rectangle 6″ by 9″ and letter therein *one* of the following, paying particular attention to the spacing of words, lines and margins:—

(*a.*) *School Concert.*

A concert will be held in Highway School on Friday, 20th December, at 7.30 p.m. Admission, 25 cents.

(*b.*) *School Exhibition.*

An Exhibition of School work will be held in the Central School, Victoria, on Monday, 19th August, at 8.15 p.m.

(*c.*) *Goods made in B.C.*

Support Home Industries by Buying Goods manufactured in British Columbia.

**28** 3. Draw *one* of the following from memory (no ruling):—

(*a.*) A cup and saucer;

(*b.*) A group composed of a cube and a cylinder, with the cylinder resting obliquely against the cube;

(*c.*) A rectangular box (such as a cigar-box), in any position below eye-level, showing the lid opened backwards at an angle of about 45°.

**28** 4. Draw two lines 6″ long and 2½″ apart or an equilateral triangle with sides 6″ in length. Between the two lines or within the triangle draw *one* of the following groups of units (show with pencil shading where you would put the dark and light colours):—

(*a.*) A decorative leaf form which you drew during the last twelve months;

(*b.*) A maple leaf and maple-key;

(*c.*) Any Egyptian or Persian flowers or buds that you have drawn during the year.

---

ENGLISH COMPOSITION. (Time, 2½ hours.)

**6** 1. Combine each group of sentences into one sentence:—

(*a.*) The little boy became very tired. At last he fell down by the side of the road. His mother found him there several hours later.

(*b.*) Twenty of the savages managed to get on board. They examined every article on the boat with great inquisitiveness. They then scrambled about among the rigging.

Value.

**10** 2. (*a.*) Compose sentences (one sentence for each word) to illustrate the correct use of the following words: loose, lose, quite, quiet, practice, practise, suit, suite, peel, peal.

(*b.*) By the use of a prefix change each of the following words into a word of opposite meaning: courteous, polite, mature, appear, honest, mount, moral, manly, prepared, regular.

**11** 3. (*a.*) Rewrite the following, making such changes as you consider necessary, to avoid the improper use of the words "get" and "got":—

"Get to bed, children! Santa Claus will get angry if he finds you awake!" said Granny.

"I have not got my wish-list written yet," replied practical little Tommy.

"Well, get busy," urged Mary; "it is nearly nine."

"Tommy's got his wish-list on the brain," said Jack. "All he needs to get is a long stocking to hang up."

(*b.*) The word "nice" is improperly used in the following sentences. Strike it out wherever it appears and write above it some suitable word or words:—

As Saturday was a nice day, I had a game of golf with a nice young fellow from Iceland. When we arrived at the club-house there was a nice crowd waiting, and my friend did not think it would be nice to have to play off in front of so many people. In spite of that, he made quite a nice shot with his driver.

**8** 4. (*a.*) Rewrite the two following sentences, changing the direct quotation to the indirect:—

(1.) The teacher said, "I wish you would make less noise, boys."

(2.) He asked, "Where have you left your bicycle?"

(*b.*) Rewrite the two following sentences, changing the indirect quotation to the direct:—

(1.) He said that he loved bathing there when the tide was in.

(2.) The principal told the boys that they had an excellent record for work and conduct since the term began.

**10** 5. Write a short story beginning as follows:—

I had been working late that night, and it was nearly one when I got into bed. I was just falling asleep when .....

**8** 6. Write in one paragraph a short description of one of the following:—

An aeroplane, a Ford car, an electric iron, a radio set, a country store, a repair and service garage.

**12** 7. (*a.*) Suppose you received a letter from a pupil attending a public school in Auckland, New Zealand, who wishes to correspond with a pupil attending a school in British Columbia.

If his name is Howard Stevenson and he resides at 1054 Main Street, write him a letter giving him some general information about the city or district in which you live. Rule a space for the envelope and in it write the address.

**35** 8. Write an essay of about a page on *one* of the following subjects:—

The Character in our Literature Study that I admire most.
My Ambition in Life.
How I shall Spend the Summer Holidays.
An amusing Experience or Adventure.
An Animal Story.
How to be Healthy.

ENGLISH GRAMMAR. (Time, 2 hours.)

Value.

**21** 1. In the evening, when Mr. Lyon was expecting the knock at the door that would announce the arrival of his friend, he occupied his arm-chair and was skimming rapidly by the light of a candle the pages of a missionary report.

At high noon a courier light
Held secret parley with the knight,
Whose moody aspect soon declared
That evil were the news he heard.

Give the clauses (principal and subordinate) in the above sentences. State the kind of each clause and give the relation of the subordinate clauses.

**8** 2. Am I *wrong* in *gathering* from *what* you say, *Mistress Holt*, *that your* son has objected in some way to the sale of your *late* husband's *medicines?*

The words given in the form below are from the foregoing sentence. Tell what part of speech each word is. Give also the relation of the word.

| Word. | Part of Speech. | Relation. |
|---|---|---|
| wrong | | |
| gathering | | |
| what | | |
| Mistress Holt | | |
| that | | |
| your | | |
| late | | |
| medicines | | |

**11** 3. Supply the correct word in each blank:—

(1.) The plural of *man-of-war* is.....

(2.) The comparative degree of *ill* is.....

(3.) The abstract noun derived from the adjective *stupid* is.....

(4.) The adverb form of *simple* is.....

(5.) The possessive form of the conjunctive pronoun *which* is.....

(6.) The singular of *data* is.....

(7.) The plural objective of *she* is.....

(8.) The possessive plural of *lady* is.....

(9.) The verb from which the abstract noun *growth* is derived is.....

(10.) The feminine plural of *negro* is.....

(11.) The plural of the adjective *that* is.....

**10** 4. In these proceedings, however, the common people of England had no share.
The knight decided to throw aside his apathy when he saw his companion fighting bravely against superior strength.
Write the phrases that you find in the above sentences and give the kind and the relation of each phrase:—

**11** 5. In the space below give the three principal parts of the root verb of each of the following: lay (place), went, sown, bet, borne, lie (recline), rang, slay, ridden, froze, known.

| Present Tense. | Past Tense. | Past Participle. |
|---|---|---|
| | | |
| | | |
| | | |

Value.

**16** 6. (*a.*) Write in each of the blank spaces the verb form referred to in the brackets:—

I.....the captain of the ship in which
(past indefinite, active, of verb *meet*)
you.....
(future indefinite, active, of the verb *sail*)

Every one ..... who
(future indefinite, passive, of the verb *admit*)
.....his fee.
(present perfect, active, of the verb *pay*)

The report ..... that
(present indefinite, active, of the verb *state*)
three meetings.....
(past indefinite, passive, of the verb *hold*)

He.....the matter to his teachers
(past perfect, active, of the verb *report*)
before you.....to him.
(past imperfect, active, of the verb *talk*)

(*b.*) Rewrite, changing the voice of the verbs:—

(1.) I shall write my letters in time.

(2.) The governess teaches the child drawing and music.

(3.) During the greater part of that night my slumbers were disturbed by strange dreams.

(*c.*) Write the proper form of the pronoun *who* or *which* in each blank:—

(*a.*) I wonder.....they have asked to the party.

(*b.*) This is the tree.....leaves were destroyed.

(*c.*) .....do men say that I am?

(*d.*) This is the book.....you loaned to me.

(*e.*) The man.....you met this morning is my uncle.

**18** 7. Select in each case one of the words given in the parentheses and then write the word in the blank space. Give the reason for your choice of words.

(1.) Every country has.....own heroes. (their or its)
Reason:

(2.) He ..... require all this money. (doesn't or don't)
Reason:

(3.) She can do this.....than her sister. (more quickly or quicker)
Reason:

(4.) Mary is not as old as.....(he or him)
Reason:

(5.) He will have.....many miles by the end of the week. (flew or flown)
Reason:

(6.) The apple tastes.....(sweet or sweetly)
Reason:

**5** 8. In the following sentences the words in italics illustrate five different uses of the *nominative case.* On the dotted line at the end of each sentence state which use of the nominative is illustrated in the sentence by the italicized word.

(1.) Are you coming, my *friend?*.....

(2.) The men were all *soldiers*.....

(3.) The *weather* being fine, we decided to go.....

(4.) The *boy* plays in the yard.....

(5.) Smith, the *banker*, entered the room.....

GEOGRAPHY. (Time, 2¼ hours.)

Value.

**46** 1. In each blank fill in the word or words needed to make the sentence complete:—

(*a.*) British Columbia is rapidly becoming a very important mining area. It has large deposits of coal at....., at....., and at.....
The mine in British Columbia that produces the most gold is the..... Mine, near .....
Rich copper mines are being operated at....., at....., and at.....
Ore containing silver, lead, and zinc is mined chiefly at..... The largest refinery in the British Empire for this ore is located at.....

(*b.*) In the production of gold, the Province of..... leads the provinces of Canada. The world's chief source of asbestos is the Province of..... The largest nickel mines in the world are located near the city of....., in the Province of.....

(*c.*) A family living in British Columbia may have on its table the commodities mentioned below. Write in the blank after the name of each commodity the country from which that commodity is probably imported:—

Oranges, ..... Bananas, .....
Sugar, ..... Coffee, .....
Salt, ..... Pepper, .....
Dates, ..... Olives, .....

(*d.*) The two countries which produce the greatest quantities of wool are ..... and .....
They export it chiefly to.....
and....., where it is manufactured into woollen goods. The three countries where cotton is grown most extensively are.....,
....., and .....
The two countries which manufacture most cotton cloth are.....
....., and .....
Linen is made from the fibres of a plant called.....
The country which produces most of the world's supply of this plant is ..... The country of ..... leads in the manufacture of linen cloth. The two countries which produce most raw silk are ..... and .....;
but in the manufacture of silk fabrics.....
and.....lead the world.

(*e.*) A boat, sailing from Lake Erie into Lake Ontario, passes through the .....Canal. The American States which border on British Columbia are.....,
....., and .....

(*f.*) The island of Jamaica and the Bahamas belong to.....
....., while Cuba is a republic under the protection of .....
In the drier parts of Mexico the principal industry is.....
..... The language used most extensively in Mexico is.....

**8** 2. After the name of each of the following rivers write the name of the body of water into which the river flows:—

Value.

| | |
|---|---|
| Danube..... | Ganges..... |
| Severn..... | Niger..... |
| Ottawa..... | Missouri..... |
| Volga..... | Yang-tze-kiang..... |

**14** 3. (*a.*) Enumerate four influences that affect the climate of a district.

(*b.*) The Amazon is the largest river in the world. Mention two natural conditions which unite to make it so large a river.

(*c.*) The heaviest precipitation in Australia is on the eastern coast, while in Canada the greatest rainfall is on the western coast. Account for this.

**8** 4. In the three prairie provinces the principal product is wheat.

(*a.*) Mention two transportation routes in Canada by which this wheat reaches the sea or other body of water for export to the markets of the world.

(*b.*) What additional route will soon be available in Canada? What advantage will this route possess over the existing routes? What disadvantage?

**24** 5. (*a.*) On the accompanying map eight cities are indicated by the numbers 1 to 8. Write after each of the following numbers the name of the city that is indicated on the map by that number:—

| | |
|---|---|
| 1. ..... | 5. ..... |
| 2. ..... | 6. ..... |
| 3. ..... | 7. ..... |
| 4. ..... | 8. ..... |

(*b.*) The numbers 9 to 18 indicate rivers. Write after each of the following numbers the name of the river that is indicated on the map by that number:—

| | |
|---|---|
| 9. ..... | 14. ..... |
| 10. ..... | 15. ..... |
| 11. ..... | 16. ..... |
| 12. ..... | 17. ..... |
| 13. ..... | 18. ..... |

(*c.*) The letters A to H indicate lakes. Write after each of the following letters the name of the lake that is indicated on the map by that letter:—

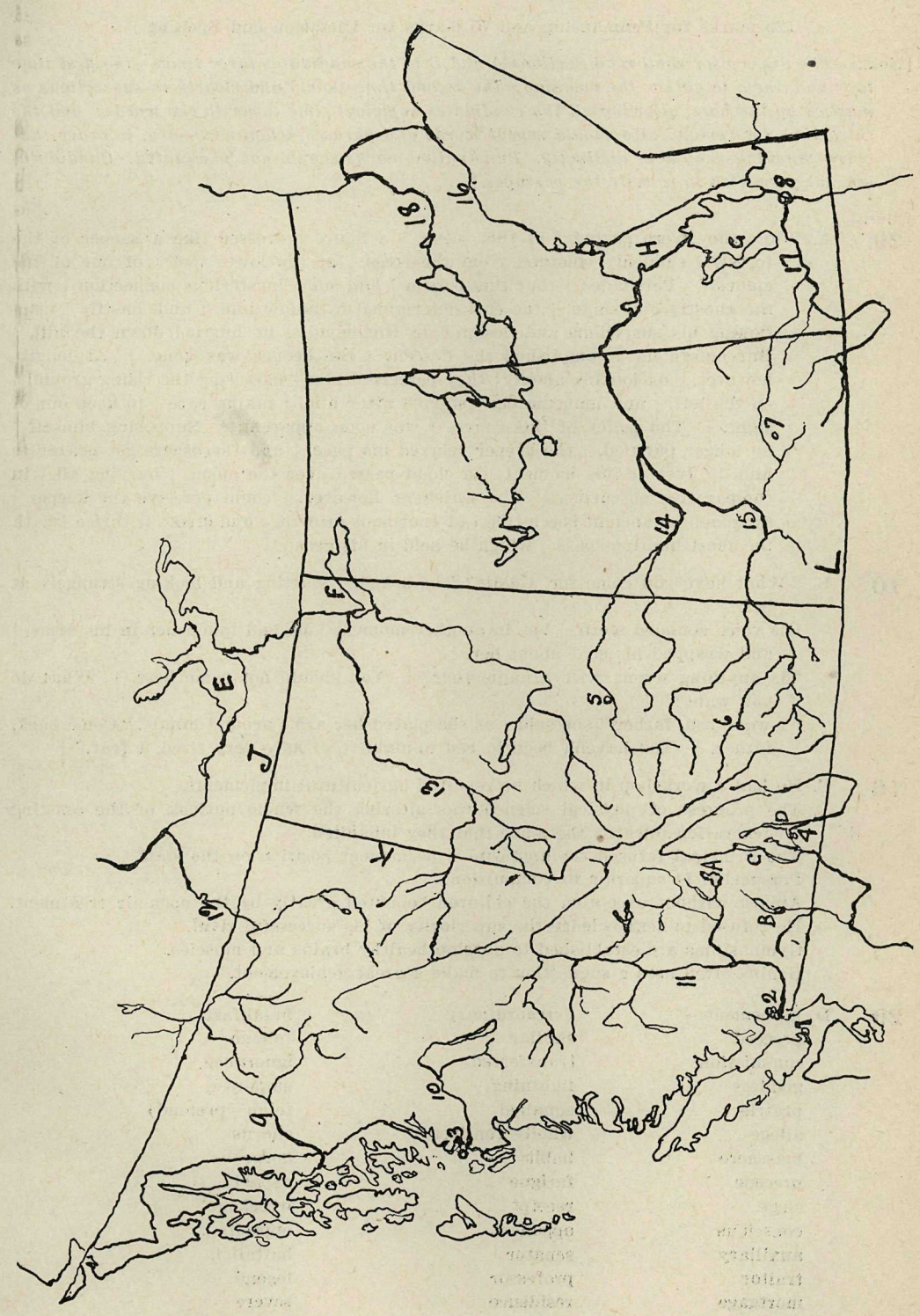
| | |
|---|---|
| A. ..... | E. ..... |
| B. ..... | F. ..... |
| C. ..... | G. ..... |
| D. ..... | H. ..... |

(*d.*) The letters J, K, and L indicate parallels of latitude or meridians of longitude. Write after each of the following letters the number of the parallel or meridian that is indicated on the map by that letter:—

J. .....

K. .....

L. .....


A
B
C
D
E
F
H
J
K
L
1
2
3
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19

PENMANSHIP AND DICTATION AND SPELLING. (Time, 1½ hours.)

(25 marks for Penmanship and 75 marks for Dictation and Spelling.)

[NOTE.—*The Supervisor shall read Sections A and B to the candidates three times—the first time to enable them to gather the meaning; the second time slowly and clearly in subsections as marked by the bars, allowing all the candidates sufficient time to write the words; and the third time for review. He should repeat words and phrases, when necessary, in order that every candidate may hear distinctly. Punctuation-marks should not be dictated. Candidates are not permitted to rewrite the passages.*]

Value.

**29** A. While they were gazing | at this scene, | a figure | dressed like a keeper of the forest, | suddenly emerged from the trees | at the lower end | of one of the glades. | Persuaded | that this person | had some mysterious connection | with the ghostly huntsman, | the earl determined to follow him, | and, hastily | mentioning his suspicions and design | to Richmond, | he hurried down the hill. | But before he accomplished the descent | the keeper was gone. | At length, however, | on looking about, | they perceived him | mounting the rising ground | on the left, | and immediately | started after him, | taking care | to keep out of sight. | The policy of this course | was soon apparent. | Supposing himself | no longer pursued, | the keeper relaxed his pace, | and the others got nearer to him. | Just at this moment, | a cloud passed over the moon, | burying all | in comparative obscurity. | The watchers, however, | could perceive the keeper | approach an ancient beech-tree | of enormous growth, | and strike it thrice | with the short hunting-spear | which he held in his grasp. |

**10** B. "What have you come for, Goldie?" he asked, | starting and looking strangely at her. |

His voice sounded stern, | but in another moment | he had taken her in his arms, | and wrapped his coat about her. |

"Is anything wrong with grandmother? | You should not come here. | What do you want?" |

"I want you, father," she said | as she placed her arms around him. | "Come back, father. | You haven't been to bed to-night. | You're very tired, I fear." |

**16** C. He had a workshop in which he repaired agricultural implements.

The progress of physical science was altering the whole outlook of the existing generation towards the globe that they inhabited.

The Principal refused the applicant a permanent position on the staff.

Persuasion is superior to compulsion.

Almost without exception the children benefited greatly by the open-air treatment.

He refused to acknowledge the superiority of his successful rival.

Gymnasiums are established to develop healthy brains and muscles.

Genius often uses a suggestion to make a great achievement.

**20** D.

| | | |
|---|---|---|
| agreement | extraordinary | breakfast |
| proceed | similar | foliage |
| commission | transferred | ignorance |
| goddess | lightning | employee |
| prairie | equalled | feign (pretend) |
| allege | wholly (entirely) | chorus |
| massacre | habit | gorgeous |
| precede | fatigue | capable |
| siege | receipt | wreckage |
| conscious | opponent | opposite |
| auxiliary | senator | battalion |
| traitor | professor | legend |
| mortgage | residence | severe |
| deceive | | |

# APPENDIX C.

## HIGH SCHOOL EXAMINATION, JUNE, 1929.

### Grade IX.

ALGEBRA. (Time, 2 hours.)

Value.

12 1. (*a.*) Multiply together $x-2y$, $x^2+2xy+4y^2$, $x^2-2xy+4y^2$.
(*b.*) Divide $x^4-17x^2+16$ by $x^2-3x-4$.

10 2. A merchant bought $a$ pounds of tea at $x$ cents per pound, and $b$ pounds at $y$ cents per pound. He mixed the tea and then sold at a price that enabled him to gain 50% on the whole transaction.
Give :—
(*a.*) The cost of the first lot of tea.
(*b.*) The cost of the second lot of tea.
(*c.*) The total cost (in dollars).
(*d.*) The total selling price to gain 50%.
(*e.*) The selling price per pound.

12 3. Give, in its lowest terms, the value of each of the following :—
(*a.*) $\dfrac{6a^2b^3c^7}{35x^3y^4z^5}\times\dfrac{5ab^4c^5}{2x^6y^8z^7}\times\dfrac{70a^2b^2c^2}{3x^4y^2z^5}$.
(*b.*) $\dfrac{6a^2b^3c^7}{35x^3y^4z^5}\times\dfrac{2x^6y^8z^7}{5ab^4c^5}\times\dfrac{70a^2b^2c^2}{3x^4y^2z^5}$.

14 4. (*a.*) Write, in its simplest form, the value of each of the following expressions :—
$(-2m^3n^2)^3$, $(\frac{3}{4}h^4k)^2$, $\sqrt{16x^{16}}$, $\sqrt[3]{27y^{27}}$.
(*b.*) How much must be added to the third term of $x^2+22x+100$ to make this expression a perfect square? What is then its square root?

16 5. Solve :—
(*a.*) $x-\dfrac{x-13}{9}=\dfrac{6x+1}{5}+\frac{2}{3}\left(6-\dfrac{3x}{2}\right)$.
(*b.*) $3x-7y=0$.
$\frac{2}{7}x+\frac{5}{3}y=77$.

10 6. Resolve into factors :—
(*a.*) $x^2-6by+2xy-3bx$.
(*b.*) $p^2+9p-90$.

13 7. A boy earned \$35 by working first at a job at \$4 per day and then at a second job at \$5 per day. If the pay for the first job had been \$5 per day and that for the second \$4 per day he would have made \$2 more for the whole period of work. How long was he at the two jobs?

13 8. The difference between two numbers is three, and the difference of their squares is 75. Find the numbers.

ARITHMETIC. (Time, 2 hours.)

[*Work need not be shown, but record answer on dotted line at end of question.*]

Value.

**2** 1. (*a.*) Four is what per cent. of six? .....

**2** (*b.*) How many times is .125 contained in 4½? .....

**2** (*c.*) Express 5 days 6 hrs. as a decimal of a week.....

**2** (*d.*) The tax rate of a certain municipality is 42 mills. Express this rate in percentage.....

**2** (*e.*) $7 is the difference between .3 of a girl's money and .8 of it. How much money has she? .....

**2** (*f.*) Simplify: $2\frac{1}{2} \div 3\frac{1}{3} + \frac{2}{3} \times \frac{5}{6}$ .....

**2** (*g.*) 5 km. 4 m. 7 cm. = .....mm.

**2** (*h.*) 5 km. 4 m. 7 cm. = .....km.

**2** (*i.*) In how many years will any sum of money double itself at 6% simple interest? .....

**2** (*j.*) 625 cu. m. 7 cu dcm. 73 cu. cm. = .....cu. m.

[*The work for this part of the paper must be shown in the space below the question. If you cannot complete a question, work as much of it as you can.*]

**6** 2. A certain grade of metal contains 88.9% tin, 3.7% copper, and 7.4% antimony. How much copper is required for an order of 25 tons of this metal?

**7** 3. What single discount is equivalent to successive discounts of 5% and 25% off?

**11** 4. A man bought a horse for $144 and sold it for 25% more than it cost and for 10% less than he asked for it. What did he ask for it?

**12** 5. A book-dealer sold text-books, at list price, amounting to $574.80. His expense for freight, etc., was $12.40. What was his gain per cent. if the publishers gave him a discount of 20%?

**14** 6. A woman preserved 64 cans of strawberries, using for each can 1 qt. of berries and 1 lb. of sugar. The berries cost 17½ cents per quart, the sugar 9½ cents per lb., and the cans 75 cents a dozen. The gas-burner consumed 8 cu. ft. of gas per hour for 4 hours at $1.25 per thousand cu. ft. Find the total cost of the fruit per can when preserved.

**15** 7. A house that cost $15,500 rents for $155 a month. It is insured for $10,850 at 4/5% yearly. The taxes are 15 mills on the dollar on an assessment of $12,450 and $346.45 is spent each year in repairs. What rate of interest does the investment pay?

**15** 8. A Victoria merchant bought 300 yds. of cloth invoiced in New York at $3.60 a yard. He pays an ad valorem duty of 12½% and a specific duty of 5 cents per yard. At what price per yard must he mark the goods so that he may allow 16⅔% discount and still make a profit of 33⅓% on his total outlay?

---

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 the drawings you have made during the past year, and write your distinguishing number at the top right-hand corner of each. Before beginning your drawing give these to the Examiner.

Value.

**6** 1. An example of nature-drawing.

**6** 2. An example of lettering.

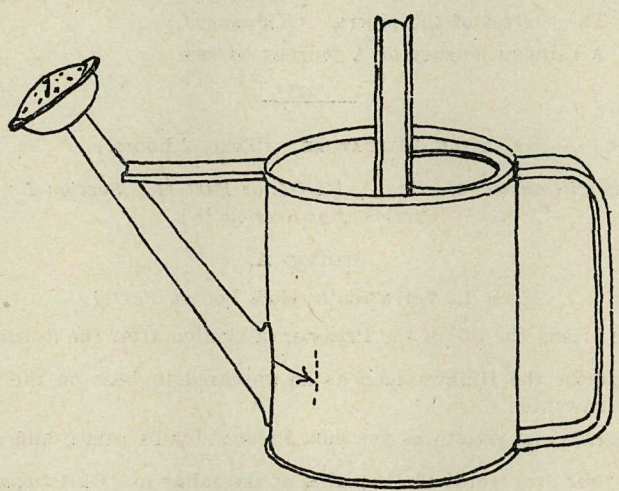
**6** 3. An example of object-drawing.

**6** 4. An example of ornamental design.

*B. Object-drawing.*

**30** Below is shown an unshaded, outline drawing of a watering-pot. Make a freehand drawing, not less than 6 inches high, of this watering-pot as it would appear when turned so as to bring the spout nearer the observer, as far to the right as the arrow-head and dotted line.

**10** Shade your drawing to show the light falling downward from the left-hand side.



*C. Design.*

**36** Work *one* of the following questions:—

(1.) Design a Christmas card, 5 by 3¼ inches, to contain the following verse:—

Never a Christmas morning,
Never the old year ends,
But somebody thinks of somebody,
Old days, old times, old friends.

Indicate the colours you would use.

(2.) Draw a circle with 2¼ inch *radius*. Within this space design a monogram composed of three letters. Place around the monogram a suitable border and indicate the colours you would use.

---

ENGLISH COMPOSITION. (Time, 2 hours.)

**10** 1. Correct the following sentences:—

(1.) He was raised in the country and I guess that is why he is so partial to gardening.

(2.) He seems to have travelled all over.

(3.) We get on fine at school.

(4.) This book is for you and I.

(5.) There were mens' hats in the window.

Value.

**8** 2. Write down adverbs which mean the opposite to the following and use each of these opposites correctly in a sentence: stupidly, doubtfully, happily, altogether.

**10** 3. Change the following to indirect narration:—

"Oh, I thought you were gone," she said; "why did you ever come here? Do you know what they would do to us if they found you here with me?"

"Beat us, I dare say, very hard, or me at least. They could never beat you."

"No, they would kill us both outright and bury us here by the water."

**12** 4. You are a merchant living in some town or city in British Columbia. Write a letter ordering some goods from a wholesale house in the East. Write also the envelope address.

**60** 5. Write a composition of not more than two hundred words on one of the following:—

(1.) Doone Valley and its inhabitants. (*Lorna Doone.*)

(2.) The contest of the pipers. (*Kidnapped.*)

(3.) A railway journey *or* A journey by sea.

---

ENGLISH LITERATURE. (Time, 2 hours.)

[*Candidates will answer Section A, Part I.* or *Part II.; Section B; and* either *Section C* or *Section D.*]

SECTION A.

*Part I. Narrative English Poems, Part I.*

**8** 1. Describe briefly the life of the Prisoner of Chillon after the death of his brothers.

**12** 2. (*a.*) Describe the Highwayman as he appeared to Bess on the last night that she saw him.

(*b.*) Describe, as vividly as you can, Prester John's palace and gardens.

**8** 3. Give in your own words the thoughts of the sailor in "Christmas at Sea."

**12** 4. Name the poems from which the following extracts are taken, explaining each passage carefully:—

(*a.*) The road was a gipsy's ribbon, looping the purple moor.

(*b.*) "No love," quoth he, "but vanity, sets love a task like that."

(*c.*) We perished each alone:
But I beneath a rougher sea,
And whelmed in deeper gulphs than he.

*Part II. Narrative English Poems, Part II.*

**8** 1. Show how the ballad "The Revenge" reveals the spirit of the British Navy.

**12** 2. (*a.*) Describe Sir Launcelot as he appeared to the Lady of Shalott.

(*b.*) By what reasoning did Sir Bedivere excuse his disobedience of the king.

**8** 3. Give in your own words the thoughts of the condemned man in "He Fell Among Thieves."

**12** 4. Name the poems from which the following extracts are taken, explaining each passage carefully:—

(*a.*) The fair breeze blew, the white foam flew
The furrow followed free.

(*b.*) He said, "She has a lovely face;
God in his mercy lend her grace."

(*c.*) He heard the deep behind him, and a cry
Before. His own thought drove him like a goad.

SECTION B. ENGLISH PROSE SELECTIONS, PART I.

[NOTE.—*Write on question 1 and on* either *2* or *3.*]

Value.

**15** 1. Discuss in a paragraph *one* of the following:—

(*a.*) Sir Roger at church.

(*b.*) What followed the discovery of roast pig.

(*c.*) Why Stevenson preferred gas to electricity.

(*d.*) Explain what Bolitho means when he says that the saxophone "for the present makes audible the spirit of the age."

**15** 2. Write on *one* of the following:—

(*a.*) Lamb's feelings on being granted a pension.

(*b.*) The beauty of the Rockies.

(*c.*) Chesterfield's advice to his son in the light of modern conditions.

(*d.*) Goldsmith's buoyant temperament.

*Or*

3. From your reading of the stories in *English Prose Selections, Part I.*, give your ideas on:—

(*a.*) Gessler's opinion of big firms. ("Quality.")

(*b.*) Indomitable spirit. ("The Essence of a Man.")

(*c.*) The Mayor's sense of humour. ("The Mayor's Dovecote.")

SECTION C. KIDNAPPED.

**15** 1. Write a paragraph on *one* of the following:—

(*a.*) Life aboard the brig *Covenant* of Dysart.

(*b.*) The bagpipe contest.

(*c.*) Mr. Rankeillor's glasses.

**15** 2. Write briefly on *one* of the following:—

(*a.*) David's first narrow escape from death.

(*b.*) How David Balfour met Alan Stewart after the wreck.

(*c.*) Alan Breck is too much for Uncle Ebenezer.

SECTION D. LORNA DOONE.

**15** 1. Write a paragraph on *one* of the following:—

(*a.*) Master Huckaback's secret.

(*b.*) Why the Doones were tolerated by the people.

(*c.*) Why I like Lorna.

**15** 2. Write briefly on *one* of the following:—

(*a.*) How Tom Faggus escaped from Squire Maunder.

(*b.*) John Ridd is too much for Counsellor Kitch.

(*c.*) The fight in the barn.

---

FRENCH. (Time, 2 hours.)

[*Answers to be written on this paper.*]

**21** 1. Write a sentence in French (not less than 8 words) using each of the following words. Afterwards translate the sentence into English.

(1.) Voici.

Sentence .....

Translation .....

Value.

(2.) Un peu.
Sentence .....
Translation .....

(3.) Quelle.
Sentence .....
Translation .....

(4.) Tout le monde.
Sentence .....
Translation .....

(5.) Assez.
Sentence .....
Translation .....

(6.) Debout.
Sentence .....
Translation .....

(7.) Léger.
Sentence .....
Translation .....

**12** 2. Answer briefly in French the following questions:—
(1.) Qu'est-ce que la tante? .....
(2.) la cerise? .....
(3.) le perce-neige? .....
(4.) l'ours? .....
(5.) lundi? .....
(6.) le canard? .....

**18** 3. Write in French (the numerals to be written in words):—
80 cakes .....
75 sheets of paper .....
81 overcoats .....
100 monkeys .....
200 nuts .....
999 pins .....
the first lesson .....
the fifth lemon .....
the ninth butterfly .....

**10** 4. Complete the following sentences:—
(1.) Etendez les bras .....
(2.) Ils jouent ..... football.
(3.) ..... est le contraire de mince.
(4.) Cette boîte est ..... verre.
(5.) Les Américains demeurent ..... Etats-Unis.
(6.) Les ..... demeurent en Chine.
(7.) Elle est plus âgée ..... Louis.
(8.) Allez ..... tableau noir.
(9.) Il est trop jeune ..... aller à l'école.
(10.) ..... est le contraire de lever.

Value.

**9** 5. Tell what you do when the teacher says to you (to be answered in French) :—

(1.) Asseyez-vous .....

(2.) Levez-vous .....

(3.) Levez la main .....

(4.) Venez ici .....

(5.) Allez à votre place .....

(6.) Prenez la craie .....

(7.) Ouvrez votre cahier .....

(8.) Ecrivez cette phrase .....

(9.) Ne lisez pas le livre en classe .....

**10** 6. Write the plural of :—

tu es .....

il va .....

tu dis .....

elle doit .....

il écrit .....

je mets .....

il peut .....

elle tient .....

je vois .....

je commence .....

**20** 7. Write a paragraph in French (about 50 words) on *one* of the following subjects :—

(1.) Le Temps (covering the following points : hour, date, place, season, weather now and at other seasons).

(2.) Les Vêtements (write about your own clothes—colours and materials, now and in winter).

---

GENERAL SCIENCE. (Time, 2 hours.)

[*Answer question* one *and any* five *of the remainder.*]

**15** 1. (*a.*) Describe a laboratory method for preparing a few jars of oxygen. Give diagram.

(*b.*) Give two examples which show that oxygen aids combustion.

**17** 2. (*a.*) What do you understand by the term *efficiency* as applied to a machine?

(*b.*) Explain what is meant by a *foot-pound of work.*

(*c.*) A horse, pulling a horizontal trace with a force equal to the weight of 72 pounds, draws a cart along a level road at the rate of 3¾ miles per hour. What amount of work is done in 5 minutes by the horse?

**17** 3. (*a.*) Discuss fully how the boiling-point of a liquid is affected by changes in air-pressure.

(*b.*) Briefly state the different factors which may affect the *rate of evaporation.*

(*c.*) Explain the use of salt and ice as a freezing mixture.

**17** 4. (*a.*) Describe, with the aid of a diagram, how a lift-pump may be used to raise water from a well.

(*b.*) What determines the height to which water can be raised by a lift-pump?

(*c.*) Briefly explain why water sometimes bubbles out of the earth in "springs."

Value.

**17** 5. (*a.*) Make a diagram of a cross-section of a *dry cell.* Mark in the essential parts of such a cell.

(*b.*) Explain the terms: *anode, insulator, closed circuit.*

(*c.*) Why are "fuses" installed in all electrical circuits?

**17** 6. (*a.*) What is meant by the *dew-point* of the air? Describe an experiment showing how the dew-point may be determined.

(*b.*) Define *relative humidity* of the air. In what ways does the humidity of the air affect us?

**17** 7. (*a.*) Explain how plants absorb water from the soil.

(*b.*) What three uses do plants make of food?

(*c.*) Explain how insoluble foods (such as starch) are transferred through the plant.

**17** 8. (*a.*) "Soil is formed from rocks." What evidence is there that this statement is true.

(*b.*) How does vegetation help to prevent erosion of the soil?

(*c.*) Why does frequent surface cultivation increase the water-holding capacity of the soil?

**17** 9. (*a.*) On a summer morning, why does the land adjoining a large body of water heat more quickly than the water?

(*b.*) Mention three common uses of a barometer. Which of these uses do you regard as the main one?

(*c.*) Briefly compare the aneroid with the mercury barometer as to convenience, sensitiveness, and accuracy.

---

GEOMETRY. (Time, 2½ hours.)

**11** 1. Lighthouse B is 7.3 miles due North of A; lightship C is 12.7 miles South-east of lighthouse B. Draw a diagram, accurately, to show the relative positions of A, B, and C. Determine by measurement how far the lightship C is from A.

**11** 2. Draw a triangle whose sides are 3 inches, 3½ inches, 4 inches. From each vertex draw a perpendicular to the opposite side. An accurate diagram is required. Determine by measurement the length of each of the perpendiculars. (Set-squares may be used.)

**13** 3. AQB is an equilateral triangle on the base AB. APB is a triangle with the same base and having $\angle$ APB=41°, $\angle$ PBA=92°. The line AX is drawn bisecting the $\angle$ QAP and cutting BQ in X. Determine the size of the $\angle$ AXB. Give the authorities for your conclusion.

**13** 4. Prove that the four interior angles of a quadrilateral are together equal to four right angles.

**13** 5. Show how to bisect a given angle. Give proof of your construction.

**13** 6. If two sides of a triangle are equal, the angles opposite to these sides are equal.

**13** 7. In the $\triangle$ ABC, AB=AC. BA is produced, through A, to X. Prove that $\angle$ XAC= 2 $\angle$ ACB.

**13** 8. If two triangles have two angles of the one equal to two angles of the other, each to each, and also one side of the one equal to the corresponding side of the other, the triangles are congruent.

HISTORY. (Time, 2 hours.)

[*Answer* five *questions, at least* two *from each part.*]

PART A.

Value.

**20** 1. (*a.*) Contrast the life of the First and Second Stone Ages.
(*b.*) Name three important contributions to civilization of prehistoric man.
(*c.*) Describe the industries, architecture, and writing of Ancient Egypt.

**20** 2. (*a.*) Account for the downfall of Assyria.
(*b.*) Write a note on our debt to Babylon.
(*c.*) Trace briefly the history of the Hebrews to the Captivities.

**20** 3. Write on any *four* of:—
(*a.*) The influence of geography on the history of Greece.
(*b.*) The reforms of Clisthenes.
(*c.*) The chief forces which created a feeling of oneness among the Greeks.
(*d.*) The work of Themistocles.
(*e.*) Why the Greeks established colonies and where they established them.

**20** 4. Describe Greek life in the Age of Pericles under the following headings: (*a*) government; (*b*) the drama; (*c*) architecture and sculpture.

**20** 5. (*a.*) Account for the defeat of Athens in the Peloponnesian War.
(*b.*) Why was Greece conquered so easily by Philip of Macedon?
(*c.*) Give an account of the contributions to science made in the Hellenistic Age.

PART B.

**20** 1. (*a.*) What were the motives which led men to make explorations westward in the 15th and 16th centuries?
(*b.*) Describe the work of any three of these explorers, other than Columbus.

**20** 2. Describe the life of the people of New France as follows: (*a*) Relation of the habitant to the seignior; (*b*) the home of the habitant and his social life; (*c*) city life.

**20** 3. Describe the part played by the Church in the government, the education, and the explorations of New France.

**20** 4. (*a.*) What new conditions in Canada led to the passing of the Constitutional Act?
(*b.*) How did the Constitutional Act change the government of the country?
(*c.*) What were the causes of the War of 1812?

**20** 5. Write notes on any *four* of:—
(*a.*) Sir Guy Carleton.
(*b.*) The conflicting claims of France and Great Britain in America.
(*c.*) Transportation between 1814–1840.
(*d.*) The capture of Quebec.
(*e.*) Two Canadian poets.
(*f.*) Two Canadian novelists.

LATIN. (Time, 2 hours.)

Value.
**10**

1. In the left-hand column there is a number of Latin words, opposite each of which are four English words. One of these four words gives the correct English word for the Latin word. Underline for each Latin word the English word which you think best gives its meaning, according to the following example:—

| | | | | | |
|---|---|---|---|---|---|
| | mensa | month | table | mensuration | immense |

| | | | | | |
|---|---|---|---|---|---|
| 1. | bonus | gift | good | boon | well |
| 2. | equus | horse | water | level | equal |
| 3. | ludus | I play | gamester | school | place |
| 4. | validus | veiled | valley | strong | farewell |
| 5. | sto | I state | eight | I call | I stand |
| 6. | ibi | there | where | it | thus |
| 7. | deus | day | god | ten | duty |
| 8. | durus | hard | durable | dust | duration |
| 9. | habeo | inhabitant | I have | I inhabit | habit |
| 10. | semper | seven | but | always | for |
| 11. | ager | angry | anger | swift | field |
| 12. | pulchra | girl | beautiful | also | I carry |
| 13. | doceo | I teach | docile | I speak | I learn |
| 14. | prope | proper | often | near | I hasten |
| 15. | amicus | year | lovable | friend | amiable |
| 16. | vester | our | man | vesper | your |
| 17. | pedes | foot | pedestrian | pedal | foot-soldier |
| 18. | porta | I carry | gate | porter | portable |
| 19. | paro | I make ready | small | I obey | prepare |
| 20. | folium | foliage | leaf | folio | page |
| 21. | surgo | I rise | surgeon | insurgent | sugar |
| 22. | appello | I appeal | I repel | I open | I name |
| 23. | rex | I rule | king | regalia | reign |
| 24. | copia | copy | abundance | forces | sky |
| 25. | jacio | I hurl | projectile | jacket | I ejaculate |
| 26. | pons | pontiff | I point | pontoon | bridge |
| 27. | fluctus | wave | flume | flux | fluctuate |
| 28. | genus | genius | generous | race | tribe |
| 29. | invenio | I find | I invent | invention | inventory |
| 30. | exercitus | excite | army | exercise | excitement |
| 31. | juvo | I aid | just | door | I carry |
| 32. | viridis | man | virile | green | poison |
| 33. | tabernaculum | shop | tent | hibernate | tavern |
| 34. | vita | I forbid | I visit | vital | life |
| 35. | celeriter | certainly | famous | swiftly | celery |
| 36. | praeceps | precept | headlong | precipice | preceptor |
| 37. | pollex | political | thumb | politics | politician |
| 38. | corpus | corporal | corporation | body | corpse |
| 39. | gradus | step | gradual | grate | graduate |
| 40. | majores | ancestors | major | magic | majority |

Value.

**10** 2. Underline the word or phrase which most correctly completes the sentence.

(*a.*) The Circus Maximus was used for
oratorical contests, games, trials, fairs.

(*b.*) In the middle of the Circus was
a low wall, a statue, a high wall, an altar.

(*c.*) The retiarius was armed with
a shield and sword, a net and trident, a spear, a javelin.

(*d.*) The tablinum was used as
a dining-room, a study or office, a kitchen, a hall.

(*e.*) The walls of the atrium were decorated with
tapestries, pictures in mosaic, etchings.

(*f.*) Roman boys were accompanied to and from school by
slaves, their mothers, older boys, their fathers.

(*g.*) Roman schools opened
before daylight, about nine a.m., after lunch, late in the afternoon.

(*h.*) In school the boys wrote on
slates, parchment rolls, wax tablets, blackboards.

(*i.*) The most queenly of goddesses worshipped especially by women was
Minerva, Diana, Ceres, Juno.

(*j.*) The god of war was
Mercury, Mars, Neptune, Jupiter.

(*k.*) The god of the sea was
Apollo, Mercury, Neptune, Pluto.

(*l.*) The temple dedicated to Juno, Jupiter, and Minerva was the
Pantheon, Capitol, Temple of Jupiter, Temple of Venus.

(*m.*) The most famous road leading from Rome was
Via Appia, Via Flaminia, Via Sacra.

(*n.*) The harbour of ancient Rome was
Ostia, Alba Longa, Pompeii, Brundisium.

(*o.*) The country which we now call France the Romans called
Hispania, Britannia, Gallia, Sicilia.

**5** 3. Place in the parentheses before each Latin word the number of the English phrase or group of words in the column on the right, which translates the given Latin word.

| | |
|---|---|
| ( ) iimus | 1. what news. |
| ( ) doceberis | 2. of the booty itself. |
| ( ) muniebatur | 3. they have ploughed. |
| ( ) quid novi | 4. pay attention. |
| ( ) praedae ipsius | 5. they had asked. |
| ( ) operam da | 6. they are being ordered. |
| ( ) noli capere | 7. you will be taught. |
| ( ) jubemini | 8. you are being ordered. |
| ( ) poneris | 9. do not take. |
| ( ) araverunt | 10. for the booty itself. |
| | 11. we had gone. |
| | 12. you are placed. |
| | 13. we went. |
| | 14. which novel. |
| | 15. do not call. |
| | 16. it was being fortified. |
| | 17. you were being taught. |

**5** 4. Underline that one of the words or phrases following each sentence which means the same or most nearly the same as the italicized word in the sentence.

Value.

(*a.*) He owns twenty-five acres of *arable* land.
dry, able to be cleared, able to be cultivated, wooded.

(*b.*) The armour made the soldier almost *invulnerable.*
safe, not able to be wounded, clumsy, slow.

(*c.*) I went at once to her *irate* father.
loving, proud, angry, rich.

(*d.*) The *mural* decorations were magnificent.
wall, ceiling, floor, door.

(*e.*) The stock-market readings show a tendency to *fluctuate.*
remain steady, go up, go down, waver.

(*f.*) The Romans were accustomed to *deify* their emperors.
make gods of, forget, set up images of, remember.

(*g.*) They *derided* his attempt to do the work.
praised, admired, laughed at, aided.

(*h.*) The speaker *clarified* the prevailing ideas concerning taxation.
disputed, expressed, agreed with, made clear.

(*i.*) His extreme *egotism* was disagreeable to his friends.
talkativeness, self-conceit, silence, audacity.

(*j.*) He gave his *tacit* consent.
silent, angry, willing, unwilling.

[NOTE.—*Do not translate these Latin paragraphs into English. See questions below.*]

10 5. Sunt multi portus in ora maritima Italiae. Ostia et Brundisium sunt magni portus Romani. Ostia enim est portus urbis Romae, et Brundisium est portus unde (whence) naves ab Italia ad Graeciam trans mare Adriaticum navigant.

Nunc vobis portum Romanum describo. Moles ingens circum portum aedificata est. Haec moles longa et alta a fluctibus maris naves protegit. Vis enim fluctuum hac mole firma frangitur, et hoc in portu naves sunt tutae. Medio in portu est navis longa, nautis et militibus plena. Est quoque in portu navigium velo albo ornatum. Ultra hoc navigium ostium angustum portus videri potest. Alta turris prope ostium surgit. Lucerna magna hac in turri nautis nocte portum monstrat. Haec lucerna in alta turri posita longe ab ora a nautis nocte videri potest.

Ultra gradus qui sunt in portu est templum Neptuni, dei maris. Hic deus, Jovis frater, omnia maria omnesque aquas terrarum regit. In hoc templo nautae, qui in tutum ex periculis maris venerunt, Neptunum adorant.

The questions written in Latin below relate to the Latin paragraphs just above. Read the Latin paragraphs above carefully and then write in English the answers to the following questions:—

(*a.*) Ubi est Ostia?

(*b.*) Quid est medio in portu?

(*c.*) Cur naves in portu sunt tutae?

(*d.*) Quo eunt naves quae Brundisio (from Brundisium) navigant?

(*e.*) Quid ultra navigium velo albo ornatum videri potest?

(*f.*) Quid prope ostium portūs surgit?

(*g.*) Quid a nautis videri potest qui (who) longe ab ora absunt (are distant)?

(*h.*) Quis erat Neptunus?

30 6. Translate into Latin:—

(*a.*) Spain and Gaul are countries of ancient Europe.

(*b.*) There are many countries both large and small in Ancient Europe.

(*c.*) The little girls are looking at the high walls.

(*d.*) We see the picture of a Roman school.

(*e.*) Surely you saw the magnificent buildings in the Roman Forum, didn't you?

Value.

(*f.*) The Romans obeyed Jupiter, the greatest god.

(*g.*) I wrote the words with chalk, but they wrote them with pens.

(*h.*) He is not yet ready to look at the wall in the middle of the arena.

(*i.*) With whom can we go to the games?

(*j.*) We hurried along the narrow streets to school.

(*k.*) Rome was built on seven hills. Have you learned the names of these hills?

(*l.*) The enemy paid no attention to the weapons hurled by our men.

(*m.*) In the tenth year of the war Troy was captured by trickery by the Greeks.

(*n.*) Ships are often wrecked by the force of the waves.

(*o.*) Do not go to school with them. Come with me.

**15** 7. Translate the following paragraphs into English:—

Omnes Romani opulenti amicos ad cenam saepe vocant, et saepe ad cenam ab amicis vocantur. Pater meus saepe ad cenam ab amicis vocatur, et saepe amicos ad cenam vocat. Convivae ab eo vocati ad januam nostram nona hora adveniunt. Janua ab eis pulsatur: statim a janitore eis reseratur. Deinde ab servis in atrium ducuntur, ubi colloquium cum patre meo habetur. Mox omnes in triclinium eunt.

Hac in pictura triclinium nostrum a vobis videtur. Unam mensam et tres lectos circum mensam positos videtis. Pater meus et amici ejus quoque in pictura videntur. Ego autem in triclinio non videor, pueris enim in triclinio nullus est locus. Nos pueri in triclinium cum convivis non vocamur.

**5** 8. Give the second person singular present indicative of *nolo*.....

second person plural perfect indicative active of *circumsisto*.....

third person plural future indicative passive of *video*.....

present infinitive passive of *jacio*.....

third person plural imperfect indicative passive of *facio*.....

**10** 9. Give the genitive singular of *genu ipsum*.....

ablative singular of *mare ingens*.....

genitive plural of *nauta felix*.....

dative singular of *una navis*.....

vocative singular of *meus filius*.....

## Grade X.

AGRICULTURE. (Time, 2 hours.)

[*Candidates will answer question* one *and any* five *of the remainder.*]

Value.

**20** 1. What kitchen-garden crops do you recommend, and how would you arrange your vegetable garden?

**16** 2. By what means can soil-fertility be maintained and increased under conditions where stable manure is not available in sufficient quantities?

**16** 3. What is meant by capillarity or surface attraction, and how may we successfully prevent excessive evaporation of soil-moisture?

**16** 4. Which are the main points to be considered in the transplanting of a seedling, a shrub, or a tree?

**16** 5. Which are the two most common weeds in your locality, and what methods would you recommend to control the same?

**16** 6. Why do we use green feeds and fresh vegetables for our domestic animals as well as for ourselves?

**16** 7. How would you establish and maintain high egg production through breeding, rearing, and feeding?

**16** 8. Why does the fruit-grower use different sprays?

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ALGEBRA. (Time, 2 hours.)

**8** 1. Divide $a^2 - 6b^2 - 21 + ab - 4a + 23b$ by $a - 2b + 3$.

**16** 2. Simplify :—

(*a.*) $35\left[\frac{3x-4y}{5} - \frac{1}{10}\left\{3x - \frac{5}{7}(7x-4y)\right\}\right] + 8(y-2x).$

(*b.*) $(x+2)\left\{1 + \frac{6(x+2)}{x^2-x-6}\right\} \div \left\{1 - \frac{5(x+1)}{x^2+3x+2}\right\}.$

**28** 3. Resolve each of the following into two or more factors :—

(*a.*) $x^3y + 2x^2y - 63xy.$

(*b.*) $x^2 - 4(x-y)^2.$

(*c.*) $(a+b)(a^2-ab+b^2) - (b+c)(b^2-bc+c^2).$

(*d.*) $x^4 + 10x^2y^2 + 9y^4.$

(*e.*) $x^4 - 30x^2y^2 + 9y^4.$

(*f.*) $c^2 - a^2 - b^2 + 2ab.$

(*g.*) $c^2 - 2ac - bc + 2ab.$

**12** 4. Find the lowest common multiple of :—

$h^4 + h^2k^2 + k^4$, $h^3k + k^4$, $(h^2 - hk)^3$.

**8** 5. Express in its lowest terms the square root of :—

$$\frac{x^4 - 8x^2 + 16}{x^4 - 2x^3 - 11x^2 + 12x + 36}.$$

**16** 6. Solve :—

(*a.*) $\frac{3(x+5)}{x+1} + \frac{2(2x-27)}{x+3} = 7.$

(*b.*) $\frac{5x-21}{17} = \frac{x-3y}{13} = \frac{3y+37}{11}.$

Value.

12 7. A dealer sells bicycles so as to make 50% profit. A rival dealer, who buys the same bicycles $3 cheaper and sells $3 cheaper, makes 55% profit. What price does the first dealer pay for the bicycles?

---

ARITHMETIC. (Time, 2 hours.)

[*Work need not be shown, but record answer on dotted line at end of question.*]

2 1. (*a.*) Name four different ways a man in Vancouver can pay a debt in Nelson without actually sending cash:—

(1.) .....

(2.) .....

(3.) .....

(4.) .....

3 (*b.*) What per cent. is made on investment by buying 6% stock at 75?.....

2 (*c.*) At what rate per cent. simple interest will any sum of money double itself in 12½ years?.....

2 (*d.*) 7 : 4 = 3 : .....

1 (*e.*) The formula for finding the area of circle is.....

1 (*f.*) Ad valorem duty is reckoned on.....

1 (*g.*) Specific duty is reckoned on .....

2 (*h.*) If $^3/_7$ of A's money equals 2⅖ of B's, express B's money in terms of A's.....

1 (*i.*) 40° Centigrade = .....° Fahrenheit.

8 2. Three men rent a pasture for $270. The first puts in 22 sheep for 6 weeks, the second 19 sheep for 7 weeks, and the third 35 sheep for 4 weeks. How much rental ought each to pay?

8 3. What is the cost in Toronto of a draft on New York for $3,479.37 when Canadian money is ⅜% premium in New York?

12 4. My money in the savings bank was paying me 3½% interest. I drew out $2,002 and invested it in stock at 125, brokerage ⅛%. The stock yielded a semi-annual dividend of 2½%. Was my semi-annual dividend increased or diminished, and how much?

[*Answer either* (*a*) or (*b*).]

12 5. (*a.*) A ladder 41 ft. long stands upright against a wall. Find how far the foot of the ladder must be pulled out from the wall to lower the top one foot.

*Or*

12 (*b.*) A farmer wishes to build a cylindrical silo that will hold sufficient feed for 27 cows, each requiring an average of 44 lbs. of corn silage per day for 175 days. If a cu. ft. of corn silage weighs 42 lbs. and the silo is 15 ft. in diameter, what must the height be?

15 6. A man sold his property for $6,250, receiving 40% of this amount in cash and taking a 70-day note bearing 7% interest for the balance. He discounted the note at 8% the day it was made. How much did he receive for his property?

15 7. I invested $4,200 in real estate. I insured the building for $3,300 at a premium of 1¼% for 3 years. I paid the taxes for 1 year on an assessment of $3,150, the rate being 15 mills on the dollar. Repairs for the year cost $125. At the end of one year I sold the property for $4,600 through an agent who charged 1½% commission. During the year I received $504 as rent and on sale of the property

Value.

I received from the purchaser my proper rebate of the premium I had paid. Find my net gain on the transaction.

**15** 8. I bought a farm for $10,000, payable one-half cash, the remainder in 1 year, with interest at 6%. I sell immediately for $12,000, payable in 3 mos., with interest at 4%. What is my present gain, money being worth 5% per annum?

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BOTANY. (Time, 2 hours.)

[*Questions are of equal value. Answer* four *only.*]

1. Rewrite the following, supply the missing words, and *underline* the words supplied:—

The higher plants consist of three primary parts—roots, stems, and leaves. The roots .....water and..... .....through specialized cells known as ..... ..... The water passes through the outer portion of the root, the .....to the central region known as the..... ..... In the leaves the water unites with..... .....to form....., which is a soluble product. This process of food manufacture is carried on chiefly in the..... cells which contain numerous green plastids known as ..... The green substance, ..... is essential for food manufacture but cannot carry on the process except in the presence of ....., from which it obtains the necessary energy. During the day when food manufacture is going on rapidly some of it may be stored in the form of .....; at night any excess food is converted again into ..... and is carried through the ..... region of the vascular bundles to some growing or food-storage region. The growing regions are situated at the ..... of both stem and root. In Gymnosperms and Dicotyledons there is another growing area, the ..... The former kind of growing regions increase the ..... of the plant; the latter increases the .....

Spermatophytes have a common characteristic indicated by their name; that is, they have .....; in Gymnosperms these structures are ....., while in Angiosperms they are ..... Dicotyledons, in contrast with Monocotyledons, have..... .....leaves, vascular bundles arranged in the form of a ....., and the parts of the flower are grouped in ..... or .....

2. Give an account of experiments and observations which demonstrate that plants respond to stimuli such as light, gravity, water, and contact.

3. Describe and compare the fruits of the Rosaceæ, and explain the origin of the parts in each case. (NOTE.—a description of the fruits of the apple, the plum, the rose, the strawberry, and the raspberry would be regarded as a full answer; other representative examples may be selected.)

4. Name two weeds and two poisonous plants which grow in your home region. What characters of weeds and of poisonous plants respectively, are illustrated by the examples selected? To what family does each belong, and what characters of the family are illustrated in each case?

5. Name four plants which grow on dry slopes and four which grow in the shade of forests, or other similar habitat. How are the plants of each association related to their conditions of life?

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CHEMISTRY. (Time, 2 hours.)

Value.

**7** 1. (*a.*) Describe a laboratory method for preparing *hydrogen chloride.* Illustrate with a diagram.

**3** (*b.*) Write the equation for this reaction.

**5** (*c.*) How would you test for chloride? Give equation.

Value.

**5** 2. (*a.*) Clearly distinguish between *oxidizing agent* and *reducing agent.* Give a suitable example of each.

**4** (*b.*) What is the distinction between a *symbol* and a *formula?*

**6** (*c.*) Write formulæ for the following: *calcium hydroxide; potassium chloride; zinc sulphate; sodium nitrate.*

**8** 3. (*a.*) Describe an experiment showing, with the aid of a diagram, how the composition of water *by weight* may be found. What is the composition of water by weight?

**5** (*b.*) State the main physical properties of water.

**10** 4. Calculate the volume of carbon dioxide at 21° C. and 735 mm. pressure that will be produced when 318 grams of sodium carbonate are treated with an excess dilute sulphuric acid.

(Na=23; C=12; O=16.)

**8** 5. (*a.*) State the Law of Multiple Proportions. Use the oxides of carbon in explaining this law.

**5** (*b.*) What are the chief properties of carbon monoxide?

**3** (*c.*) How could you distinguish between *carbon dioxide* and *nitrogen?*

**10** 6. (*a.*) Define the terms *catalyst, reversible action, distillation, neutralization.*

**5** (*b.*) If 500 c.c. of a gas under standard conditions weighs 0.36 grams, what is the molecular weight of the gas?

**16** 7. Write the equations and name the products formed in each of the following:—

(*a.*) A current of steam is passed over red-hot iron filings in an iron tube.

(*b.*) Metallic sodium is placed on water.

(*c.*) Mercuric oxide is heated.

(*d.*) A solution of dilute hydrochloric acid acts on a piece of marble.

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ENGLISH COMPOSITION. (Time, 2 hours.)

**10** 1. Substitute condensed expressions for the italicized portions of the following:—

(1.) He *uttered his words* carefully and *with deliberation.*

(2.) He lay awake *through the long hours of the night.*

(3.) *There is no doubt that* the confusion was very great.

(4.) *It is certain that* the report is false.

(5.) *While this was happening* the cavalry came up.

**6** 2. Punctuate the following:—

(1.) As he was about to descend he heard a voice from a distance hallooing Rip Van Winkle Rip Van Winkle.

(2.) Poor Wolf he would say thy mistress leads thee a dog's life of it but never mind my lad whilst I live thou shalt never want a friend to stand by thee.

**9** 3. Write a personal letter, of from fifty to seventy-five words, to a former school friend congratulating him (or her) upon his (or her) recovery from an illness. Write also the envelope address.

**75** 4. Write a composition of from two to three hundred words upon *one* of the following topics:—

Value.

(1.) The appearance and character of William de la Marck. (*Quentin Durward.*)

(2.) The Battle of Philippi. (*Julius Caesar.*)

(3.) The fairy characters. (*A Midsummer Night's Dream.*)

(4.) Boys' clubs *or* girls' clubs.

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ENGLISH LITERATURE. (Time, 2 hours.)

[*Candidates will answer Section A, Part I.* or *Part II.; and Section B; and any* one *section from Sections C, D, and E.*]

SECTION A.

*Part I. A Selection of English Poetry, Book I., Part I.*

**15** 1. Explain carefully *three* of the following passages, giving the name and author of the poem from which each is taken:—

(*a.*) The hound is kin to the jackal-spawn—howl, dog, and call them up!

(*b.*) In spots like these it is we prize
Our Memory, feel that she hath eyes.

(*c.*) Chill Penury repress'd their noble rage,
And froze the genial current of the soul.

(*d.*) I will not part
With any sympathy for common things.

**15** 2. State clearly what you consider to be the central thought of each of the following poems:—

(*a.*) "St. Agnes' Eve."

(*b.*) "The Choristers."

(*c.*) "The Poplars."

**10** 3. Tell briefly in your own words the story of:—

(*a.*) "The Ballad of East and West."

*Or*

(*b.*) "The Yarn of the *Nancy Bell.*"

*Part II. A Selection of English Poetry, Book I., Part II.*

**15** 1. Explain carefully *three* of the following passages, giving the name and author of the poem from which each is taken:—

(*a.*) "With aged eyes aghast
From fright of dim espial."

(*b.*) I've studied men from my topsy-turvy
Close, and, I reckon, rather true.

(*c.*) How happy he who crowns in shades like these,
A youth of labour with an age of ease.

(*d.*) With thy clear keen joyance
Languor cannot be.

**15** 2. State clearly what you consider to be the central thought of each of the following poems:—

(*a.*) "To Daffodils."

(*b.*) "Just a Clerk."

(*c.*) "The Ice-Cart."

Value.

**10** 3. Tell briefly in your own words the story of *one* of the following:—

(*a.*) "Bishop Hatto."

(*b.*) "Hervé Riel."

(*c.*) The lovers' escape in "The Eve of St. Agnes."

SECTION B. ENGLISH PROSE SELECTIONS, PART II.

[NOTE.—*Answer question 1 and* either *2* or *3.*]

**15** 1. Write briefly on *one* of the following:—

(*a.*) Rosalinda's unlucky mole. ("Party Patches.")

(*b.*) Minding one's business. ("A Political Upholsterer.")

(*c.*) Ralph Bigod, Esq. ("The Two Races of Men.")

(*d.*) Habits of the poor relation. ("Poor Relations.")

(*e.*) What would happen if all men were found out. ("On Being Found Out.")

(*f.*) A plea for ancient humour. ("The Newness of the Old.")

(*g.*) Sam Trusty is made ridiculous. ("Growing Old.")

(*h.*) Attempts to borrow money. ("History of the Man in Black.")

**15** 2. Discuss in a paragraph *one* of the following:—

(*a.*) Essential qualities of a good schoolmaster. ("The Good Schoolmaster.")

(*b.*) Provincial gentry in London. ("The State of England in 1685.")

(*c.*) The justice of Johnson's rebuke. ("Letter to Chesterfield.")

(*d.*) Lincoln's political idealism. ("The Gettysburg Address.")

*Or*

3. Write on *one* of the following:—

(*a.*) The tense atmosphere in "The Three Strangers."

(*b.*) The character of Mrs. Clinton. ("The Prince Consort.")

(*c.*) The feeling of impending tragedy in "The Fall of the House of Usher."

SECTION C. JULIUS CAESAR.

**10** 1. Give all the reasons you can for the decline in the fortunes of Brutus and Cassius.

**10** 2. Discuss the methods used by Cassius to get Brutus and Casca into the plot.

**10** 3. Discuss in a paragraph *one* of the following:—

(*a.*) The cleverness of Antony's speech.

(*b.*) The quarrel of Brutus and Cassius.

SECTION D. A MIDSUMMER NIGHT'S DREAM.

**10** 1. What popular superstitions regarding the fairies does Shakespeare make use of in *A Midsummer Night's Dream?*"

**10** 2. Compare Hermia and Helena with respect to disposition.

**10** 3. "The main interest in the play lies in the series of humorous situations." Discuss this statement fully.

SECTION E. QUENTIN DURWARD.

**15** 1. Write a paragraph on *one* of the following:—

(*a.*) The humour of Trois Eschelles and Petit-André.

(*b.*) The Scottish Archers.

**15** 2. Give a brief account of *one* of the following:—

(*a.*) Cardinal Balue's plight at the boar hunt.

(*b.*) The dramatic interview between Louis and the Astrologer.

(*c.*) Quentin Durward's narrow escape from the Provost-Marshal.

FRENCH. (Time, 2 hours.)

[*Answers to be written on this paper.*]

Value.

**14** 1. Write sentences in French explaining any *seven* of the following words:—

(*a.*) Le chasseur.
(*b.*) Le tailleur.
(*c.*) La modiste.
(*d.*) Le wagon-restaurant.
(*e.*) La salle de bains.
(*f.*) Le rez-de-chaussée.
(*g.*) Les emplettes.
(*h.*) Noël.
(*i.*) Pâques.
(*j.*) Victoria.

**10** 2. Write a suitable pronoun in each of the spaces provided below:—

(*a.*) Voilà les enfants avec ..... je jouais hier.
(*b.*) De ces deux messieurs je connais ..... qui parle.
(*c.*) ..... des deux chiens aimez-vous?
(*d.*) J'aime ..... ; l'autre est trop laid.
(*e.*) Voici la maison dans .....l'homme est entré.
(*f.*) ..... sont mes amis.
(*g.*) Le monsieur .....je parle est M. Dubois.
(*h.*) Les plumes.....vous avez, sont à Jean.
(*i.*) Marie *et*.....allons à l'école.
(*j.*) Vous êtes plus grand que.....

**10** 3. Rewrite the following sentences, putting pronouns in the place of nouns:—

(*a.*) Ne donnez pas les fleurs à Marie.
(*b.*) Nous avons écrit la lettre au garçon.
(*c.*) J'ai demandé les cahiers au professeur.
(*d.*) Nous achetons des fleurs chez Brown.

**10** 4. Write verbs in tense indicated:—

(*a.*) Ils ont bu (present).
(*b.*) Il sait tout (future).
(*c.*) Ils ont reçu (present).
(*d.*) Ouvre-t-elle? (past indef.).
(*e.*) Nous envoyons (future).
(*f.*) Elle voit (imperfect).
(*g.*) Elles partent (past indef.).
(*h.*) Ils s'habillent (past indef.).
(*i.*) Il a fait (present).
(*j.*) Il finit (imperf.).

**15** 5. Use in sentences (not less than 10 words) the following expressions. Afterwards translate the sentences formed into English.

(*a.*) Il faut.
(*b.*) Tout.
(*c.*) Chacun.
(*d.*) En avion.
(*e.*) Vieil.

Value.

**21** 6. Write in French:—

(*a.*) They are learning to speak French.

(*b.*) This window is eleven feet long by three feet wide.

(*c.*) Scissors are used for cutting cotton.

(*d.*) Little George knows how to play ball.

(*e.*) She went to bed later than usual.

(*f.*) Nearly everybody has a good time in summer.

(*g.*) When the holidays come I shall go to the country.

**20** 7. Write a paragraph in French (about 75 words) on *one* of the following subjects:—

(*a.*) Une journée à l'école.

(*b.*) Une promenade sur l'eau.

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GEOMETRY. (Time, 2½ hours.)

**11** 1. Construct a triangle, given height 2 in., angles at the extremities of the base 45° and 60°. Give a neat and accurate diagram. Determine by measurement the length of the base.

**11** 2. AB is a straight line, and P is a point 2 in. from it. Find two points each 1½ in. from P and 2½ in. from AB. A neat and accurate diagram is required.

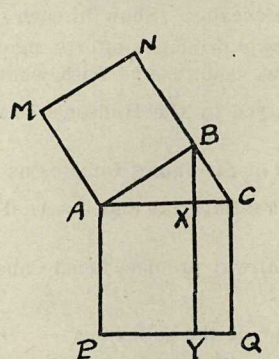
**13** 3. Parallelograms on the same base and between the same parallels are equal in area.

**13** 4. C is the middle point of the straight line AB. From A, B, C, AX, BY, CZ are drawn perpendicular to a given straight line PQ. Prove that, if A and B are on the same side of the line PQ, AX+BY=2CZ.

**13** 5. If two sides of a triangle are unequal, the greater side has the greater angle opposite to it.

**13** 6. If two unequal circles cut at P and Q, prove that the line joining their centres *bisects* PQ *at right angles.*

**13** 7. In the diagram, ABC is a triangle right-angled at B; AMNB and CQPA are squares; BXY is drawn parallel to AP. Prove that the parallelogram AXYP is equal to the square AMNB.




**13** 8. Find a point on the base of a scalene triangle equidistant from the two sides. Give the proof of your construction. Prove that this point is *not* the middle point of the base.

*Or*

ABC is an isosceles triangle (AB=AC); BN is drawn perpendicular to AC. Prove that $2AC.CN=BC^2$.

HISTORY. (Time, 2 hours.)

[*Answer* five *questions, at least* two *from each part.*]

PART A.

Value.

**20** 1. (*a.*) What were the forces sapping the strength of the Roman Empire before its fall?
(*b.*) Why is the Reign of Augustus important in Roman history?

**20** 2. (*a.*) What evils did the Gracchi try to remedy?
(*b.*) What remedies did they propose?
(*c.*) Why did they fail?
(*d.*) Show how Julius Caesar continued the policy of the Gracchi.

**20** 3. Describe life in feudal times under the following headings: (*a*) the life of the noble; (*b*) the duties of a serf; (*c*) the life and industries of the town.

**20** 4. (*a.*) Show how the Renaissance changed men's attitude to life.
(*b.*) Describe how and why the Renaissance developed in Italy.
(*c.*) Show what its influence was on Art and Discovery.

**20** 5. Write on any *four* of:—
(*a.*) What Rome learned from the Etruscans and Greeks in the earlier years of her history.
(*b.*) The good work done by the monks.
(*c.*) Early Teutonic methods of trial.
(*d.*) How Parliament developed from the reigns of Henry III. to Edward III., inclusive.
(*e.*) The efforts of the Catholic Church to counteract the work of the Reformation.

PART B.

**20** 1. (*a.*) What reasons were advanced for effecting a federation of the British colonies in North America?
(*b.*) Show the part played by Macdonald, Brown, and Howe in the Confederation movement.
(*c.*) Describe briefly how British Columbia entered Confederation.

**20** 2. (*a.*) Give three examples of disputes between Canada and the United States which were settled peaceably. Show in each case what the settlement was.
(*b.*) What were the two principal efforts made to obtain closer trade relations between the two countries? With what success?

**20** 3. (*a.*) Show the part played by the Hudson's Bay Company in the settlement of the Pacific Coast.
(*b.*) Describe the work of Sir James Douglas as governor.

**20** 4. (*a.*) Show how Canada's imperial and external relations have developed since the Great War?
(*b.*) What important railway problem faced Canada after the Great War? How has it been solved?

**20** 5. Write notes on any *four* of the following:—
(*a.*) The causes of the Rebellion of 1837 in Upper Canada.
(*b.*) Lord Elgin.
(*c.*) The National Policy.
(*d.*) Sir Arthur Currie.
(*e.*) Charles G. D. Roberts.
(*f.*) Sir Gilbert Parker.

LATIN. (Time, 2 hours.)

Value.

**15** 1. Write the second plural future indicative active of *capio*.....
second plural present subjunctive of *malo*.....
second plural present indicative of *nolo*.....
third singular pluperfect subjunctive active of *fero*.....
third singular future indicative of *proficiscor*.....
third singular perfect subjunctive of *sum*.....
third singular future indicative of *utor*.....
perfect infinitive of *sequor*.....
perfect infinitive of *adsum*.....
plural present imperative active of *audio*.....
second singular perfect indicative active of *pono*.....
second singular present indicative passive of *fero*.....
second plural present indicative active of *fero*.....
third plural present subjunctive active of *noceo*.....
third singular pluperfect subjunctive active of *repello*.....

**7** 2. Write the genitive singular of *miles alter*.....
genitive singular of *alia res*.....
dative singular of *lacus altus*.....
dative singular of *iter difficile*.....
accusative plural of *flumen longius*.....
ablative singular of *animal celere*.....
ablative singular of *pedes audax*.....

**8** 3. Fill in the three degrees of comparison of these words, adjectives or adverbs, as the case may be:—

| | Positive. | Comparative. | Superlative. |
|---|---|---|---|
| pejor | ..... | ..... | ..... |
| minime | ..... | ..... | ..... |
| magis | ..... | ..... | ..... |
| proxime | ..... | ..... | ..... |
| celer | ..... | ..... | ..... |
| bonus | ..... | ..... | ..... |
| facilis | ..... | ..... | ..... |
| utilis | ..... | ..... | ..... |

**15** 4. Write in Latin:—

(*a.*) They hasten to a place of safety.
(*b.*) At night fall.
(*c.*) They disembark.
(*d.*) They set sail.
(*e.*) They flee with great speed.
(*f.*) We stationed a garrison on the top of the mountain.
(*g.*) They were equal in valour.
(*h.*) I prefer to treat with you.
(*i.*) He injured the horse.
(*j.*) He resisted his brother.
(*k.*) He surrendered for the sake of peace.
(*l.*) He trusted his friend.
(*m.*) He is desirous of waging war.
(*n.*) He become consul.
(*o.*) He used his sword.

Value.

5. Write in Latin:—

2 (*a.*) The camp had to be fortified as quickly as possible.

2 (*b.*) He said that he could have written.

2 (*c.*) The general sent soldiers to fortify the camp.

2 (*d.*) When he was leading the infantry, the cavalry arrived.

2 (*e.*) He left two cohorts to guard the camp.

3 (*f.*) He said that they had restored the hostages which they had received.

2 (*g.*) He warned the centurions not to attack the Gauls.

3 (*h.*) After seizing the higher ground, they built a trench around the camp.

3 (*i.*) So great a storm arose that they were unable to march.

3 (*j.*) He ordered his cavalry to hasten into Germany. (Use *impero.*)

3 (*k.*) He ordered the ambassadors to leave the camp. (Use *jubeo.*)

6. Translate:—

5 (1.) Eodem tempore Caesar certior factus est Germanos, qui nuper in Galliam transportati essent, fines Aeduorum populari, et magnam multitudinem Sueborum ad ripas Rheni venisse.

2 (*a.*) Account for the case of *tempore, Germanos.*

1 (*b.*) Account for the mood of *transportati essent.*

7 (2.) Ceteros aggressus, magnam partem eorum occidit; reliqui sese in proximas silvas abdiderunt, Hoc proelio facto, ut reliquas copias Helvetiorum consequi posset, pontem facit, atque ita exercitum traducit. Tum per multos dies Caesar Helvetios insequitur, novissimumque agmen lacessit.

1 (*a.*) Account for the mood of *posset.*

1 (*b.*) Give the principal parts of *lacessit.*

6 (3.) His rebus Circe vehementer commota ad pedes ejus se projecit et multis cum lacrimis pollicita est se, quae ille imperavisset, omnia facturam. Ita sociis receptis Ulixes nuntium ad navem misit, qui reliquis Graecis quae facta essent nuntiaret.

2 (*a.*) Account for the case of *rebus, Graecis.*

3 (*b.*) Account for the mood of *imperavisset, facta essent, nuntiaret.*

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PHYSICS. (Time, 2 hours.)

[*Questions are of equal value. Answer* five *only.*]

1. (*a.*) A body, of mass 6 grams, has a sinker attached to it and the two together weigh 16 grams in water. The sinker alone weighs 34 grams in water. What is the density of the body?

(*b.*) Define the following terms: British thermal unit, specific heat, thermal capacity, temperature, calorie.

2. (*a.*) State the Molecular Theory of Magnetism and give three facts which support the theory.

(*b.*) A piece of wood of mass 100 grams floats in water with ¾ of its volume immersed. What is its volume?

3. (*a.*) State Boyle's Law and describe a simple experimental proof of it.

(*b.*) The capacity of the receiver of an air-pump is twice that of the barrel; what fractional part of the original air will be left in the receiver after the first stroke is completed? Explain.

4. (*a.*) On dropping 100 grams of a metal, of specific heat 0.1, at 200° C. into 600 grams of oil the temperature of the oil raised from 15° C. to 20° C. Calculate the specific heat of the oil.

   (*b.*) What is meant by the mechanical advantage of a machine? Illustrate your answer by reference to a diagram of the inclined plane.

5. (*a.*) Describe a simple experiment which shows how convection currents are set up in air.

   (*b.*) Show clearly how nature uses this same principle in establishing land and sea breezes.

   (*c.*) Show by a diagram how an eye sees the image of an object before a plane mirror.

6. (*a.*) Describe clearly how to charge an insulated conductor (1) positively and (2) negatively by a glass rod which has been rubbed with silk.

   (*b.*) Explain the following terms: cells in series, cells in parallel, closed circuit. Draw a diagram in each case.

   (*c.*) By reference to a diagram show how a compass-needle may be used to determine the direction in which an electric current is flowing through a wire. State the rule.

## Grade XI., Junior Matriculation and Normal Entrance.

AGRICULTURE. (Time, 2 hours.)

[*Candidates will answer question* one *and any* six *of the remainder.*]

Value.

**10** 1. Why should legumes form an integral part in any good crop-rotation?

**15** 2. In what ways does drainage affect the soil, and crop production in general?

**15** 3. How would you proceed to ascertain whether or not a certain field will respond to the application of commercial fertilizers?

**15** 4. What methods would you employ to preserve liquid manure and to prevent heavy losses of organic material and plant-food in stable manure?

**15** 5. How can the farmer, the distributer, and the consumer co-operate in the production and maintenance of first-class milk?

**15** 6. What effect has the activity of cow-testing associations on the economy of milk production?

**15** 7. For what purpose do we buy concentrates, and how can we most effectively reduce the feed bill?

**15** 8. Which are the two most common plant-diseases in your district, and what measures are generally recommended for their control?

**15** 9. How do the various breeds of hens compare in the provincial egg-laying competitions?

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ALGEBRA. (Time, 2½ hours.)

**12** 1. Factor:—

(*a.*) $6x^2 + 9x - 8xy - 12y$.

(*b.*) $4a^4 + 15a^2b^2 - 4b^4$.

(*c.*) $x + 8a^3xy^3$.

(*d.*) $9r^{2x} - 25s^{6x}$.

**12** 2. (*a.*) Simplify:—

$$\left(\frac{2x}{x-2} - \frac{x}{x-1}\right) \div \left(\frac{3x}{x-3} - \frac{2x}{x-2}\right).$$

and check your work by letting $x = 4$.

(*b.*) Solve:—

$$3x - 2y - z = 1.$$
$$4x - 3y + 4z = -3.$$
$$2x + y - 5z = -2.$$

**12** 3. (*a.*) In the formula $T = 2\pi R(R + H)$:—

(1.) Solve for H in terms of the other letters.

(2.) If $\pi = 3.14$, $R = 11$, $T = 794.42$, find H.

(*b.*) A man starts from a certain place and walks at the rate of $a$ miles an hour; $b$ hours later another man starts from the same place and rides in the same direction at the rate of $c$ miles an hour. In how many hours will the second man overtake the first?

**12** 4. (*a.*) Solve:—

$$b(a + x) - (a + x)(b - x) = x^2 + \frac{bc^2}{a}.$$

Value.

(*b.*) Simplify:—

$$\left(\frac{8a^{-3}}{27x^6}\right)^{-\frac{1}{3}}\left(\frac{9x^2}{4a^{-2}}\right)^{-\frac{1}{2}}$$

14 5. (*a.*) Solve: $2\sqrt{x}-\sqrt{4x-3}=\dfrac{1}{\sqrt{4x-3}}$.

(*b.*) Solve: $4x^2+y^2=17,\ 2x+y=5$.

14 6. (*a.*) Explain why $a^{-2}$ has the value $\dfrac{1}{a^2}$.

(*b.*) Find in simplified form a third proportional to $\sqrt{3}+1$ and $\sqrt{3}+2$.

(*c.*) Find two numbers which are in the ratio of 16 : 9 and which have 24 as a mean proportional between them.

12 7. (*a.*) If I lend a certain sum of money for a certain time at 6% (simple interest), the interest exceeds the loan by \$160; but if I lend it at 4% for half that time (simple interest), the loan exceeds the interest by \$480. What is the sum?

(*b.*) A workman, wishing to explode a blast of powder, set the fuse to cause the explosion to take place in 30 seconds. He then ran away at the rate of 8 yards a second. How far had he run when he heard the explosion, if sound travels 1,080 ft. per second?

12 8. (*a.*) Show by graphing that the three lines $x=2$, $3x+4y=10$, $x=2y$, have a common point.

(*b.*) Find the equation of the line through (1, 1) and (−3, 4). Show (algebraically) that the point (5, −2) lies on this line. Find (algebraically) where the line crosses the Y-axis.

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BOTANY. (Time, 2 hours.)

[*Questions are of equal value. Answer* four *only.*]

1. Rewrite the following, supply the missing words, and *underline* each:—

The seeds of Gymnosperms are produced on the upper surface of....., which are grouped together to form a.....; in Angiosperms the seeds are enclosed by the.....and the seed, or seeds, together with the covering are known as the .....; mature "seeds" such as those of the corn consist of three regions, the outer.....and....., the inner....., and the.....; other seeds when mature have no....., since the food which it contained has been stored in the..... When a seed sprouts the.....is the first to emerge, while the.....appear last. The curved portion which first breaks through the ground in a bean is known as the..... Winged seeds such as those of the .....are carried by the wind, while in other cases the fruit is winged; for instance, .....

Ferns and mosses have no seeds but reproduce by means of..... In the fern the latter are produced on the lower side of the leaf in capsules known as.....

Water is absorbed by plants by specialized cells known as..... The process is called..... This process is dependent upon the storage of.....within the cells of the root, since the movement of the water is toward the..... The water moves up the root and stem through the.....region; when it arrives at the leaf some of the water is used in the.....of foods, the process being known as.....; a part of the water escapes through the..... and evaporates. The rate at which this evaporation or.....occurs is dependent

upon a number of conditions, two of which are the.....and.....of the atmosphere.

2. Make diagrams to illustrate the vertical and transverse sections and give the floral formulæ corresponding to the following descriptions:—

(*a.*) carpels—2, syncarpous, inferior;
stamens—5, syngynesious, epipetalous;
petals—5, united to form a ligulate structure, epigynous;
sepals—a pappus.

and (*b.*) carpels—many, apocarpous, superior;
stamens—many, hypogynous;
petals—5, polypetalous, hypogynous, similar;
sepals—5, cohesion (free) and adhesion, hypogynous.

3. Name four plants most commonly found in bogs, *or* on rocky slopes. Describe generally the roots, stems, and leaves of each, noting especially the features which are specialized in relation to the conditions of life.

4. Describe the structure of the stem of a tree. Name the parts and explain the use of each. How does the stem grow? How does the bark of an old tree differ from that of a young tree?

*Or*

Describe the cellular structure of a leaf. How is the structure of each cell related to its special work?

5. Describe the root, stem, leaves (fronds), and sporangia of a fern. Give an account of alternation of generations as illustrated by a fern.

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CHEMISTRY. (Time, 2½ hours.)

[*Candidates will answer* all *of Section A and any* three *questions from Section B. Atomic weights are given at the end of the paper.*]

SECTION A.

Value.

**14** 1. (*a.*) Define the following terms: deliquescence, water of crystallization, dehydration, acid salt.

(*b.*) State Henry's Law.

**14** 2. Give a brief account of the electrolytic dissociation theory. What is meant by the statement that nitric acid is a *strong* acid?

**12** 3. State the differences between hydrogen chloride and hydrochloric acid. Could concentrated nitric acid be substituted for sulphuric acid in making hydrochloric acid from salt? Explain fully.

**12** 4. How is the quantity of carbon dioxide in the atmosphere kept nearly constant? Why is air not considered a compound?

**12** 5. What is meant by a reversible reaction? What factors may influence the direction of a chemical reaction? Give illustrations showing how the direction of a reaction may be controlled.

SECTION B.

**12** 6. What constituents should a perfect food contain? What are the main purposes of food? What are vitamins?

**12** 7. What is the composition of baking-powder? What chemical reaction is involved in its use? How could you measure the relative efficiency of two such powders? Why does a solution of sodium bicarbonate react alkaline with litmus?

Value.

**12** 8. Give an account of the commercial process for manufacturing: (*a*) sodium hydroxide, (*b*) aluminium metal, and (*c*) water-glass.

**12** 9. What pressure must be applied to a body of gas in order that its volume will measure 150 c.c. at 21° C., when its volume at 15° C. and 751 mm. pressure measures 217.5 c.c.?

**12** 10. A sample of impure sodium chloride weighing 4 grams was dissolved in water and excess of silver nitrate solution added. The precipitate of silver chloride weighed 6.9420 grams. Calculate the percentage of chlorine in the original sample.

**12** 11. An oxide of nitrogen contains 30.44 per cent. N and 69.56 per cent. O; 250 c.c. of this gas reduced to standard conditions weighs 1.0268 grams. Derive its molecular formula.

**12** 12. Taking an acre as a square 209 feet on each side and the pressure of the air as 14.5 lb. per square inch, calculate in pounds the weight of air above each acre of ground. About how much of this is nitrogen? Why, in spite of the great abundance of nitrogen, is it necessary to fertilize with nitrogen compounds?

Atomic weights: Na=23, Cl=35.5, Ag=108, N=14, O=16.

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ENGLISH COMPOSITION. (Time, 2 hours.)

[*Candidates are reminded that they are expected to spell and punctuate correctly. They are therefore urged to leave some few minutes free for a revision of their papers. They are also reminded that they cannot expect marks for paragraphs and essays that are not well organized and well worked out. They are therefore urged to plan their compositions before they begin to write. The plan of the essay in question 2 must be written in the examination book as part of the answer.*]

**25** 1. State definitely what is ineffective or wrong in the following sentences, and rewrite them in correct form:—

(*a.*) The bad result is due, to speak justly, only partly to his folly.

(*b.*) Germany ought to be able to make large payments, for they are a thrifty and industrious nation.

(*c.*) Having enjoyed the party very much, it was now time to go home.

(*d.*) We have an excellent line of black ladies' silk stockings.

(*e.*) The shipment North of the best oranges begins about December first, and in a good season the owner of a thriving grove makes a handsome profit.

**75** 2. Write a composition on *one* of the subjects named below. Your plan, written in proper form, must accompany the composition. For purposes of this paper, an essay need not be longer than three or four hundred words.

(*a.*) The part that gold plays in *Silas Marner*.

(*b.*) R. L. Stevenson: the cheerful traveller.

(*c.*) A character sketch of Touchstone.

(*d.*) Sternness and gentleness as combined in Lincoln.

(*e.*) Gareth's upbringing.

(*f.*) A character sketch of Varney.

(*g.*) Difficulties of the British Columbia fruit-grower.

(*h.*) Possibilities of trade with the Orient.

(*i.*) The most interesting character I have ever known.

ENGLISH LITERATURE. (Time, 2½ hours.)

[*Candidates will write on Parts A and D, and on* either *Part B* or *Part C.*]

PART A.

Value.

**15** 1. Write brief notes (of not more than half a page at most) on any *three* of the following:—

(*a.*) A lesson that Wordsworth learned from the Leech-gatherer.

(*b.*) The chief glory of Shakespeare as Arnold saw it.

(*c.*) The life-story of Lucy.

(*d.*) Browning's notion of a patriot's reward.

(*e.*) A school-boy's dream of Romance.

**10** 2. Selecting *one* of the poems named below, show that it has a definite plan or structure:—

"Alexander's Feast."

"Ode to the West Wind."

"Ode on the Death of Wellington."

**15** 3. Quote *three* fine passages of poetry (none of them need be more than six lines in length), so as to illustrate each of the following poetical effects:—

(*a.*) *Striking use of metre.* Say why you think the metre of the passage is notable, and show, by scansion or otherwise, what the metre is.

(*b.*) *Striking use of words.* Comment on at least *two* words that you think are particularly good.

(*c.*) *A fine figure of speech.* Comment on the meaning or beauty of the figure.

PART B.

**18** 1. Give a brief account of Act III., scene iv. (the Banquet Scene), from *Macbeth.* Show that, in at least two respects, this scene is centrally important in the play.

**16** 2. Which force moves Macbeth more powerfully—the influence of the witches or that of his wife? Give reasons for your answer as fully as possible.

**6** 3. In very brief notes (not more than two or three sentences), characterize:—

(*a.*) The porter.

(*b.*) Macduff's son.

PART C.

**18** 1. Give a brief account of Act III., scene ii. (Bassanio's Choice), from *The Merchant of Venice.* Show, in at least two ways, how important this scene is in the drama.

**16** 2. What penalties was Shylock condemned to suffer? Comment, as fully as you can, on the justice of the court's sentence.

**6** 3. In very brief notes (not more than two or three sentences), comment on:—

(*a.*) The character of Jessica.

(*b.*) The uses served in the play by the Gobbos.

PART D.

A poem for "sight-reading":—

*The Shell.*

I.

And then I pressed the shell
Close to my ear,
And listened well.

Value.

And straightway, like a bell,
Came low and clear
The slow, sad murmur of the distant seas
Whipped by an icy breeze
Upon a shore
Wind-swept and desolate.
It was a sunless strand that never bore
The footprint of a man,
Nor felt the weight
Since time began
Of any human quality or stir,
Save what the dreary winds and waves incur.

II.

And in the hush of waters was the sound
Of pebbles, rolling round;
Forever rolling, with a hollow sound:
And bubbling sea-weeds, as the waters go,
Swish to and fro
Their long cold tentacles of slimy grey:
There was no day;
Nor ever came a night
Setting the stars alight
To wonder at the moon:
Was twilight only, and the frightened croon,
Smitten to whimpers, of the dreary wind
And waves that journeyed blind . . .
And then I loosed my ear. Oh, it was sweet
To hear a cart go jolting down the street.

**5** (*a.*) What common experience is described in this poem? Relate very briefly a similar experience of your own.

**4** (*b.*) Point out at least four instances in which the sound fits the sense.

**6** (*c.*) Suggest, by a fitting adjective or descriptive phrase, the "feeling" of the dream-scene presented. List five words or phrases that help to build up this impression.

**5** (*d.*) What is the effect produced by the uneven length of the lines? The effect of the last line and a half?

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FRENCH GRAMMAR. (Time, 2 hours.)

**25** 1. Change the form, when necessary, of the word in italics and write it in the space provided:—

(*a.*) Un Anglais d'une mémoire *prodigieux*.....
fut présenté au roi de Prusse pendant le séjour que Voltaire *faire*
(past definite) .....à Potsdam. Il
*pouvoir* ..... *retenir*
..... mot pour mot un très
long discours après l'avoir *lire*.....
ou *entendre* ..... une seule fois.
Comme Voltaire *entrer* (imperfect).....

Value.

chez le roi pour lui *lire*.....un poème
qu'il *venir*.....*d'écrire*....., .
Frédéric pour s'amuser, *faire* (past definite).....
*cacher* .....l'Anglais et lui
*ordonner*.....de retenir ce que
Voltaire *lire*..... Le poète *être*
*introduire* ..... et *lire*
(past definite) .....ses vers.

(*b.*) (1.) Quand il *venir* .....nous voir, nous irons au musée.

(2.) Ils ont *ouvrir*.....la porte de la cage aux lions et tous sont *sortir*.....

(3.) Mes soeurs seront très heureuses si elles *aller*..... en voyage.

(4.) Ne me demandez rien avant que je *pouvoir*..... réciter la leçon.

(5.) Il entra brusquement en nous *dire*.....: Je vous *appeler*.....pour vous montrer ceci.

(6.) Nous *avancer*.....sur cette route depuis deux heures et pourtant nous n'avons pas encore *apercevoir* .....les autres voyageurs.

(7.) C'est bien vrai. Il faut que je *savoir* ..... parler français un jour.

**30** 2. Put into French the following passage (*work carefully; read over your finished work*) :—

Look at me. Do you see an old man? Yet for thirty years I have worked at least ten hours a day and sometimes much more. I have never believed that work was not good for my health or that sport and idleness were the only healthy things in this life. On the contrary I am sure that work is necessary to man's happiness and that one is wrong to retire (*prendre sa retraite*) while one is still young. One has then too much time to think of one's pleasures, of one's health, and it is easy to forget the neighbours who have troubles (*souci* m.) that are perhaps much greater than ours.

**5** 3. Write the questions to which the following are answers:—

(*a.*) C'est mon frère que je vois.

(*b.*) Il est cinq heures.

(*c.*) Je fais mes devoirs.

(*d.*) La neige tombe en hiver.

(*e.*) Nous parlons de la guerre.

**20** 4. Make short but *complete* sentences to illustrate the use of:—

(*a.*) Tant que.

(*b.*) Par suite.

(*c.*) falloir (state tense used).

(*d.*) d'ailleurs.

(*e.*) de crainte que.

(*f.*) à mesure que.

(*g.*) y (do not use *il y a* in any form).

(*h.*) celle.

(*i.*) ce que.

(*j.*) plus tôt.

Value.

**20** 5. Write a suitable pronoun in each of the spaces provided below:—

(*a.*) La maison ..... je suis né n'existe plus.

(*b.*) Les hommes ne sont jamais contents. .....qui sont riches craignent de perdre leur argent,..... qui sont pauvres se lamentent toujours.

(*c.*) .....(m) qui perd sa bourse ne perd rien, mais .....qui perd sa réputation perd tout.

(*d.*) J'ai deux maisons mais je ne sais pas..... des deux il faut vendre.

(*e.*) Est-ce que vous avez parlé de cette vente à votre père? Oui, Je ..... .....ai parlé.

(*f.*) De ces deux femmes .....qui est blonde a déjà cherché du travail, mais.....qui est brune est paresseuse.

(*g.*) Vous n'avez rien dit à votre mère? Vous avez tort. Dites..... la vérité. Pensez.....

(*h.*) Ce n'est pas de.....qu'il faut vous plaindre. Je n'ai rien fait.

(*i.*) Je n'ai plus le livre de Jean. Je.....ai rendu.

(*j.*) J'ai du chocolat. .....voulez-vous?

(*k.*) Il a passé son examen. Avez-vous passé.....?

(*l.*) Ma villa est près de Paris. Mon ami a .....au bord de la mer.

(*m.*) J'ai mis ces fleurs dans des vases. Qu'ont-elles fait de.....

(*n.*) Elle a perdu sa carte, je lui donnerai .....

(*o.*) Donnez-lui un autre crayon. Il a cassé la pointe de.....

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FRENCH TRANSLATION. (Time, 2 hours.)

[N.B.—*Lisez avec soin avant de répondre.*]

**40** 1. Vous avez reçu une invitation pour aller au théâtre ou au concert. Racontez en français la matinée ou la soirée à l'aide des indications suivantes: invitation, arrivée au théâtre, la foule, les places; description de la salle, des spectateurs, des artistes; impressions du spectacle, de la musique.

**20** 2. (*a.*) Donnez en français la définition de: la Seine, le phare, un soldat, le clocher, une partie de campagne.

(*b.*) Donnez les contraires des mots en *italique.* (Exemple: le *grand garçon a froid;* la petite fille a chaud.)

(1.) Je *finissais lentement* mon travail.

(2.) La *vieille femme* a volé *un peu de* pain.

(3.) *J'ai raison* de vous *récompenser* ce *soir.*

(4.) Cette fumée *noire* et épaisse *entre* par la fenêtre.

**20** 3. (*a.*) Ecrivez les équivalents des mots en *italique.*

(1.) Il *s'en est allé le jour après* pour *conduire* ses chevaux à *la rivière.*

(2.) *A présent* elle *désire* bien *se promener* seule dans ce *grand bois très près d'ici.*

Value.

(*b*.) Posez les questions aux réponses suivantes:—

(1.) Ils sont bordés de magnifiques arbres.

(2.) Nous pensons y aller en été pour perfectionner notre français.

(3.) L'incendie a commencé pendant la nuit.

(4.) Je demeure dans cette province depuis trois ans.

(5.) Si, Madame, je comprends parfaitement.

**20** 4. Après avoir lu ce passage, répondez *en anglais* aux questions.

Ce jour-là nous étions méconnaissables mon ami et moi. Cela venait sans doute de nos visages bien lavés et de nos cheveux bien peignés. Nos vestes neuves, nos pantalons blancs, la tente dans la grande cour, l'affluence des parents, l'estrade ornée de drapeaux, tout cela m'inspirait l'émotion des grands spectacles.

Les livres et les couronnes formaient un amas (pile) éclatant, dans lequel je cherchais anxieusement à deviner ma part, et je frissonnais sur mon banc. Mon camarade plus sage, n'interrogeait pas la destinée. Il gardait un calme admirable. Tournant dans tous les sens sa petite tête, il remarquait les nez difformes de quelques assistants et les chapeaux ridicules ici et là, avec une présence d'esprit dont j'étais incapable.

La fanfare commença par l'hymne national. Le directeur parut sur l'estrade à côté d'un général en grand uniforme et à la tête des professeurs en robe. Je les reconnus tous; ils prirent place, selon leur rang, derrière le général: d'abord le sous-directeur, puis les professeurs dès hautes classes; puis le professeur de chant, le maître d'écriture, le sergent, professeur de gymnastique. Enfin les discours commencèrent. Oh! souvenir d'enfance, journée mémorable!

Questions:—

(1.) Quelle cérémonie est décrite?

(2.) Pourquoi, quand et où a-t-elle lieu?

(3.) Qu'est-ce qui causait de l'émotion au garçon?

(4.) Que faisait son compagnon au lieu de trembler?

(5.) Quels personnages sont présents? nommez-en d'autres qui sont là parfois; où prennent-ils place?

(6.) Quelle sorte de musique est présente et que joue-t-on certainement?

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GEOMETRY. (Time, 2½ hours.)

[N.B.—*Draw neat diagrams; use printed capitals. Cite authorities by number or by enunciation.*]

**14** 1. The angle at the centre of a circle is double the angle at the circumference on the same arc.

**14** 2. If two triangles have one angle of the one equal to one angle of the other and the sides about these equal angles proportional, the triangles are similar.

**14** 3. To draw a triangle equal in area to a given quadrilateral.

4. Make accurate constructions in (*a*) and (*b*) of the following, showing all necessary construction lines:—

**3** (*a*.) Construct a triangle ABC having sides 2, 2½, and 3 in. (No explanations are required.)

**5** (*b*.) In a circle of radius 1½ in. inscribe a triangle equiangular to ABC. (No explanations are required.)

**8** (*c*.) Give the proof for the construction in (*b*).

Value.

5. In the triangle ABC, AB=60, BC=50, CA=30.

**6** (*a.*) If the interior and exterior vertical angles at B are bisected by lines which cut AC and AC produced, compute the lengths of the segments into which these lines divide the base.

**5** (*b.*) Compute the projection of BC upon AC and of AB upon AC.

**3** (*c.*) If another triangle DEF is similar to this triangle ABC and if DF, the side corresponding to AC, is 40, compare the areas of ABC and DEF.

**14** 6. In the isosceles triangle ABC having AB=AC, X is any point in AB and Y is taken in AC so that XY is parallel to BC. Prove: $BY^2=CY^2+BC.XY$.

**14** 7. Two circles touch internally at A. A chord BC of the larger circle touches the smaller circle at D. Prove that AB : AC=BD : DC.

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GERMAN GRAMMAR. (Time, 2 hours.)

**8** 1. Write answers to the following questions in German, using in each case a suitable preposition and in no case repeating a preposition :—

(1.) Wohin geht er ?
(2.) Wo liegt das Buch ?
(3.) Wo hängt das Bild ?
(4.) Womit zerſchneiden Sie das Fleiſch ?
(5.) Wie lange bleibt er hier ?
(6.) Wann iſt er gekommen ?
(7.) Für wen arbeitet er ?
(8.) Wodurch ſieht man hinaus ?

**5** 2. Use in simple sentences the genitive singular of: Satz, Knabe, Herz; and the nominative plural of: Wort and Ohr.

**20** 3. (*a.*) Rewrite in the present and perfect tenses :—

(1.) Er lief hinaus.
(2.) Er half mir.
(3.) Er ſprach laut.
(4.) Er fuhr bald ab.
(5.) Er verließ das Zimmer.

(*b.*) Rewrite in the imperfect :—

(1.) Er iſt müde geworden.
(2.) Du haſt es gebracht.
(3.) Sie hat es mitgenommen.
(4.) Wir haben darum gebeten.
(5.) Habt ihr euch ausgezogen ?

(*c.*) Write (*b*) (1) in the future, (*b*) (2) in the future-perfect, and all the imperative forms of: bald abfahren and die Kreide aufheben.

**10** 4. Fill in the correct endings, insert articles or adjectives where necessary, then rewrite in the plural :—

—beſt—Schüler in unſer—deutſch—Klaße iſt—klein—Junge, der mit ſein—jünger—Bruder bei—alt—Onkel wohnt. Jed—neu—Wort und jed—lang—Aufgabe ſchreibt er in—groß—Heft und er lieſt mit gut—Ausſprache—ſchwerſt—Satz im deutſch—Leſebuch.

Value.

**10** 5. Put into German :—

(1.) His older brother prefers to play tennis.

(2.) The most beautiful books cost the most.

(3.) Which house do you like best?

(4.) This boy is not as old as that one.

(5.) The days are longer in summer than in winter.

**5** 6. (*a.*) Combine the following sentences by means of a relative pronoun :—

(1.) Dieſe Feder hat keine Tinte darin. Ich ſchreibe damit.

(2.) Der Mann iſt krank. Ich habe ihn geſtern beſucht.

(3.) Mein Freund iſt nach Hauſe gegangen. Seine Mutter iſt krank.

(*b.*) Rewrite as an indirect question : Will er es tun ? (Wiſſen Sie ?)

(*c.*) Combine the following sentences by means of a conjunction : Sie gingen ins Theater. Sie wollten das Stück ſehen.

**15** 7. Put into German :—

(1.) Which one is your brother? He is the smaller one ; the other one is our cousin.

(2.) Whose hat has he? It is mine ; he could not find his.

(3.) Please give her one of your pens ; she has lost hers.

(4.) There were good ones and bad ones among them.

(5.) The most interesting thing we saw was the Hamburg harbour.

**15** 8. Put into German :—

(1.) He knows that he can do it if he wants to.

(2.) I thought that he had to go to school.

(3.) He gets up every morning at half past seven and eats his breakfast at a quarter past eight.

(4.) Goethe died on the 22nd of March, 1832. (In full.)

(5.) How are you to-day? Better, I hope, than yesterday?

**12** 9. Put into German :—

Once there was a little girl who did not like to wash her hands. Her mother did not want to see her at the table with such dirty* hands and one day she said to her : "You cannot sit down with me if you do not wash your hands. Have you ever seen me with such dirty hands?" "No," answered the child, "but I never knew you when you were five years old."

* ſchmutzig.

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**German Translation. (Time, 2 hours.)**

**60** 1. Put into English :—

(1.) Daß der nichtsnutzige Hecht mich erwiſcht hat, war auch nur wegen meiner Unachtſamkeit ; ich war ſo ſehr in die Pracht der Morgenröte vertieft, daß ich ſonſt nichts hörte noch ſah und ſogar vergaß, daß die Sonne mit ihren töblichen Strahlen gleich heraufkommen mußte ; und da wäre ich unheilbar krank geworden. So war's noch ein Glück, daß der Hecht mich verſchluckte, und ich ſollte ihm eigentlich dankbar ſein ; nur daß er's nicht mir zuliebe getan hat, ſondern weil das dumme

Value.

Vieh nicht wußte, daß unsereins unverdaulich ist, selbst für einen Haifisch.

(2.) Bald darauf trat auch schon ein Käufer ein, und weil ihm die Schuhe so gut gefielen, bezahlte er mehr als gewöhnlich dafür, und der Schuster konnte von dem Geld Leder zu zwei Paar Schuhen kaufen. Er schnitt sie abends zu und wollte den nächsten Morgen mit frischem Mut an die Arbeit gehen. Aber er brauchte es nicht, denn als er aufstand, waren sie schon fertig, und die Käufer blieben auch nicht aus; diese gaben ihm so viel Geld, daß er Leder zu vier Paar Schuhen einkaufen konnte.

(3.) Der Hansel seinerseits fraß aber tapfer; und als er satt war, tat's ihm leid, so fett und milchig war das zarte Gras. Endlich kommt ihm der Schlaf; also legt er sich bei den runden Buchen hin und ruht vier Stunden. Plötzlich weckt ihn ein Jägerhorn, da war es Tag, und die Sonne stand hell nnd klar am Himmel. Er springt auf, sieht seinen Schatten auf dem grünen Rasen, verwundert sich und spricht: „Ei, was bin ich für ein schmucker Kerl geworden, so glatt und sauber!"

(4.) Mein Stammbaum reicht bis in Noahs Arche zurück, Bileams Esel, und der Esel, mit dessen Kinnbacken Simson zweitausend Philister erschlug, sind meine Ahnherren. Daß es einer meiner Vorfahren war, der als Weltweiser zwischen zwei Heubündeln starb, sei nur beiläufig erwähnt, auch bei den Verdiensten meines hochstrebenden Vorfahren, welcher die Seitenlinie der Maulesel gründete, will ich mich nicht aufhalten. Meine Eltern waren Klosterleute und trugen fromme Mönche auf ihre Bettelfahrten.

(5.) Dann blickt' er zu den Faulen hin,
Wie Donner klang sein Tadel:
„Ihr Taugenichtse, bessert euch;
Ihr schändet euren Adel!
Ihr seidnen Püppchen, die ihr trotze
Auf euer Milchgesicht;
Ich frage nach des Manns Verdienst,
Nach seinem Namen nicht!"

(6.) Der erste Hohenstaufen, der König Konrad, lag
Mit Heeresmacht vor Winsperg seit manchem langen Tag;
Der Welfe war geschlagen, noch wehrte sich das Nest,
Die unverzagten Städter, die hielten es noch fest.

Der Hunger kam, der Hunger! das ist ein scharfer Dorn;
Nun suchten sie die Gnade, nun fanden sie den Zorn.
„Ihr habt mir hier erschlagen gar manchen Degen wert,
Und öffnet ihr die Tore, so trifft euch doch das Schwert."

10 2. Translate at sight:—

Eine alte Dame fuhr in der elektrischen Straßenbahn und hatte auch für ihren geliebten Hund eine Fahrkarte bezahlt. Der Wagen wurd immer voller und die Leute fingen an, sich über den Hund zu beklagen. Die Dame sagte: „Nun, ich habe eine Fahrkarte für meinen Hund bezahlt und so

Value.

hat er auch das Recht auf einen Sitzplatz." „Gewiß," sagte der Schnaffner lachend, „aber nur, wenn er die Regeln befolgt und die Sitzkissen nicht mit den Füßen berührt."

15 3. Put into German :—

A tailor once had a goat which gave good milk. His three sons, one after the other, had to take it to pasture.* One evening, after the oldest son had brought the goat home, the father asked the animal if it had had enough to eat. The goat was wicked and said no, whereupon the father got angry and chased his son out of the house. So it went with the second son and the third one, till finally the tailor was left alone with his goat.

* die Weide.

15 4. Write in German a description of a family dinner. (About half a page.)

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GREEK. (Time, 2 hours.)

10 1. Decline *τριήρης, ἐγώ.*

10 2. Decline *εὐδαίμων, τίς.*

5 3. Write the imperfect active indicative third singular of *ἄγω, τιμάω*; the pluperfect passive indicative third plural of *ποιέω, τάττω.*

10 4. Write the third singular active and middle of the present of *ποιέω*, indicative, subjunctive, optative, and imperative.

5 5. Put accents on the following: *ὑπο των γεφυρων εστι πλοια τε και ποταμος.*

10 6. Write the Greek for *beside a sling, by means of this bow, upon the earth, through the plain, around the house, instead of a brother, by all the exiles, under his hand.*

10 7. Write the principal parts of *διδάσκω, λαμβάνω, εἰμί, λείπω, ἐπισιτίζομαι, ἀκούω, φεύγω, τάττω, χράομαι, καλέω.*

20 8. Translate:—

(*a*) *οἱ Ἕλληνες τοὺς στρατηγοὺς μισθὸν ἑπτὰ μηνῶν ἀπῄτησαν.*

(*b.*) *ἐὰν δὲ τούτῳ τῷ ὀνόματι μὴ χρήσηται, πῶς οἱ βάρβαροι ἡμᾶς ἀδικήσουσιν;*

(*c.*) *ἐκείνῃ γὰρ τῇ νυκτὶ αὐτὸς ὁ ἄγγελος ἦκεν.*

(*d.*) *ἐπεμελεῖτο οὖν ὅπως πλήρεις οἴνου καὶ σίτου ἔσονται πᾶσαι αἱ ἅμαξαι.*

(*e.*) *εἶτα τὸ αὐτὸ ἠρωτῶμεν τοὺς κλῶπας· οἱ δὲ ἔλεγον τάδε.*

Explain the case of *μισθόν, μηνῶν, ὀνόματι, νυκτί, οἴνου*; the mood of *χρήσηται, ἔσονται.*

20 9. Translate into Greek:—

(*a.*) During this month my father's horses won (*νικάω*) two victories.

(*b.*) And so let us not annoy our guests.

(*c.*) If you had not said this, we would have trusted you.

(*d.*) We feared that they would send for these men.

HISTORY. (Time, 2 hours.)

[*Answer any* four *questions, of which* question 9 *must be one.*]

Value.

25 1. "Before the French Revolution the government of France was despotic and inefficient." Discuss this statement.

25 2. (*a.*) Why did the French people gladly accept Napoleon as a dictator?
(*b.*) Estimate his influence upon Germany.

25 3. (*a.*) Describe the character and theories of Metternich.
(*b.*) Discuss as proofs of reaction between 1815 and 1848:—
(1.) The Holy Alliance.
(2.) The Karlsbad Decrees of 1819.
(3.) The July Ordinances of 1830.

25 4. (*a.*) What is meant by the Industrial Revolution?
(*b.*) Discuss its effect upon:—
(1.) Transportation.
(2.) The English town.
(3.) The relations of employer and worker.

25 5. Account for the failures of the Revolutions of 1848 in Italy and Germany and for the rise of the Second Empire in France.

25 6. (*a.*) Outline the causes and results of the Great Reform Bill of 1832.
(*b.*) How did the Parliament Act of 1911 definitely confirm the supremacy of the House of Commons over the House of Lords?

25 7. (*a.*) Define and give one example each of:—
(1.) Dominions.
(2.) Crown Colonies.
(3.) Mandated Territories.
(*b.*) Why does India offer Britain a special problem in Government?

25 8. Write brief notes upon the following:—
(*a.*) The Paris Commune.
(*b.*) The Separation of Church and State in France.
(*c.*) Alsace-Lorraine.
(*d.*) The Emancipation of the Russian serf.
(*e.*) The Russian Duma.

25 9. (*a.*) Account for the creation of the League of Nations.
(*b.*) Do you think it has justified its existence? Give reasons for your answer.

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LATIN AUTHORS AND SIGHT TRANSLATION. (Time, 2½ hours.)

A. CAESAR, DE BELLO GALLICO, BOOKS IV. AND V.

1. Translate:—

5 Quibus *auditis*, liberaliter *pollicitus*, hortatusque, ut in ea sententia *permanerent*, eos domum remittit; et cum iis una Commium, *quem* ipse Atrebatibus superatis regem ibi constituerat, cujus et virtutem et consilium probabat, et quem sibi fidelem arbitrabatur, cujusque auctoritas *in his regionibus magni* habebatur, mittit.

Value.

3 (*a.*) *auditis, pollicitus.* What construction is used in each case? Why?

3 (*b.*) Account for the case of *quem, magni;* the mood of *permanerent.*

1 (*c.*) *in his regionibus.* On the mainland or in Britain? Justify your answer.

2. Translate:—

10 Sed posteaquam nonnulli principes ex ea civitate, et familiaritate Cingetorigis adducti, et adventu nostri exercitus perterriti, ad Caesarem venerunt, et de *suis* privatim rebus ab *eo* petere coeperunt, quoniam civitati consulere non *possent*, veritus, ne ab omnibus *desereretur*, Indutiomarus legatos ad Caesarem mittit: *Sese* idcirco ab suis discedere atque ad *eum* venire noluisse, *quo* facilius civitatem in officio *contineret*, ne omnis nobilitatis discessu plebs propter imprudentiam *laberetur.*

2 (*a.*) To whom do the pronouns *suis, eo, sese, eum* refer?

4 (*b.*) Account for the mood of *possent, desereretur, contineret, laberetur.*

1 (*c.*) *quo.* Why not *ut?*

3. Translate:—

5 Ipse, etsi res erat multae operae ac *laboris*, tamen commodissimum esse statuit, omnes *naves* subduci et cum castris una munitione conjungi. In his rebus circiter dies decem consumit, ne nocturnis quidem temporibus ad laborem militum intermissis.

2 (*a.*) Account for the case of *laboris, naves.*

B. Virgil, Selections.

4. Translate:—

3 tunc etiam fatis aperit *Cassandra* futuris
ora, *dei* iussu non umquam *credita Teucris.*
nos delubra deum miseri, quibus ultimus *esset*
ille dies, festa velamus fronde per urbem.

2 (*a.*) What do you know of Cassandra? Who is meant by *dei?*

2 (*b.*) What is unusual about the construction of *credita, Teucris?*

1 (*c.*) *esset.* There are two possible explanations of the subjunctive. What are they?

1 (*d.*) Scan the last line.

5. Translate:—

4 ipsum autem sumptis Priamum iuvenalibus armis
ut vidit, 'Quae mens tam dira, miserrime coniunx,
impulit his *cingi* telis? aut quo ruis?' inquit,
'non tali *auxilio* nec defensoribus istis
tempus eget; non, si ipse meus nunc *afforet* Hector.'

2 (*a.*) Account for the case of *auxilio;* the mood of *afforet.*

1 (*b.*) Remark upon the use of *cingi.*

6. Translate:—

4 'Di *maris* et terrae tempestatumque potentes,
ferte viam vento facilem et spirate secundi.'
Crebrescunt optatae aurae, portusque patescit
iam propior, templumque apparet in arce Minervae.
vela legunt socii, et proras ad litora torquent.

1 (*a.*) Explain the case of *maris.*

2 (*b.*) What point has Aeneas now reached in his wanderings? Trace *briefly* his route thus far.

1 (*c.*) In what age are the events of the Aeneid set?

Value.

7. Translate:—

**4**

'Tantane vos *generis* tenuit fiducia vestri?
iam caelum terramque meo sine numine, venti,
miscere, et tantas audetis tollere moles?
quos ego—: sed motos praestat componere fluctus.
post mihi non simili *poena commissa* luetis.

**1** (*a.*) Account for the case of *generis*.

**1** (*b.*) How do you know whether *commissa* agrees with *poena* or not?

**1** (*c.*) Scan the third line.

C. Sight Translation.

**33** 8. Translate at sight:—

Inde autem Marcius motis castris exercitum Volscorum duxit Bolas, urbem tum nobilem et rei militaris scientia nulli Latinae gentis populo secundam. Cum autem oppidani eum non recepissent sed se quam fortissime defendere constituissent, is suos ad acriter dimicandum cohortatus, iis qui primi in muros ascendissent maxima praemia pollicitus suis imperavit ut statim muros adorirentur. Bolani autem tam fortes erant ut non modo hostes moenibus appropinquantes repellerent sed etiam portis apertis eruptione facta hostes per declivia loca vi depulerint. Ibi maxima erat Volscorum caedes, minimamque urbis expugnandae spem omnes habebant. Sed Marcius eis quos laborantes perspexerat subsidia submittebat itaque efficiebat ne interfectorum absentia cognosceretur. Virtutem eorum qui premebantur confirmabat nec verbis solum sed etiam factis, exemploque suo suos ad fortitudinem impellebat.

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Latin Grammar and Composition. (Time, 2 hours.)

**15** 1. Write:—

(*a.*) the accusative singular of:—
*ager utilis* .....
*fructus felix* .....

(*b.*) the ablative singular of:—
*illud flumen* .....
*pedes noster* .....

(*c.*) the genitive plural of:—
*nubes maxima* .....
*latior lacus* .....
*idem tempus* .....

(*d.*) the accusative plural of:—
*vulnus grave* .....
*quod iter* .....

(*e.*) the dative singular of:—
*alter filius* .....
*hoc agmen* .....

(*f.*) the ablative singular of:—
*Caesar* .....
*ego* .....

**14** 2. Translate into English:—

(*a.*) Sibi quemque consulere iussit.

(*b.*) Adorimini agmen novissimum.

(*c.*) Si hoc fiat, spes fugae tollatur.

(*d.*) Visne adesse?

(*e.*) Dixit obsides qui accepti essent, redditos esse.

Value.

(*f.*) Vobis possumus utiles esse amici.

(*g.*) Quaeramus qua de causa se abdiderint.

**15** 3. Write:—

(*a.*) the first singular present subjunctive active of:—

*sum* .....

*volo* .....

*fero* .....

*mitto* .....

(*b.*) the third plural imperfect subjunctive of:—

*possum* .....

*nolo* .....

*abeo* .....

*morior* .....

(*c.*) the second singular present indicative of:—

*fero* (active and passive) .....

*malo* .....

*capio* (active and passive) .....

(*d.*) the third singular future indicative of:—

*volo* .....

*proficiscor* .....

*mitto* (active) .....

*exeo* .....

*audeo* .....

*fio* .....

(*e.*) the singular present imperative passive of:—

*impono* .....

*audio* .....

(*f.*) the first singular perfect indicative active of:—

*augeo* .....

*reperio* .....

*video* .....

*moveo* .....

*pello* .....

*cogo* .....

*pono* .....

*trado* .....

*audeo* .....

4. Translate into Latin:—

**5** (*a.*) He summons the tribunes and centurions in order to explain what must be done.

**5** (*b.*) So great a storm suddenly arose that all the ships were carried back to Gaul.

**5** (*c.*) When he ordered all the chief men to come to him they did not obey.

**5** (*d.*) He asked me with whom I wished to confer.

**5** (*e.*) Do you believe that they will do what they have promised?

**6** (*f.*) On the same day we were informed that the cavalry of the enemy were attempting to cross the river.

**5** (*g.*) They promised that they would always be faithful to us.

**5** (*h.*) Which part of the village is Caesar going to grant to us?

**5** (*i.*) The soldiers who had been left as a garrison for the camp came to the assistance of their fellows.

**5** (*j.*) If they had not done this, we should have been able to resist their attack.

**5** (*k.*) Fearing a scarcity of grain, he resolved not to advance any further.

PHYSICS. (Time, 2½ hours.)

[*The last question and* any other seven *constitute a full paper.*]

Value.

**12** 1. (*a.*) The least force required to drag a mass of 300 pounds up a frictionless inclined plane, of sloping length 12 feet, is 200 pounds. Calculate the height of the plane.

(*b.*) A uniform wooden rod 5 cm. square and 30 cm. long is loaded so that it floats upright in water with 20 cm. below the surface. Find the weight of the rod. If the rod were placed in alcohol, of specific gravity 0.8, what length of the rod would be below the surface?

**12** 2. (*a.*) The volume of a certain mass of gas is 500 c.c. at a temperature of 27° C. and a pressure of 300 grams per square cm. What is its volume at a temperature of 7° C. and a pressure of 600 grams per square cm.?

(*b.*) Define the following terms: coefficient of linear expansion, relative humidity, absolute zero.

**12** 3. (*a.*) If 100 grams of steam at 100° C. are passed into 2,000 grams of water at 20° C., what will be the final temperature of the mixture? Show how, in the actual experiment, you would make allowance for the heat gained by the calorimeter.

(*b.*) Describe, by reference to a simple diagram, how Joule determined the mechanical equivalent of heat.

**12** 4. (*a.*) At a time when the velocity of sound in air is 1,100 feet per second an air column, open at both ends, and 12 inches long, is found to be the shortest that is in resonance with a certain tuning-fork. What is the frequency of the fork and the length of the shortest closed pipe that would respond to the same fork under the same conditions?

(*b.*) Name the three principal distinguishing features of musical sounds. Discuss any one of them as completely as possible.

**12** 5. (*a.*) An object is placed 20 cm. from a concave mirror of focal length 30 cm. Calculate the position of the image. What kind of image is it? Draw the usual diagram.

(*b.*) Explain clearly by reference to a drawing why a straight stick when held obliquely appears to be bent at the point where it enters water.

**12** 6. (*a.*) Distinguish between *illuminating power* and *intensity of illumination.*

(*b.*) Describe the magnetic field of the earth, paying special attention to the position of the north magnetic pole, magnetic declination, and magnetic inclination.

**12** 7. (*a.*) The index of refraction from air to water is 4/3 and from air to crown glass 3/2. If the velocity of light in crown glass is 124,000 miles per second, find the velocity in air and the index of refraction from water to crown glass.

(*b.*) Describe in terms of the electron theory how to charge an insulated conductor by induction. Illustrate the answer by diagrams.

**12** 8. Answer part (*a*) and either (*b*) or (*c*).

(*a.*) Make a diagram showing the essential parts and electrical connections in the induction coil.

(*b.*) Find the power necessary to run an electric light installation which takes 74.6 amperes at 110 volts (1) in k.w., (2) in h.p.

(*c.*) If the E.M.F. of a cell is 1.75 volts, and its resistance is 3 ohms, find the internal drop in potential when the circuit is closed by a wire of resistance 4 ohms.

Value.
**16** 9. (*a.*) A body is projected vertically upward with an initial velocity of 160 feet per second. Neglecting air friction, calculate the height the body reaches.

(*b.*) Draw a diagram of a combination of pulleys having a mechanical advantage of six.

(*c.*) A force of 10 dynes acts on a body, which is free to move, for 1 minute, and produces a velocity of 120 cm. per second from rest. What is the mass of the body?

(*d.*) Find the effective horse-power required to lift 33 tons of coal (2,000 pounds each) in 2 hours from a mine 200 feet deep.

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## Grade XI., Normal Entrance.

GEOGRAPHY. (Time, 2 hours.)

[*Questions are of equal value. Answer* five *only.*]

1. (*a.*) What fixes the position of the *Tropic of Cancer?* Give the approximate location of this tropic in the continents which it crosses. How far is this tropic from the *Antarctic Circle?*

(*b.*) Trace the course of each of the principal *ocean currents* in the North Atlantic Ocean.

(*c.*) How do plains originate? Give examples in North America.

2. (*a.*) Rewrite the following and fill in each blank with the name of the proper *cereal:*—

..... leads the world in the quantity of production and ..... leads in the value of production. The largest crop grown in Canada is..... and the chief cereal of Central Russia is..... The production of ..... requires cheap labour and ..... has the widest climatic range of production.

(*b.*) Describe clearly the conditions which are most favourable for the growing of *tea* and *cotton.*

(*c.*) Describe the method of manufacturing *raw sugar* from sugar-cane.

(*d.*) From what is each of the following products obtained and where is the chief producing region: *sago, mohair, vanilla, plantains, raw silk?*

3. (*a.*) Rewrite the following and fill in the blanks:—

Canada is larger than the continent of ..... and almost as large as the continent of..... The ..... is the most important river emptying into the Hudson Bay and it drains....., into which flow the ....., ....., and ..... rivers.

(*b.*) What factors have combined to make the prairie provinces one of the greatest wheat-producing regions in the world? What causes the greatest damage to wheat crops in these provinces?

(*c.*) Locate definitely *three* hydro-electric power sites in the St. Lawrence River drainage-basin. What manufacturing industry is carried on at each of these points?

(*d.*) What districts in Nova Scotia are associated with apple-growing and coal-mining?

4. (*a.*) Name the two western points from which Canadian National trains begin east-bound journeys. Trace the route of each line to the first large city east of British Columbia. Name the river valleys followed and one outstanding scenic feature along each line. What important products are shipped by rail *to* and *from* each terminus?

(*b.*) Locate a British Columbia manufacturing centre for each of the following products: *lead-pipe, cordage, newsprint, cement.*

(*c.*) Locate a point of historic interest on the west coast of Vancouver Island and explain its association.

5. (*a.*) Name and locate the principal mountains which form the *highlands* of Southern Europe. Name two rivers which cross these highlands through gaps. Where does each of these rivers rise and empty? What are the prevailing agricultural activities of the two river valleys? Name and locate the important seaport associated with each river.

   (*b.*) What are the chief minerals of England and France? In each country locate the productive fields and an industrial centre associated with each.

6. (*a.*) Describe the *Plain of India*, which lies between the Himalayas and the Deccan Plateau, under the following headings: *drainage, soil, climate, agriculture.*

   (*b.*) Name *two* islands of the Malay Archipelago which belong to Holland and name two important products from these islands.

   (*c.*) Describe the climate of South Africa and show clearly its influence on agriculture and population.

7. (*a.*) Locate the leading producing region in the United States for each of the following: *iron ore, rice, wheat, pineapples, tobacco, oil, corn, copper, hogs,* and *anthracite.*

   (*b.*) Describe the influence of winds and mountains on the *climate* and *vegetation* of the basin of the Orinoco.

   (*c.*) Explain why "The climate of Australia is a serious hindrance to its development."

## Grade XII., Senior Matriculation.

ALGEBRA. (Time, 3 hours.)

Value.

12 1. (*a.*) Solve the equation $\frac{\sqrt{(x+2)}+\sqrt{x}}{\sqrt{(x+2)}-\sqrt{x}}=\frac{7}{3}$.

(*b.*) If $\frac{2y+2z-x}{a}=\frac{2z+2x-y}{b}=\frac{2x+2y-z}{c}$,

prove that $\frac{x}{2b+2c-a}=\frac{y}{2c+2a-b}=\frac{z}{2a+2b-c}$.

12 2. (*a.*) Sum to $2n$ terms: $a+3$, $3a-6$, $5a+12$, . . .

(*b.*) Show that the conditions that $a$, $b$, $c$ may be in A.P., G.P., or H.P. are—

$a-b : b-c = a : a$,
$a-b : b-c = a : b$,
$a-b : b-c = a : c$, respectively.

12 3. For stones of the same quality the value of a ruby is proportional to the square of its weight. Find the loss incurred by cutting a ruby worth $800 into two pieces whose weights are in the ratio 2 : 3.

12 4. (*a.*) If one root of $x^2+ax+3=0$ is the square of the other, find $a$.

(*b.*) The roots of $px^2+x+r=0$ are imaginary. What can you say about the roots of $x^2+2x-pr=0$?

14 5. (*a.*) Find the 12th term of $(x-x^{-1})^{16}$.

(*b.*) Write the first four terms of $(2-x)^{-\frac{1}{2}}$.

(*c.*) Prove that the sum of the coefficients in the expansion of $(4x-3y)^n$ is independent of $n$.

12 6. (*a.*) If ${}_{20}C_{2r-3}={}_{20}C_{3r-2}$, find $r$.

(*b.*) Eight carpets are to be placed in eight rooms, one in each. Five of the carpets are too large for three of the rooms. Find the number of possible arrangements.

12 7. Find the present value of an annuity of $800 payable at the end of each year for 15 years, money being worth 5%.

$(1.05)^{15}=2.07893$

$(1.05)^{-15}=.48102$.

14 8. Solve the equations:—

(*a.*) $x^2+yz=44$, $xy+xz=36$, $x+y+z=15$.

(*b.*) $\left\{(a-x)^{\frac{3}{2}}+(x-b)^{\frac{3}{2}}\right\}\left\{(a-x)^{\frac{1}{2}}+(x-b)^{\frac{1}{2}}\right\}=(a-b)^2$.

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BIOLOGY. (Time, 3 hours.)

[*Questions are of equal value. Answer* five *only.*]

1. Describe the cellular structure of a leaf. What special work is performed by each cell? How is its structure modified in relation to its use? Make drawings to illustrate.

2. Give an account of anabolism under the headings: digestion of foods; absorption of foods. Give examples.

3. Summarize Mendel's Law and illustrate by describing inheritance in the garden pea.

4. Compare the life-histories of a Moss and of a Cœlenterate (jelly fish, hydroid). Explain alternation of generations.

5. Describe the digestive, breathing, circulatory, and muscular organs of the clam. Illustrate with drawings. Compare these organs with the analogous structures in man.

6. Rewrite the following, supply the missing words and *underline* each:—

Animals and plants have many common characters. Both are composed of....., which physically has the structure of a ....., in which ..... is the continuous phase and ....., ....., and ..... form the dispersed phases. Both are sensitive; that is, they have the power of ..... to a ..... Growth is dependent upon the building-up process ....., while the necessary energy is provided by....., whereby organic substances are broken down to the inorganic.

There is no one character which will distinguish all plants from animals, but ordinarily animals .....their food, while plants ..... it from raw materials; plants contain green plastids, the ..... which are not present in animal cells except in the case of intermediate forms such as ..... Ordinarily, the cells of plants are surrounded by a ..... ..... in addition to the ..... ....., the latter only is found in animals.

Respiration takes place in ..... cells of the body; during this process.....is liberated and may be used in doing many kinds of work; the waste products of respiration involving proteins are....., ....., and .....

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CHEMISTRY. (Time, 3 hours.)

[*Questions are of equal value. Answer* ten *only. Atomic weights are given at the end of the paper.*]

1. How is ammonia manufactured from (*a*) coal, (*b*) nitrogen and hydrogen? Describe the manufacture of ice by means of liquid ammonia. What reaction takes place when ammonia is passed over hot magnesium?

2. Define atomic weight. From your definition how would you proceed to determine the atomic weight of an element?

3. State the general physical properties of metals and non-metals. What is the characteristic chemical behaviour of a metallic element and a non-metallic element? Illustrate your answer by describing the properties of calcium, aluminium, antimony, arsenic, and bromine. Some of these elements are semi-metallic; how do such elements behave?

4. Upon what basis are the metals arranged in the Electromotive Series? What valuable information is afforded by this arrangement? How would you arrange from simple displacement reactions the following non-metals in a similar E.M.F. series: chlorine, oxygen, bromine, sulphur, and iodine?

5. Summarize the different methods employed for the formation of salts, giving an illustration of each method.

6. Write a short account of the chemistry of (*a*) magnesium and (*b*) zinc, and their compounds. Give the methods of preparation of the elements from their ores and compare the properties of their respective hydroxides.

7. What will be the reaction to litmus of aqueous solutions of: (*a*) $CuSO_4$; (*b*) KCN; (*c*) $Na_2SO_4$; (*d*) $NaHCO_3$? Explain. Alum is sometimes used with sodium bicarbonate in baking-powder. Why should such a mixture give off carbon dioxide when wet?

8. Describe briefly the methods which are in use for determining the strength of an acid.

9. Calculate the volume occupied by 10 grams of oxygen at 20° C. and 750 mm. pressure when collected over water. The vapour pressure of water at 20° C. equals 17.4 mm. of mercury.

10. Copper sulphate forms three hydrates containing, respectively, 10.141, 25.294, and 36.073 per cent. of water of hydration. Show that these hydrates conform to the Law of Multiple Proportions.

11. Chlorine is passed into a hot solution of caustic potash. Calculate the weight of potassium chlorate formed by an excess of chlorine on a solution which contains 50 grams of KOH.

12. What weight of $BaCl_2$ is needed to precipitate completely the $SO_4$ from 30.5 c.c. of N/10 $H_2SO_4$?

Atomic weights: O=16, Cu=63.6, S=32, Cl=35.5, K=39, Ba=137.

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ENGLISH COMPOSITION. (Time, 3 hours.)

Value.

**20** 1. Improve each of the following sentences, and state clearly your reason for the changes which you make:—

(*a.*) It was impossible to get into the town without going through a deep canyon, and this was nearly impassable on account of a bad wagon road, but now there is a fine automobile road built by convict labour, and so access to the town is easy.

(*b.*) The shadow of enormous debts that hung over Abbotsford spurred him on.

(*c.*) Under these conditions, there is no time in which to plan selling campaigns; no time to look into the filing system and adjust it so that letters can be found when wanted; and we cannot find out if the employees are contented and working in harmony.

(*d.*) Men of distinction are conservative, and for that reason they instinctively select garments which are proper for the accompaniment of their dignity.

(*e.*) Placed as it was on the front page of the paper made the article even more conspicuous.

**10** 2. Write a well-constructed paragraph setting forth various ways in which the force, or emphasis, of one's writing may be weakened.

**15** 3. State your opinion as to the effectiveness of the following paragraph, basing your judgment upon unity and completeness of thought, method of development, coherence, and any other features that occur to you:—

We of the colleges must eradicate a curious notion which numbers of good people have about such ancient seats of learning as Harvard. To many ignorant outsiders, that name suggests little more than a sterilized conceit and incapacity for being pleased. In Edith Wyatt's exquisite book of Chicago sketches called "Every One his Own Way," there is a couple who stand for culture in the sense of exclusiveness, Richard Elliott and his feminine counterpart—feeble caricatures of mankind, unable to know any good thing when they see it, incapable of enjoyment unless a printed label gives them leave. Possibly this type of culture may exist near Cambridge and Boston, there may be specimens there, for priggishness is just like painter's colic or any other trade disease. But every good college makes its students immune against this malady, of which the microbe haunts the neighbourhood-printed pages. It does so by its general tone being too hearty for the microbe's life. Real culture lives by sympathies and admirations, not by dislikes and disdains —under all misleading wrappings it pounces unerringly upon the human core. If a college, through the inferior human influences that have grown regnant there, fails to catch the robuster tone, its failure is colossal, for its social function stops; democracy gives it a wide berth, turns toward it a deaf ear.

Value.

**55** 4. Draw up a plan, and write an expository essay of about 300 words on *one* of the following topics:—

(*a.*) The characteristics of a successful business man.

(*b.*) My interest in aeronautics *or* in the radio.

(*c.*) My opinion of the permanency of modern verse.

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ENGLISH LITERATURE. (Time, 3 hours.)

**14** 1. Name three qualities of good poetry. Quote a poem from the *Anthology of Modern Verse* in which these are illustrated. In about a page discuss the peculiar fitness of the passages that best illustrate these qualities.

**12** 2. In about two pages discuss the poetry of Walter de la Mare. Wherever possible, use quotations to illustrate your points.

**14** 3. Each of the following quotations expresses a feeling found in modern verse. Selecting any *one*, and using as illustrations other poems related in thought, write an essay of about three hundred words on the subject.

(*a.*) "I also love a quiet place
That's green, away from all mankind."

(*b.*) "Our dreams are tales
Told in dim Eden
By Eve's nightingales."

(*c.*) "And there's no end of voyaging when once the voice is heard,
For the river calls, and the road calls, and oh! the call of a bird!"

**11** 4. Contrast the characters of the brother and the sister in *Electra*. What is your reaction to their punishment at the end of the play?

**9** 5. Outline in some detail three ways in which the dramatic methods employed in *Julius Caesar* differ from those to be found in a Greek play.

**8** 6. Define dramatic irony, and show two effective instances of its use in *The School for Scandal*.

**8** 7. Suggest in what ways the dramatic effectiveness of *A Doll's House* is heightened by the presence of: (*a*) Dr. Rank; (*b*) Christina Linde.

**12** 8. Discuss *one* of the following:—

(*a.*) The characteristics of Poe as a short-story writer.

(*b.*) The single effect in "The Sire de Malétroit's Door."

**12** 9. Write a paragraph on each of *two* of the following:—

(*a.*) Setting in "On Greenhow Hill."

(*b.*) The pathos in "Rab and His Friends."

(*c.*) The elements that contribute to the suspense in "Wandering Willie's Tale."

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FRENCH LANGUAGE. (Time, 3 hours.)

[N.B.—*Lisez les questions avec soin. Soulignez les mots que vous changez ou ajoutez.*]

**30** 1. Traduction:—

(*a.*) I read every year some plays of Molière, for one needs to renew good impressions.

(*b.*) The fisherman is loitering along the embankment so that he can browse among books.

Value.

(*c.*) I hope he will do it without my telling him.

(*d.*) Would you like to come and see the carnival after buying flowers and confetti?

(*e.*) This poor tired soldier was wounded in the leg on the last day of last week.

**10** 2. Mettez les verbes en italique au temps convenable:—

(*a.*) Permettez qu'ils *s'en aller*, mesdames car je crois qu'ils sont *vaincre* par votre charme.

(*b.*) Elles se sont *blesser* la main sans que personne y *faire* attention.

(*c.*) J'ai *promettre* à un poète de faire valoir sa pièce.

(*d.*) On se demande si ce bel esprit *pouvoir* se faire comprendre demain.

(*e.*) Il y a longtemps que cet étudiant *concourir* pour entrer à l'Ecole Normale sans y être jamais *parvenir*.

(*f.*) La pièce qu'elle a *voir* jouer a beaucoup *plaire* au public.

**10** 3. (*a.*) Donnez l'équivalent des mots en italique à l'aide de synonymes, ou bien reconstruisez les phrases.

(1.) Le Parisien *fait ses délices* d'une heure passée *à sa guise* au café ou sur les boulevards.

(2.) Ce docteur *a beau* se laver les mains, *il lui faut* employer des méthodes aseptiques.

(3.) Je n'*entends* point que vous mettiez cette question *sur le tapis*.

(*b.*) Complétez les phrases suivantes (si vous les trouvez incomplètes).

(1.) L'élégance de nos voitures contribue —— entretenir notre bon renom.

(2.) C'est vraiment une photographie, —— on puisse être tenté —— croire le contraire.

(3.) Nous écoutons —— ce madrigal avec attention.

**10** 4. Employez le mot convenable selon le sens de la phrase.

(*a.*) rebuter, but, début.

Elle a fait un excellent —— car sa tante avait pour —— de la présenter à la cour et aucun obstacle ne l'aurait ——.

(*b.*) journal, journellement, journaliste, ajourner.

Cet admirable —— est bien connu dans le monde entier, car on lui rend visite —— et sa critique d'art n'est jamais —— quand elle doit paraître au —— quotidien.

(*c.*) passerelle, passage, passant.

Il y a beaucoup de petits —— obscurs dans cette maison, mais pas de —— pour traverser le ruisseau près de la route où l'on voit tant de —— chaque jour.

**15** 5. Traduisez chaque phrase en anglais et en français respectivement:—

(*a.*) Quel bon regard il a!—She has no regard for us.

(*b.*) Il ne m'attend jamais.—Kindly attend to me.

(*c.*) Son arme est tout à fait brisée.—He has a broken arm.

(*d.*) J'ai un long travail à faire.—They all love to travel.

(*e.*) Donnez moi la monnaie de dix francs.—Has that man much money?

**25** 6. (*a.*) Masculin de: *marraine, favorite, chiffonnière, provençale, danseuse, grecque.* Pluriel de: Son éventail est un chef-d'œuvre fait par un vieil artisan.

(*b.*) Remplacez les mots en italique par des pronoms personnels ou démonstratifs.

(1.) Quant à *ces ouvriers*, ils ont gagné beaucoup *d'argent*.

(2.) Nous n'avons jamais reçu *les visiteurs dans la salle basse*.

Value.

(3.) Veuillez donc parler à *nos amies.*

(4.) C'est en effet *la Tour Eiffel!* on propose de raconter *son histoire à ces enfants.*

(5.) Voilà *la danse* que je préfère pour *les paysans* du Midi.

(*c.*) Traduisez:—

Je viens d'arriver à l'instant.
D'où venez vous si tard?
Il vint à pleuvoir ce jour-là.
Que devenir dans ce désert! s'écrie-t-il.
Se souvenir du bien n'est que juste.

(*d.*) Donnez un bon équivalent anglais:—

un pont à dos d'âne.
une civilisation démodée.
conspuer l'autorité.
faire tout du même coup.
le machinisme à outrance.

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FRENCH LITERATURE. (Time, 3 hours.)

**20** 1. Commentez brièvement ce passage (en anglais) et expliquez les expressions en italique.

*Ne traduisez pas.*

Magdelon.—Nous avons été jusqu'ici dans *un jeûne effroyable de divertissements.*

Mascarille.—Je m'offre à vous mener l'un de ces jours *à la comédie,* si vous voulez; aussi bien on en doit jouer une nouvelle que je serais bien aise que nous voyions ensemble.

Magdelon.—Cela n'est pas de refus.

Mascarille.—Mais je vous demande d'applaudir comme il faut, quand nous serons là; car je me suis engagé *de faire valoir la pièce,* et l'auteur m'en est venu prier encore ce matin. C'est la coutume ici qu'à nous autres, *gens de condition,* les auteurs viennent lire leurs pièces nouvelles, pour nous engager à les trouver belles et leur donner de la réputation; et je vous laisse à penser si, quand nous disons quelque chose, *le parterre* ose nous contredire. Pour moi, j'y suis fort exact; et quand j'ai promis à quelque poète, je crie toujours: "Voilà qui est beau!" *devant que les chandelles soient allumées.*

**30** 2. Traitez en français l'*un* des sujets suivants:—

(*a.*) Décrire la première représentation des *Précieuses Ridicules*—organisation du théâtre—le public—la pièce.

(*b.*) Pourquoi les idées des précieuses sur le mariage semblaient-elles absurdes à Gorgibus?

**20** 3. Mettez les expressions suivantes en français moderne:—

(*a.*) Je ne voulais pas qu'elles sautassent du théâtre de Bourbon dans la Galerie du Palais.

(*b.*) Nous leur jouerons tous deux une pièce qui leur fera voir leur sottise.

(*c.*) J'ai mal au coeur à la seule vision que cela me fait.

(*d.*) Voilà un nécessaire qui demande si vous êtes en commodité d'être visibles.

(*e.*) Je m'en vais gagner au pied.

(*f.*) Tout ce que je fais a l'air cavalier.

(*g.*) Défaites-vous de ces noms étranges et nous appelez autrement.

(*h.*) On n'y dure point, on n'y tient pas.

Value.

(*i.*) Je m'inscris en faux contre vos paroles.

(*j.*) Il faut parler chrétien si vous voulez que je vous entende.

**10** 4. Traduisez:—

Les prières n'occupent pas, tout de même, les trois journées du pardon. On s'amuse aussi; on déjeune et l'on soupe et l'on dort en plein vent. On achète mille choses aux baraques; on apprend les nouvelles romances. Tous les promis et les promises, se tenant à la mode bretonne, par le petit doigt, parcourent la fête, perdus dans leurs causeries. Et d'innombrables mendiants, des infirmes, des estropiés, des "innocents" qui semblent sortir soudain de tous les gîtes de la misère, réclament, parfois âprement, le droit du pauvre, ce droit que la Bretagne mystique est toujours prête à reconnaître.

**20** 5. Traitez (en français) en une dizaine de lignes *deux* des sujets suivants:—

(*a.*) En bouquinant sur les quais.

(*b.*) L'Académie Française.

(*c.*) Le Carnaval.

(*d.*) Le fonctionnement d'un pont tournant.

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GEOMETRY. (Time, 3 hours.)

**14** 1. Find the equation of each of the following straight lines:—

(*a.*) Passing through the points $(-4, 2)$, $(6, 7)$.

(*b.*) Perpendicular to $3x-2y+7=0$ and cutting off an intercept $+4$ on OX.

(*c.*) Passing through the origin and dividing the line joining $(3, 4)$ to $(-4, -7)$ in the ratio 2 : 5.

**12** 2. (*a.*) Show how to reduce the equation $3x+4y+5=0$ to its normal form and show clearly in a diagram the two parameters which enter into this form.

(*b.*) How far apart are the parallel lines $3x+4y+5=0$, $3x+4y-7=0$?

**12** 3. (*a.*) Derive a formula which will determine the angle between two straight lines of slopes $m_1$ and $m_2$.

(*b.*) A $(3, 0)$ and B $(7, 0)$ are two points. P $(x, y)$ is a variable point moving in such a way that the angle APB is always 45°. Find analytically the equation of the locus of P.

**12** 4. A circle passes through the origin and the centre of the circle $2x^2+2y^2-12x+1=0$. Its radius is 3. Where is its centre?

**14** 5. (*a.*) Derive the equation of the tangent which touches the circle $x^2+y^2=a^2$ at the point $(x_1, y_1)$.

(*b.*) The circle $x^2+y^2=9$ has a tangent passing through the point $(-3\sqrt{2}, 0)$. What is the slope of the tangent and where does it meet the circle?

**12** 6. If a straight line meets the sides BC, CA, AB of a triangle ABC in D, E, F respectively, then BD.CE.AF=DC.EA.FB and conversely.

**12** 7. Show how to describe a pentagon whose area shall be $\frac{2}{5}$ of that of a given regular pentagon and which shall be similar to it.

**12** 8. Lines are drawn from a point A to touch a circle at B and D; from A a line is drawn to cut the circumference in C and E; join BC, CD, DE, EB, BD. Show that 2CD.BE=CE.BD.

HISTORY. (Time, 3 hours.)

[*Answer any* five *questions.*]

Value.

**20** 1. (*a.*) Why has the discovery of America been described as a "gradual process"?
(*b.*) Trace the chief steps in that process.

**20** 2. (*a.*) Outline what you consider to be the chief features of the Spanish Colonial System.
(*b.*) Can Spain be said to have failed in the New World?

**20** 3. "The centre of the economic system in New France was the traffic in furs." Discuss this statement, noting in your answer the effect upon New France of this condition.

**20** 4. Compare and contrast Champlain and Frontenac as governors, soldiers, and explorers.

**20** 5. (*a.*) What was La Salle's dream of a Western Empire?
(*b.*) Why did the French fail to achieve it?

**20** 6. Write brief explanatory notes on:—
(*a.*) The Expulsion of the Acadians.
(*b.*) The Proclamation of 1763.
(*c.*) The United Empire Loyalists.
(*d.*) Sir Alexander Mackenzie.
(*e.*) The Northwest Company.

**20** 7. (*a.*) Account for the outbreak of rebellion in 1837 in Upper and Lower Canada.
(*b.*) Why were there no rebellions in the Maritime Provinces?

**20** 8. Estimate the parts played in making Confederation possible by:—
(*a.*) Sir John A. Macdonald.
(*b.*) The Honourable George Brown.
(*c.*) Sir George Cartier.
(*d.*) Sir Charles Tupper.
(*e.*) The Honourable Thomas D'Arcy Magee.

**20** 9. Describe the influence on the growth of Western Canada of (*a*) Lord Selkirk, (*b*) Sir James Douglas, and (*c*) the Canadian Pacific Railway.

**20** 10. (*a.*) Outline the policy of Sir Wilfrid Laurier and Sir Robert Borden at the Imperial Conferences.
(*b.*) In how far may the Imperial Conference of 1926 be said to have completed their work?

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LATIN AUTHORS. (Time, 3 hours.)

**15** 1. Translate:—

Genus est eius belli 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 causa et rei publicae consulendum.

Value.

(*a.*) Explain the mood of *debeat;* the case of *ipsorum.* Why is *a vobis* used instead of the dative with *consulendum?*

(*b.*) Show from its derivation the meaning of *requiretis.*

(*c.*) What would *vectigalia* mean to a Roman?

(*d.*) Before whom was this address delivered?

**15** 2. Translate:—

Requiretur fortasse nunc quem ad modum, cum haec ita sint, reliquum possit magnum esse bellum. Cognoscite, Quirites; non enim hoc sine causa quaeri videtur. Primum ex suo regno sic Mithridates profugit ut ex eodem Ponto Medea illa quondam fugisse dicitur, quam praedicant in fuga fratris sui membra in eis locis qua se parens persequeretur dissipavisse, ut eorum conlectio dispersa maerorque patrius celeritatem consequendi retardaret. Sic Mithridates fugiens maximam vim auri atque argenti pulcherrimarumque rerum omnium quas et a maioribus acceperat et ipse bello superiore ex tota Asia direptas in suum regnum congesserat in Ponto omnem reliquit. Haec dum nostri conligunt omnia diligentius, rex ipse e manibus effugit. Ita illum in persequendi studio maeror, hos laetitia tardavit.

(*a.*) Explain the case of *magnum, hoc, bello;* the reference in *Medea, illum, hos;* the antecedent of *se.*

(*b.*) Where was *Pontus, Sinope, Cyzicus?*

**15** 3. Translate:—

Bono te animo tum, Q. Hortensi, populus Romanus et ceteros qui erant in eadem sententia dicere existimavit et ea quae sentiebatis; sed tamen in salute communi idem populus Romanus dolori suo maluit quam auctoritati vestrae obtemperare. Itaque una lex, unus vir, unus annus non modo vos illa miseria ac turpitudine liberavit sed etiam effecit ut aliquando vere videremini omnibus gentibus ac nationibus terra marique imperare. Quo mihi etiam indignius videtur obtrectatum esse adhuc, Gabinio dicam anne Pompeio an utrique, id quod est verius, ne legaretur A. Gabinius Cn. Pompeio expetenti ac postulanti.

(*a.*) Explain the case of *animo, terra mariquc;* the antecedent of *id;* the mood of *videremini.*

(*b.*) What is the reference in *tum, una lex, illa miseria?*

(*c.*) What is meant by *legari (legaretur)?*

**15** 4. Translate:—

ipse ignotus, egens, Libyae deserta peragro,
Europa atque Asia pulsus.' Nec plura querentem
passa Venus medio sic interfata dolore est:
' Quisquis es, haud, credo, invisus caelestibus auras
vitales carpis, Tyriam qui adveneris urbem.
perge modo atque hinc te reginae ad limina perfer.
namque tibi reduces socios classemque relatam
nuntio et in tutum versis Aquilonibus actam,
ni frustra augurium vani docuere parentes.'

(*a.*) Explain the mood of *adveneris;* the reference in *reginae.*

(*b.*) Scan the lines beginning *namque* and *nuntio,* indicating the chief caesurae. Show how scansion helps one in determining the meaning of *reduces.*

**10** 5. Translate:—

Aeneas celsa in puppi, iam certus eundi,
carpebat somnos, rebus iam rite paratis.
huic se forma dei vultu redeuntis eodem
obtulit in somnis rursusque ita visa monere est,

Value.

omnia Mercurio similis, vocemque coloremque
et crines flavos et membra decora iuventae:
'Nate dea, potes hoc sub casu ducere somnos,
nec, quae te circum stent deinde pericula, cernis,
demens, nec Zephyros audis spirare secundos?'

(*a.*) Scan the lines beginning *Aeneas celsa* and *omnia Mercurio.*

(*b.*) Explain the case of *eundi, huic, eodem, dea;* the mood of *stent.*

**10** 6. Translate:—

tum pius Aeneas umeris abscindere vestem
auxilioque vocare deos et tendere palmas:
'Iuppiter omnipotens, si nondum exosus ad unum
Troianos, si quid pietas antiqua labores
respicit humanos, da flammam evadere classi
nunc, pater, et tenues Teucrum res eripe leto.
vel tu, quod superest, infesto fulmine morti,
si mereor, demitte tuaque hic obrue dextra.'

(*a.*) In what sense would a Roman call Aeneas *pius?*

(*b.*) Explain the mood of *vocare;* the case of *auxilio, quid, classi;* the antecedent of *quod.*

**10** 7. Translate:—

huc geminas nunc flecte acies, hanc aspice gentem
Romanosque tuos. hic Caesar et omnis Iuli
progenies, magnum caeli ventura sub axem.
hic vir, hic est, tibi quem promitti saepius audis,
Augustus Caesar, Divi genus, aurea condet
saecula qui rursus Latio regnata per arva
Saturno quondam, super et Garamantas et Indos
proferet imperium.

(*a.*) Explain the reference in *Divi.* How far is *genus* justified? What lies back of the epithet *aurea?*

(*b.*) Scan, with comments, the lines beginning *hic vir* and *Saturno.*

**10** 8. (*a.*) Take any of the above passages in Virgil and show in detail how a prose treatment might differ from the poet's.

(*b.*) Name Cicero's and Virgil's chief works.

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LATIN PROSE COMPOSITION, SIGHT TRANSLATION, AND ROMAN HISTORY. (Time, 3 hours.)

A. LATIN PROSE COMPOSITION.

1. Translate into Latin:—

**4** (*a.*) Let us then refuse to be slaves and let us have the courage to become free.

**4** (*b.*) He is so foolish that he thinks he can injure me without injuring himself.

**4** (*c.*) He pretended to be willing to return home to prevent me from thinking that he had not been informed.

**4** (*d.*) I prefer, says he, to undergo every hardship in my old age rather than seem ungrateful.

**5** (*e.*) He never saw me without saying that it was due to me that his brother had not been spared.

**5** (*f.*) I cannot help thinking that if you had not helped him his enemies would have driven him into exile.

Value.

8 (*g*.) I succeeded at last in persuading them that I had always helped my fellow citizens. I do not think, however, that they can be persuaded to trust either you or your brother.

6 (*h*.) So far am I from hoping that I shall be able to reach the city before midday that I am afraid that we shall be compelled to travel all night.

B. Translation at Sight.

36 2. Translate into English:—

atque ante quam de incommodis Siciliae dico, pauca mihi videntur esse de provinciae dignitate, vetustate, utilitate dicenda. nam cum omnium sociorum provinciarumque rationem diligenter habere debetis, tum praecipue Siciliae, iudices, plurimis iustissimisque de causis; primum quod omnium nationum exterarum princeps Sicilia se ad amicitiam fidemque populi Romani applicavit. prima omnium, id quod ornamentum imperii est, provincia est appellata, prima docuit maiores nostros quam praeclarum esset exteris gentibus imperare, sola fuit ea fide benevolentiaque erga populum Romanum ut civitates eius insulae quae semel in amicitiam nostram venissent, numquam postea deficerent, pleraeque autem et maxime illustres in amicitia perpetuo manerent. itaque maioribus nostris in Africam ex hac provincia gradus imperii factus est. neque enim tam facile opes Carthaginis tantae concidissent nisi illud et rei frumentariae subsidium et receptaculum classibus nostris pateret. quare P. Africanus Carthagine deleta Siculorum urbes signis monumentisque pulcherrimis exornavit, ut quos victoria populi Romani maxime laetari arbitrabatur, apud eos monumenta victoriae plurima collocaret.

C. Roman History.

[N.B.—*Write on* either *3* or *4*.]

24 3. Write a brief note (not more than ten words in each case) on sixteen of the following: Ennius, Jus Gentium, Rubicon, Philippics, Caligula, Ides of March, Hadrian, Timgad, Column of Trajan, Georgics, doles, Circus Maximus, Silchester, Forum, veto, Licinius, Nobiles, Divide et impera, Appius Claudius, Vestal Virgins, Jugurtha, Cunctator, Social War, Maecenas.

24 4. Write a brief note (not more than ten words in each case) upon sixteen of the following: Terra Mare, Dionysius, pomoerium, comitia, Veii, Sentinum, ager Romanus, Auspicia, tributum, XII. Tables, pater familias, Ptolemies, Ecnomus, Boii, Archimedes, Metaurus, Antiochus, Numantia, Mummius, novus homo, stipendium, latifundia, Plautus, Circus Flaminius.

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Physics. (Time, 3 hours.)

[*The* first *question and any other* seven *constitute a full paper.*]

5 1. (*a*.) If there were no friction on a hill which rises 3 ft. vertically in 100 ft. of road, what force parallel to the road would be needed to hold a 2,400-lb. automobile at rest? In uniform motion upward? In uniform motion downward? Show how one of Newton's Laws of Motion gives us the answer to these questions.

6 (*b*.) If the engine is working at 16 h.p. as the automobile is going up this hill at a uniform rate of 30 miles per hour (44 ft. per second), what force must it be exerting and what must be the force of friction resistance?

6 (*c*.) What will be the kinetic energy of the car when moving as in (*b*)? (In the solution, give the name of each numerical quantity and hence show the name of the answer and its significance.)

Value.

6 (*d.*) If at a certain point the flow of gasoline is so adjusted that the car is given an acceleration of 2 ft. per sec. per sec., what force in excess of that needed for uniform motion as in (*b*) is the engine exerting and how far will it go in one second from that point?

6 2. (*a.*) A picture weighing 20 lb. is hung by a wire over a nail in the usual way. Find the tension in the wire if the two portions of it make an angle of 90° at the nail. State in words the law or principle which is used in the solution of such problems.

2 (*b.*) What are Brownian Movements?

3 (*c.*) Define the terms, osmosis, sublimation, and viscosity.

6 3. (*a.*) The diameter of the planet Mars is 4,230 miles and its density is 7/10 that of the earth. Find the weight of a pound mass on the surface of Mars. On what type of balance should this be measured if the actual test were possible?

5 (*b.*) State Doppler's Principle and show how it might be used to find the velocity with which a source of sound is approaching or receding from a stationary observer.

6 4. (*a.*) Define musical interval and give the intervals between the different notes in the major diatonic scale. Why and how are these intervals tempered on the piano?

3 (*b.*) Why does dew rarely form under a tree or on a cloudy night?

2 (*c.*) What is meant by the term "critical temperature"?

6 5. (*a.*) The average pressure on the piston of a steam-engine is 60 lb. per sq. in. If the area of the piston is 50 sq. in. and the length of the stroke 10 in., find (1) the work done in one stroke by the piston, and (2) how much heat, measured by B.T.U., was lost by the steam in moving the piston.

5 (*b.*) A cu. cm. of air under standard conditions weighs .001293 gm. What will be the weight of a cubic meter of air at 20° C. and 80 cm. pressure?

6 6. (*a.*) Draw a diagram showing the arrangement of the lenses and the formation of the image in a telescope. How would you find its magnifying power by formula and by experiment?

5 (*b.*) Explain any one method of finding the velocity of light.

6 7. (*a.*) Give the two standard definitions of the term "index of refraction" and show by reference to a suitable diagram why one is the equivalent of the other.

5 (*b.*) Describe the Fraunhofer lines and account for their origin.

6 8. (*a.*) Three Daniell's cells each having an E.M.F. of 1.08 volts and internal resistance of 4 ohms are to be used to drive a current through a resistance of 4.5 ohms. Show whether series or parallel connection of the cells will give the greater current.

5 (*b.*) Draw a diagram of each circuit in (*a*) showing an ammeter and a voltmeter suitably connected to show the amperes and volts respectively in the 4.5-ohm coil. Why is the resistance of the ammeter low and that of the voltmeter high?

6 9. (*a.*) Explain the electrolysis of water, showing the meaning of the terms ionization, ionic charge, electrolyte, anode, and cathode.

5 (*b.*) How are X-rays obtained? What is their nature? Name some of their properties.

## Trigonometry. (Time, 3 hours.)

[Note.—*Sufficient data are appended in the table.*]

Value.

15 1. (*a.*) Without using tables, find the exact numerical value of $\sin 240° + 3 \cos 270° - 2 \tan 135°$.

(*b.*) If A and B are each less than 180° and $\tan A = \frac{12}{5}$, $\cos B = -\frac{4}{5}$, find the exact numerical value of $\cos (A - B)$ and $\tan 2A$.

(*c.*) A pendulum 37.46 inches long swings through an arc of 3.63 inches. Find in degrees, minutes, and seconds the angle through which it swings. (Use $\pi = 3.1416$.)

10 2. Prove any *two* of the following:—

(*a.*) $\sin \frac{C}{2} = \sqrt{\frac{(s-a)(s-b)}{ab}}$.

(*b.*) $\cos (A + B) = \cos A \cos B - \sin A \sin B$.

(*c.*) $c^2 = a^2 + b^2 - 2ab \cos C$, for C obtuse.

15 3. (*a.*) Prove, in any triangle, $\frac{a}{bc} + \frac{\cos A}{a} = \frac{b}{ac} + \frac{\cos B}{b}$.

(*b.*) Prove $\frac{\cos 3x - \cos x}{\sin 3x - \sin x} = \frac{2 \tan x}{\tan^2 x - 1}$.

(*c.*) Find the radius of the escribed circle which touches BC of the triangle ABC.

15 4. Given $a = 5$, $b = 6$, $C = 132° 23'$, use natural functions to find the following:—

(*a.*) the side $c$ to the nearest tenth,

(*b.*) the area,

(*c.*) the radius of the inscribed circle.

15 5. Given $a = 37.46$, $b = 36.30$, $c = 55.52$, find the angles and show that their sum is 180°.

10 6. A man walking along a road due E. sees a fort 4 miles away in the direction E. 20° 12′ N. If the guns of the fort have a range of 3 miles, how far must he go before he is (1) within range, (2) out of range again?

10 7. Two buoys are anchored in line with a cliff and are 500 ft. apart. At high tide the angles of depression from the top of the cliff are 45° and 20° 12′ respectively. At low tide the corresponding angles are 48° 49′ and 20° 59′. How high is the tide?

10 8. A statue 12 ft. high stands on a pedestal 9 ft. high. How far from the pedestal is a point on the ground where the statue and pedestal subtend equal angles?

### Table.

| Angle | sin | cos | tan | cot | log sin | log cos | log tan |
|---|---|---|---|---|---|---|---|
| 7° 13′ | .1256 | .9921 | .1266 | 7.8973 | 9.09907 | 9.99655 | 9.10252 |
| 20° 12′ | .3453 | .9385 | .3679 | 2.7179 | 9.53819 | 9.97243 | 9.56576 |
| 20° 59′ | .3581 | .9337 | .3835 | 2.6074 | 9.55401 | 9.97019 | 9.58382 |
| 27° 25′ | .4604 | .8876 | .5187 | 1.9278 | 9.66313 | 9.94826 | 9.71493 |
| 47° 37′ | .7386 | .6741 | 1.0958 | .9126 | 9.86844 | 9.82872 | 10.03972 |
| 48° 49′ | .7526 | .6585 | 1.1430 | .8749 | 9.87658 | 9.81850 | 10.05808 |

| Number | logarithm | Number | logarithm |
|---|---|---|---|
| 1.092 | .03800 | 4 | .60206 |
| 1.8 | .25527 | 5.552 | .74446 |
| 2.718 | .43425 | 6.418 | .80737 |
| 2.834 | .45240 | 6.464 | .81050 |
| 3 | .47712 | 9.120 | .95999 |
| 3 630 | .55991 | $\pi$(3.1416) | .49715 |
| 3.746 | .57357 | | |

GREEK AUTHORS. (Time, 3 hours.)

Value.

15 1. Translate :—

δευτέρας οὖν σκέψεως ἀρχὴ προὐτέθη, τίς ἀρίστη τῶν τεχνῶν καὶ ῥᾷστη ἐκμαθεῖν καὶ ἀνδρὶ ἐλευθέρῳ πρέπουσα καὶ πρόχειρον ἔχουσα τὴν χορηγίαν καὶ διαρκῆ τὸν πόρον. ἄλλου τοίνυν ἄλλην ἐπαινοῦντος, ὡς ἕκαστος γνώμης ἢ ἐμπειρίας εἶχεν, ὁ πατὴρ εἰς τὸν θεῖον ἀπιδών,—παρῆν γὰρ ὁ πρὸς μητρὸς θεῖος, ἄριστος ἑρμογλύφος εἶναι δοκῶν [καὶ λιθοξόος ἐν τοῖς μάλιστα εὐδοκίμοις]—οὐ θέμις, εἶπεν, ἄλλην τέχνην ἐπικρατεῖν σοῦ παρόντος, ἀλλὰ τοῦτον ἄγε—δείξας ἐμέ —καὶ δίδασκε παραλαβὼν λίθων ἐργάτην ἀγαθὸν εἶναι καὶ συναρμοστὴν καὶ ἑρμογλυφέα· δύναται γὰρ καὶ τοῦτο φύσεώς γε, ὡς οἶσθα, τυχὼν δεξιᾶς.

(*a.*) Explain the case of ἐπαινοῦντος, ἐμπειρίας, σοῦ, φύσεως; the tense of ἔχουσα, παραλαβών.

15 2. Translate :—

ΚΥΚ. Κατέλαβον ἐν τῳ 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. ἐνταῦθα ὁ πανουργότατος ἐκεῖνος, εἴτε Οὖτις εἴτε Ὀδυσσεὺς ἦν, δίδωσί μοι πιεῖν φάρμακόν τι ἐγχέας, ἡδὺ μὲν καὶ εὔοσμον, ἐπιβουλότατον δὲ καὶ ταραχωδέστατον.

(*a.*) Explain the case of θύρᾳ; the mood of πειρώμενοι; the derivation of παμμεγέθης, πανουργότατος.

(*b.*) Write the principal parts of κατέλαβον, ἀναστρέψας, ἐπέθηκα, ἔφερον, ἐφάνησαν, κατέφαγον, δίδωσι.

15 3. Translate :—

περὶ μέντοι τῶν ὀφθαλμῶν, οἵους ἔχουσιν, ὀκνῶ μὲν εἰπεῖν, μή τίς με νομίσῃ ψεύδεσθαι διὰ τὸ ἄπιστον τοῦ λόγου. ὅμως δὲ καὶ τοῦτο ἐρῶ· τοὺς ὀφθαλμοὺς περιαιρετοὺς ἔχουσι, καὶ ὁ βουλόμενος ἐξελὼν τοὺς αὐτοῦ τυφλώττει ἔστ' ἂν δεηθῇ ἰδεῖν· οὕτω δ' ἐνθέμενος ὁρᾷ· καὶ πολλοὶ τοὺς σφετέρους ἀπολέσαντες παρ' ἄλλων χρησάμενοι ὁρῶσιν. εἰσὶ δ' οἳ καὶ πολλοὺς ἀποθέτους ἔχουσιν, οἱ πλούσιοι. τὰ ὦτα δὲ πλατάνων φύλλα ἐστὶν αὐτοῖς.

(*a.*) Explain the mood of νομίσῃ, δεηθῇ.

15 4. Translate :—

ΑΠ. ἦ μὴν σὺ πείσει καίπερ ὠμὸς ὢν ἄγαν·
τοῖος Φέρητος εἶσι πρὸς δόμους ἀνήρ,
Εὐρυσθέως πέμψαντος ἵππειον μέτα
ὄχημα Θρῄκης ἐκ τόπων δυσχειμέρων,
ὃς δὴ ξενωθεὶς τοῖσδ' ἐν Ἀδμήτου δόμοις
βίᾳ γυναῖκα τήνδε σ' ἐξαιρήσεται.

ΘΑ. πόλλ' ἂν σὺ λέξας οὐδὲν ἂν πλέον λάβοις·
ἡ δ' οὖν γυνὴ κάτεισιν εἰς Ἄιδου δόμους.
στείχω δ' ἐπ' αὐτὴν, ὡς κατάρξωμαι ξίφει·
ἱερὸς γὰρ οὗτος τῶν κατὰ χθονὸς θεῶν
ὅτου τόδ' ἔγχος κρατὸς ἁγνίσῃ τρίχα.

(*a.*) Scan the last two lines.

(*b.*) Explain briefly the reference in Φέρητος, Εὐρυσθέως, Ἀδμήτου.

Value.

15 5. Translate :—

ΧΟΡ. ἐγὼ καὶ διὰ μούσας
καὶ μετάρσιος ἦξα, καὶ
πλείστων ἀψάμενος λόγων
κρεῖσσον οὐδὲν Ἀνάγκας
ηὗρον, οὐδέ τι φάρμακον
Θρῄσσαις ἐν σανίσιν, τὰς
Ὀρφεία κατέγραψεν
γῆρυς, οὐδ' ὅσα Φοῖβος Ἀ-
σκληπιάδαις ἔδωκε
φάρμακα πολυπόνοις
ἀντιτεμὼν βροτοῖσιν.

(*a.*) Comment on the form Ἀνάγκας, the use of τάς.

15 6. Translate :—

ΗΡ. εἰδώς τι κἀγὼ τήνδ' ἔχω προθυμίαν.
ΑΔ. νίκα νυν. οὐ μὴν ἀνδάνοντά μοι ποιεῖς.
ΗΡ. ἀλλ' ἔσθ' ὅθ' ἡμᾶς αἰνέσεις· πιθοῦ μόνον.
ΑΔ. κομίζετ', εἰ χρὴ τήνδε δέξασθαι δόμοις.
ΗΡ. οὐκ ἂν μεθείην τὴν γυναῖκα προσπόλοις.
ΑΔ. σὺ δ' αὐτὸς αὐτὴν εἴσαγ', εἰ δοκεῖ, δόμους.
ΗΡ. εἰς σὰς μὲν οὖν ἔγωγε θήσομαι χέρας.
ΑΔ. οὐκ ἂν θίγοιμι· δῶμα δ' εἰσελθεῖν πάρα.
ΗΡ. τῇ σῇ πέποιθα χειρὶ δεξιᾷ μόνῃ.
ΑΔ. ἄναξ, βιάζει μ' οὐ θέλοντα δρᾶν τάδε.

(*a.*) Scan the second line.

(*b.*) What rôles are played by Death and Heracles?

10 7. (*a.*) Write briefly on the differences between the Greek world of Lucian's day and that of the time of Euripides.

(*b.*) Identify Menippus, Charon, Minos, Pythagoras, Menelaus.

## Third-year Course, Commercial.

ACCOUNTANCY PRACTICE. (Time, 3½ hours.)

[NOTE TO PRESIDING EXAMINER.—*Please provide each candidate with 2 double sheets of 2-column journal paper; 2 double sheets of ledger paper; and 5 single sheets of foolscap.*]

Value.

1. From the following information prepare:—

**10** (1.) Trading Account.

**10** (2.) Profit and Loss Account.

**20** (3.) Balance Sheet as at May 31, 1929.

*Dunmore & Clarke—Trial Balance, May 31, 1929.*

| | | |
|---|---|---|
| A. Dunmore—Capital | | $30,000.00 |
| C. Clark—Capital | | 20,000.00 |
| A. Dunmore—Drawings | $1,200.00 | |
| C. Clark—Drawings | 900.00 | |
| Cash | 2,100.00 | |
| Accounts Receivable | 11,200.00 | |
| Fixed Assets | 7,000.00 | |
| Reserve for Depreciation, Fixed Assets | | 2,000.00 |
| Sundry Current Assets | 1,690.00 | |
| Merchandise Inventory, May 31, 1928 | 38,000.00 | |
| Purchases | 187,000.00 | |
| Sales | | 201,760.00 |
| Returned Purchases | | 800.00 |
| Returned Sales | 1,260.00 | |
| Purchase Discounts | | 3,270.20 |
| Sales Discounts | 4,275.00 | |
| Rent | 3,600.00 | |
| Insurance | 260.00 | |
| Taxes | 430.00 | |
| Advertising | 2,100.00 | |
| Salaries | 3,400.00 | |
| Sundry Expenses | 4,628.90 | |
| Commissions Earned | | 2,400.00 |
| Interest on Notes Receivable | | 128.60 |
| Interest on Notes Payable | 74.76 | |
| Sundry Liabilities | | 8,759.86 |
| | $269,118.66 | $269,118.66 |

*Inventories, Accruals, Adjustments, etc., May 31, 1929.*

1. Merchandise on hand, $44,897.63.
2. 5% of Accounts Receivable are bad.
3. Fixed Assets have depreciated 10% during the past year.
4. Rent due and unpaid, $400.
5. Insurance unexpired, $80.
6. Advertising materials on hand, $260.
7. Office and Store Supplies (charged to Sundry Expenses) on hand, $243.80.
8. Interest accrued on Notes Receivable, $26.40.
9. Interest accrued on Notes Payable, $31.20.
10. Allow partners 6% interest on capital to their credits at the beginning of the year, and divide net profits or losses equally.

Value.

2. The following is the Balance Sheet of Brooks & Cumming as at May 31, 1929:—

| *Assets.* | | *Liabilities.* | |
|---|---|---|---|
| Cash | $2,000 | Notes Payable | $5,000 |
| Notes Receivable | 4,000 | Accounts Payable | 10,700 |
| Accounts Receivable | 9,000 | A. Brooks—Capital | 30,000 |
| Merchandise Inventory | 40,000 | J. Cumming—Capital | 10,000 |
| Equipment | 500 | | |
| Office Supplies | 200 | | |
| | $55,700 | | $55,700 |

Cumming sold his interest in the business to Brooks, who formed the Excelsior Trading Co., Limited, to take over the assets and assume the liabilities of the partnership at the Balance Sheet valuations. The company's charter authorized it to issue 500 shares of capital stock, par value, $100.

According to agreement, Cumming accepted the company's note as of June 3, 1929, payable in one year with interest at 6%, for his equity in the partnership assets. Brooks subscribed for 300 shares of the capital stock of the company at par, to be issued in full payment for his equity. The remaining stock was subscribed at par, and payments therefor were received on June 3.

Set up entries in general journal form as of June 3, 1929:—

**10** (*a.*) To close the books of Brooks & Cumming.

**10** (*b.*) To open the books of the Excelsior Trading Company, Limited.

**10** 3. At the end of May, 1929, the Bank Balance as shown by the Cash Book was $1,657.87. This did not agree with the balance shown by the Bank Pass Book. On checking each book you found that a deposit of $432.45 was entered in the Cash Book on May 31, but was not taken to the bank until June 1; cheques outstanding were as follows: No. 128, $116.57; No. 132, $113.67; and No. 137, $99.60. A sight draft on William Lawson & Co. for $238 had been collected by the bank on May 27, and the proceeds placed to your credit, less 75c., collection charges, and no entry had been made in the Cash Book.

What balance would the Pass Book show?

Prepare a Reconciliation Statement.

4. Write the Journal Entries which would appear on the books of the Food Products Company, recording the following transactions:—

**5** (*a.*) On April 7, 1929, the Food Products Company sold R. E. Hamilton, goods valued at $500, receiving in payment Cash, $200, and a note signed by Mr. Hamilton, drawn the same date, at 90 days without interest.

**5** (*b.*) On May 6, the Food Products Company discounted R. E. Hamilton's note at the Royal Bank of Canada, and received credit for the face of the note, less 7% interest on the face for the unexpired time.

**5** (*c.*) On May 8, the Food Products Company sold the United Food Company, goods, $560, terms, 5/10, n/60.

**5** (*d.*) On May 12, the United Food Company paid the account in full.

5. On June 30, 1929, R. Black and F. Cassidy decide to close out their partnership business. Their accounts have been kept by Single Entry, and show the following balances:—

Cash on hand, $600; Cash in Bank, $4,200; Accounts Receivable, $2,400; Bills Receivable, $800; Land and Buildings, $12,000; Accounts Payable, $2,750; Bills Payable, $1,200; Mortgage Payable, $4,000.

Inventories: Merchandise, $8,500; Fuel, $400; Office Supplies, $175.

Value.

On January 1, 1929, R. Black was credited with a balance in his capital account of $10,000 and F. Cassidy with $8,000. Interest is to be allowed each partner on his investment at 8% per annum, and profits and losses are shared equally.

**5** (*a.*) Prepare a statement showing the net profit or loss for the period.

**5** (*b.*) Show partners' accounts properly written up and closed.

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ACCOUNTANCY THEORY. (Time, 2 hours.)

[NOTE TO PRESIDING EXAMINER.—*No other paper than the Examination Booklets is necessary.*]

**5** 1. (*a.*) Explain briefly the differences between Single Entry and Double Entry.

**3** (*b.*) Which System do you prefer? Why?

**4** (*c.*) How do you ascertain the Net Gain or Net Loss from a set of books kept by the Single Entry System?

**4** (*d.*) How do you change a Set of Books from Single Entry to Double Entry?

2. "In modern business the primary record of any normal transaction is made on a paper of some kind."

**5** (*a.*) Comment on the above statement.

**10** (*b.*) Name and describe the uses of at least 6 business papers which you would expect to find in the offices of a large retail store.

**5** 3. (*a.*) Define and explain the purpose of controlling accounts.

**5** (*b.*) In order to operate controlling accounts successfully, what provisions are necessary in the cash book?

**8×2 =16** 4. Draft journal entries for the following:—

(*a.*) Declaring a dividend.

(*b.*) Paying a dividend in cash.

(*c.*) Paying a dividend by issuing stock certificates.

(*d.*) Creating a Bad Debts Reserve.

(*e.*) Writing off an account as a bad debt.

(*f.*) Creating a Reserve for Depreciation on Machinery.

(*g.*) Closing a Drawings Account into Capital Account.

(*h.*) Closing Trading Account into Profit and Loss Account.

**3** 5. (*a.*) What is a Trial Balance?

**4** (*b.*) Does the Trial Balance furnish all the information necessary for the preparation of the Balance Sheet? If not, what extra data may be necessary?

**5** (*c.*) If the Trial Balance does not balance, how would you locate the error or errors?

**5** (*d.*) Illustrate errors, which the Trial Balance would not reveal.

**10** 6. What accounts would you expect to find in the ledger of a Commission Merchant that would not appear in the ledger of a retail merchant?

7. Allen & Co., of Vernon, make regular shipments of fruit to Benson & Co., of Vancouver, who sell on a 5% commission.

July 3. Allen & Co. ship goods costing $1,200 and prepay freight and cartage amounting to $18.

July 5. Benson & Co. receive the goods and pay delivery charges, $10.

July 6. Benson & Co. sell half the shipment for $800 cash.

July 7. Benson & Co. paid for advertising and storage charges, $21.

July 7. Benson & Co. reported to Allen & Co. that ten cases of cherries which cost $25 were unsaleable. The remaining part of the shipment was sold for $440 on account at 10 days to J. E. Davis & Co.

Value.

July 8. Benson & Co. rendered an account sales and remitted Allen & Co., cash $707.
July 11. Allen & Co. received the Account Sales with Bank Draft for $707 enclosed.

**8** (*a.*) Show Journal Entries in Consignor's Books.

**8** (*b.*) Show Journal Entries in Consignee's Books.

**100**

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ARITHMETIC, GENERAL. (Time, 2½ hours.)

**4** 1. Write in words the number 22,503,401 and in figures the number which must be subtracted from it to leave a remainder of twelve hundred and seventeen thousand three hundred and forty.

**4** Divide $\frac{24\frac{1}{2}}{6\frac{9}{16}}$ by $\frac{16\frac{1}{3}}{38\frac{1}{2}}$.

**4** Multiply .012$\dot{6}$ by 17.28.

**12** 2. A cubic foot of water weighs 62½ lb., and ice is 0.92 as heavy as water. An artificial-ice plant makes its ice in cakes 18" long and 16" wide. Find how thick the ice should be frozen so that each cake will weigh approximately 100 lb.

**12** 3. The cost of material on an order for 50 articles was $715 and the charge for productive labour was $525. If factory expense was calculated as 40% of the productive-labour charge, find the factory cost of the order. If selling expense is calculated as 12½% and a net profit of 15% is desired, what selling-price should be quoted on each article?

**9** 4. J. H. Smith shipped a car containing 756 boxes of apples from Kelowna to Toronto, where they were sold by F. C. Butler, Commission Agent. The freight charges on the shipment amounted to $907.20. The apples were sold at $2.75 per box, and Butler charged a commission of 12½% for selling them. What amount was remitted to J. H. Smith?

**10** 5. Find the compound interest upon $1,625, compounded semi-annually, for 3 years and 6 months, at 8%.

NOTE.—The amount of $1 at the end of 7 years at 4% is: 1.36086.

**12** 6. A pedestal for a statue consists of three square slabs. The top slab, 1 yard broad, rests on the next, which is 1¼ yds. broad; this rests on a slab 1½ yds. broad, which rests on the ground. These slabs form a four-sided stairway, each step being 6" high. What will it cost to gild this pedestal at $1.25 a sq. ft., omitting the upper surface of the uppermost slab?

**9** 7. The preferred stock of a corporation pays 7½% and amounts to $200,000, while the common stock amounts to $250,000. From a net profit of $66,514.75 the directors pay the dividends on the preferred stock and one of 12% on the common stock. What is the balance of the surplus account after the dividends are paid?

**12** 8. On Jan. 1, Smith and Thompson form a partnership, each investing $5,000. On July 1, Smith invests $1,000 more and on Oct. 1 he withdraws $1,000. On March 1, Thompson withdraws $1,000 and on Dec. 1 he invests $1,000. If profits and losses are shared in proportion to average investment, find each partner's share of a net profit of $1,425.

**12** 9. A model of a machine is made in wood, and is found to weigh 24.2 lbs. The machine is to be made of iron, and every line in it is to be 8 times as long as the corresponding line in the model. If a cubic foot of wood weigh 44 lbs., and a cubic foot of iron weigh 490 lbs., what will be the weight of the machine in tons?

**100**

ARITHMETIC, RAPID CALCULATION. (Time, 30 minutes.)

[NOTE.—*Candidates may be supplied with working paper, but answers must be handed in on the actual examination paper in the spaces provided. Rapid calculation papers must be collected at the end of 30 minutes, at which time the general paper will be distributed.*]

Value.

**12** 1. Obtain the following products:—

| | | |
|---|---|---|
| 2436 | 2436 | 2436 |
| 11 | 22 | 44 |
| 22 | 44 | 11 |
| 44 | 11 | 22 |

**12** 2. Divide the following:—

7658)3201567 839)427678 7247)1392547

**25** 3. Complete the following pay-roll:—

| Name. | Hours worked. Mon. | Tue. | Wed. | Thu. | Fri. | Sat. | Total. | Rate | Wages due. |
|---|---|---|---|---|---|---|---|---|---|
| Brown, G. | 8 | 8 | 8 | 8 | 5 | 8 | | .45 | |
| Jones, J. | 8 | 8 | 9 | 7 | 8 | 4 | | .46 | |
| Trainer, B. | 8 | 8 | 7 | 8 | 7 | 6 | | .50 | |
| Fox, J. C. | 8 | 8 | 8 | 8 | 8 | 6 | | .44 | |
| Dibbs, F. | 9 | 8 | 9 | 8 | 8 | 6 | | .51 | |
| Gordon, R. | 8 | 0 | 9 | 8 | 9 | 7 | | .47 | |
| Farmer, W. | 7 | 8 | 6 | 9 | 5 | 8 | | .50 | |
| Randall, P. | 9 | 8 | 8 | 9 | 7 | 9 | | .48 | |
| Simons, J. | 6 | 9 | 5 | 0 | 4 | 9 | | .44 | |
| Brooks, N. | 9 | 9 | 9 | 9 | 9 | 9 | | .65 | |
| Haer, G. | 8 | 9 | 8 | 8 | 7 | 9 | | .35 | |
| Engle, O. | 8 | 8 | 8 | 8 | 8 | 6 | | .32 | |
| Kuhn, H. | 7 | 6 | 9 | 5 | 8 | 8 | | .37½ | |
| Totals: | | | | | | | | | |

**16** 4. Correct the errors in the following:—

*Profit and Loss Statement, 1928.*

| | Dry Goods Department. | Shoes Department. | Men's W. Departm. | Totals. |
|---|---|---|---|---|
| Sales | $165,780 | $96,370 | $142960 | $405110 |
| Goods returned | 630 | 250 | 610 | 1490 |
| Net Sales | $165,150 | $96,120 | $142350 | $403620 |
| Cost of Goods | 100,740 | 70,015 | 96370 | 268125 |
| Gross Profit | 64,410 | 25,105 | 45980 | 135495 |
| Overhead Charges | 16,480 | 7,216 | 10860 | 34556 |
| Net Profit | 47,930 | 17,889 | 35120 | 100939 |

Value.
**20** 5. Complete the following invoice:—

*W. H. Smith, sold to J. Robinson.*

| | | |
|---|---|---|
| 6 | Bicycle Lamps | @ $2.50 |
| 24 | Bicycle Carriers | 1.00 |
| 18 | Hand Horns | 1.25 |
| 30 | Bells | .35 |
| 12 | Sirens | .80 |
| 12 | Dry Batteries | .45 |
| 15 | Cyclometers | 1.20 |
| 25 | prs. Shields | .25 |
| 50 | prs. Guards | .10 |
| 10 | Mirrorscopes | .75 |
| 8 | B. Stands | .50 |
| 6 | Foot Pumps | 1.50 |
| 12 | Hand Pumps | .40 |
| 6 | Saddles | 2.25 |
| 12 | Saddle Clamps | .25 |
| 36 | Repair Outfits | .35 |

Less 20%, 10%, and 10%

**15** 6. Balance and foot the following cash account in spaces indicated:—

| *Dr.* | | | | | *Cr.* |
|---|---|---|---|---|---|
| Jan. | 1 | 785.19 | Jan. | 1 | 125.00 |
| | 2 | 641.35 | | 2 | 78.50 |
| | 3 | 573.60 | | 3 | 112.75 |
| | 4 | 718.12 | | 4 | 68.98 |
| | 5 | 685.27 | | 5 | 121.36 |
| | 6 | 1,086.51 | | 6 | 427.90 |
| | | | | 6 Balance | |
| Jan. | 8 Balance | | Jan. | 8 | 27.42 |
| | 8 | 732.20 | | 9 | 120.56 |
| | 9 | 650.12 | | 10 | 84.29 |
| | 10 | 580.00 | | 11 | 83.74 |
| | 11 | 697.20 | | 12 | 59.28 |
| | 12 | 842.57 | | 13 | 436.19 |
| | 13 | 1,074.63 | | 13 Balance | |
| Jan. | 15 Balance | | Jan. | 15 | 17.29 |
| | 16 | 802.41 | | 16 | 129.45 |
| | 16 | 648.29 | | 17 | 28.27 |
| | 17 | 572.12 | | 18 | 47.16 |
| | 18 | 675.00 | | 19 | 102.50 |
| | 19 | 727.61 | | 20 | 431.28 |
| | 20 | 1,129.47 | | Balance | |
| Jan. | 22 Balance | | | | |

BUSINESS CORRESPONDENCE. (Time, 2 hours.)

[*Candidates will be furnished plain letter paper and envelopes. In questions 1 and 2 show the addressed envelope.*]

Value.

**4** 1. (*a.*) Explain clearly what is meant by the term "Tone" in a business letter.

**10** (*b.*) James Laidlaw & Sons, Nelson, B.C., have written your firm complaining that you have drawn on them at sight whereas the goods were sold on thirty days' time. As secretary of the Vancouver Import Company, Limited, 121 Cordova St. W., Vancouver, B.C., reply stating that the mistake was due to carelessness in your Credit Department. Word your letter so as to make sure that you will retain the patronage of a valued customer.

**4** (*c.*) Point out the manner in which your letter reflects the proper "tone."

**8** 2. (*a.*) Outline the usual successive steps to be taken in collecting a delinquent account by mail.

**10** (*b.*) J. A. Ross, 101 Main St., Kamloops, B.C., owes you a small balance now long overdue, and makes no effort towards settlement. Write the first and second of a series of collection letters to him. Your address is 249 Government St., Victoria, B.C. In your second letter use the opportunity to promote sales.

**6** 3. (*a.*) What are "Form Letters"? Explain their uses.

**10** (*b.*) Draw up a "Form Letter" which may be used by the principal of your school to answer inquiries as to the extent of the Commercial Course provided by your school, its approximate cost, and the future prospects offered a graduate.

**9** 4. (*a.*) Write short notes on: (1) The "You" interest; (2) News Value; (3) Personality in business letters.

**9** (*b.*) Write a sales letter constructed to promote the sale of a well-known household article. Show in the margin opposite each section of your letter the names of the six elements which should constitute a good sales letter.

**5** 5. (*a.*) Show clearly the difference between "flat" and "vertical" filing and state the advantages of the vertical system.

**15** (*b.*) Explain clearly the advantages claimed for the "Direct Name System," and show where the "Numerical" and "Geographical" systems would be preferable, and give your reasons.

**10** (*c.*) Describe the uses of a "Cross Reference System."

**100**

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COMMERCIAL GEOGRAPHY. (Time, 2 hours.)

**12** 1. Show how the nature of the coast-line of a country materially influences its development. Illustrate your answer by reference to two or more countries.

**12** 2. Explain the effect of waterways on the development of Commerce and Manufacturing Industries. Give two or more Canadian illustrations to prove your statements.

**18** 3. By the aid of a sketch-map of Canada show the location of the chief natural resources of all the Provinces west of the Ottawa River.

**12** 4. By the aid of a sketch-map of British Columbia show the proposed route of the Pacific and Great Eastern Railway into the Peace River District and locate on it the chief natural resources which may be developed by its construction.

**12** 5. Outline briefly the advantages to be derived by the United States and Canada by the construction of the St. Lawrence Deep Waterways Canals.

**12** 6. Name the chief commodities for which Canada is dependent on the United States, and also those for which the United States is dependent on Canada. Describe

Value.

briefly the geographical features which make it difficult for Canada to overcome this dependence.

**10** 7. In what respects would a "Trade Agreement" of all the countries of the British Empire tend to relieve this dependence? Discuss.

**12** 8. Write short notes on the "Trade Opportunities" offered to Canada in: (*a*) The West Indies; (*b*) Brazil; (*c*) The Argentine Republic. Name the chief commodities which may be interchanged in each case.

**100**

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COMMERCIAL LAW. (Time, 2 hours.)

**5×2 =10** 1. "A contract is a *mutual agreement* between parties of *full age and capacity* whereby for *valuable or good consideration* the one party agrees with the other to do or *abstain from doing* some *lawful* act."—*Sears.*

Explain the meaning and legal significance of each of the italicized portions of the above definition.

2. On June 10, 1929, Adams sold goods to Brown for $300, and on the same day drew on Brown, for the full amount, in favour of Clark, at 30 days' sight, making the draft negotiable by endorsement. The drawee accepted on June 12. On June 15, the payee sold the paper to Davis, endorsing it in full. Davis resold the instrument to Eldridge on June 20, endorsing it restrictively.

**10** (*a.*) Draw the draft and show the acceptance and endorsements.

**2** (*b.*) What is the due date?

**3** (*c.*) Had the drawee refused to accept the draft, would the payee have had any recourse against the drawer?

**5** (*d.*) If the acceptance is not paid at maturity, what should the holder do to protect his interests? Against whom would he have recourse?

**5** (*e.*) If the paper is not paid until some weeks after the due date, may the holder collect interest? If so, at what rate per cent., and for what time?

**5** 3. (*a.*) A, B. and C are associated in business. What tests would you apply to decide whether or not they are partners?

**5** (*b.*) Explain clearly the difference between a General Partner and a Limited or Special Partner.

**5** (*c.*) Why do the Income Tax Authorities (1) Demand an Income Tax Return from a Joint Stock Company, (2) Not demand an Income Tax Return from a Partnership?

**5** 4. What is the purpose of the Mechanics' and Wage-Earners Lien Act?

**5** Where and within what time must Liens be registered in British Columbia?

5. "When a party agrees to become responsible for the debt of another, or the performance of some act by him, it is a guaranty or surety."

**5** (*a.*) Is an oral guaranty binding, or must it be in writing? Quote the authority for your answer.

**5** (*b.*) How may a surety be discharged from his contract of suretyship?

**6** 6. (*a.*) What is a (1) Special, (2) General, Power of Attorney?

**10** (*b.*) Write a simple form of Power of Attorney such as might be given to Robert MacDonald, of Nelson, B.C., authorizing him to sign an Agreement of Sale for James King, of Vancouver.

**14** 7. Write brief explanatory notes on the following terms: Chattel Note, Lien Note, Implied Covenant, Copyright, Warehouse Receipt, Executor, Interest Coupons.

**100**

SHORTHAND DICTATION. (Time, 3 hours.)

[TO THE PRESIDING EXAMINER.—Three hours *are to be allowed the candidates from the time that the dictation is finished. Provide candidates with plain white letter paper, or books, for transcripts; and with foolscap, or stenographers' note-books, for taking notes. Notes may be taken with either pen or pencil. Transcripts may be either pen-written or typewritten. The teacher of the candidates may dictate the selections, and may be given the material fifteen minutes before dictating, so that he may prepare the timing of his dictation.* IMPORTANT.—*The teacher's dictation must be closely checked for time; and he must be* positively stopped *at the end of the fifth minute on each selection.*]

[TO THE DICTATOR.—*The dictation must be at a uniform rate of speed with close attention to the quarter-minute marks and with watch in hand. The material must not be read, nor any word in it mentioned, prior to the actual dictation. Allow three minutes after each section, in order that candidates may review their notes and recover from the tension of a five-minutes' take.*]

[TO THE CANDIDATES.—*Candidates will hand in three transcripts—A, B, and C. Each transcript should begin on a separate page. Shorthand notes* must *be handed in. Examination number must be placed on each separate sheet.*]

"A."

(*Eighty words per minute. Syllabic intensity not exceeding 1.5*)

When goods are sold they are, as a general rule, at the risk of the owner, though if the seller (¼) acts as bailee of the goods for the buyer he is responsible for any injury done to them through negligence. (½) It is therefore important to know exactly when the buyer becomes the owner.

In the case of specific goods ready (¾) for immediate delivery, the buyer becomes the owner as soon as the contract is made, unless it is otherwise (1) arranged. The fact that either delivery or payment is postponed is immaterial.

In the case of specific (¼) goods to which the seller has to do something to make them ready for delivery the ownership does not pass (½) to the buyer till what is required has been done, and the buyer has been advised of the fact.

Specific (¾) goods ready for delivery, but which, like wheat, have to be weighed, tested, or measured before the price can be (2) fixed, do not pass to the buyer till what is necessary has been done, and the buyer has received notice (¼) of the fact.

Goods sent On Sale or Return, or on approval, do not become the property of the receiver (½) till he signifies his approval or acceptance of the goods, or unless he keep them beyond the time fixed for (¾) their return, or beyond a reasonable time if no time is fixed—reasonable time is customary time having (3) regard to trade usage. In commercial practice, however, goods sent On Sale or Return are usually treated like (¼) goods sent On Consignment, and are held at the seller's risk—account sales being submitted and remittance made at regular (½) intervals of a month, three months, or whatever is arranged.

In the case of future goods sold by description the (¾) buyer becomes the owner when goods answering the description have been appropriated to the contract by either (4) party with the consent of the other. When, in pursuance of the contract, the seller delivers goods to a carrier (¼) for transport to the buyer, there is appropriation by the seller unless he reserves the right of disposal, or (½) unless the contract provides that the buyer must, before the ownership of the goods passes to him, observe some condition (¾) such as giving a Bill of Exchange for the price of the goods covered by the contract in question. (5)

"B."

(*One hundred words per minute.*)

By the climate of a country we mean the average weather throughout a series of years; the discussion of climate requires us therefore to consider (¼) questions of temperature, winds, and rainfall. We ascertain the temperature of the air by means of a thermometer, and, in Canada, (½) generally use Fahrenheit's, on which freezing-point is marked at 32 degrees and boiling-point at 212 degrees.

Although the (¾) interior of the earth is very hot, it is from the sun that the surface of the world derives its heat, and the amount of (1) heat received at any place will largely depend on the angle at which the sun's rays reach it. When the rays fall perpendicularly (¼) on a district they have a smaller area to warm, and are therefore more powerful than when they strike it aslant. This is one reason (½) why districts near the equator are hotter than those near the poles, or, in other words, why temperature varies with latitude. It also explains why (¾) southern slopes in the northern hemisphere, and northern slopes in the southern hemisphere, are comparatively warm.

Another reason why vertical (2) are more powerful than slanting rays of heat is that they have a smaller amount of the atmosphere to pass through and so lose less (¼) heat in their passage from the sun to the earth, because the atmosphere absorbs some proportion of the heat, especially if it is damp or (½) laden with dust particles. We must remember, however, that if the atmosphere prevents much of the sun's heat from reaching the earth it also (¾) prevents the earth from parting with the heat it has received as quickly as it otherwise would. Tracts of high ground and mountain-tops are (3) relatively cold, partly because there is less atmosphere over them, and so the heat received is quickly lost, but also because there is less land- (¼) surface to be warmed. The air, in fact, receives most of its heat indirectly from the land, and not directly from the sun, so the (½) upper layers of the atmosphere are always cold.

Again, the temperature of a place varies according to the season. Owing to the earth's motion (¾) round the sun, and to the inclination of its axis, the sun's rays fall more vertically on us in summer than in winter, and the (4) days are longer and the temperature higher.

Temperature will vary according to the nature of the surface on which the sun's rays fall. (¼) Land, especially bare rock and dry soil, receives heat far more quickly than water, and also loses heat more rapidly. A large body of water, (½) therefore, has a more equable temperature than land, and tends to moderate the extremes of temperature over it. Another factor influencing (¾) a place is the direction of the prevailing winds which blow over it, so that proximity to the sea also greatly affects temperature. (5)

## "C."

*(One hundred and twenty words per minute.)*

Forest areas stand second only to arable lands among the basic resources of Canada, and forest industries have been surpassed by agriculture alone in (¼) mothering commercial growth. Their importance as a factor in the rise of Canadian commerce is disclosed by the increase of the Dominion's exports of wood, wood products, (½) and paper from about $42,000,000 in 1903 to nearly $229,000,000 in the year ending March 1923. (¾)

The work of ascertaining the actual extent of Canada's commerical forests is a large and difficult undertaking and is still far from being complete. (1) It is estimated, however, that approximately one-quarter (600,000,000 acres) of the total land area in the Dominion is covered by (¼) forest growth. Of this about 150,000,000 acres may be considered as bearing saw-timber of merchantable size, amounting approximately to (½) 550,000,000 M. feet board measure. The balance of the area carries young stands, or timber suitable for pulpwood, fuel, et cetera. The total pulpwood (¾) resources are estimated to be about 1,300,000,000 cords, of which 500,000,000 cords is of saw-timber size and is included in the (2) estimate of saw-timber. The total stand of timber of all kinds, reduced to board measure, is about 1,000,000,000 M. feet. Of this, over 80 per cent. is coniferous. (¼)

The Pacific province of British Columbia contains over two-thirds of the merchantable saw-timber of Canada. The greater part of the timber in that province is (½) found on Vancouver Island and the mainland opposite.

The forest here is almost entirely coniferous, and is made up of the following species: Douglas fir, the most (¾) valuable Canadian structural timber, 22 per cent.; western cedar, the leading Canadian shingle wood, 22 per cent.; spruce, 21 per cent., and western hemlock, (3) 18 per cent., both valuable pulp and lumber species; white fir or balsam, another pulp species, 9 per cent.; pine, yellow cypress, cottonwood, and other minor species (¼) with different uses, 8 per cent.

Owing to abundant rainfall and mild temperature the timber of the Pacific coast reaches a remarkable development. The largest (½) specimens and the heaviest stands of timber in

Canada are found on the coast of British Columbia and to a lesser extent in a portion of the south-eastern (¾) interior of the province. These regions produce lumber of the largest clear dimensions obtainable in Canada.

The central southern portion of British Columbia is (4) much drier than the coast region and has a more severe climate. It produces Douglas fir of somewhat smaller size than the coast timber, and a considerable quantity of (¼) western yellow or "bull" pine, a material similar in many respects to the white pine of Eastern Canada. The great northern interior part of the province supports (½) a heavy growth of smaller sized timber. Spruce and lodgepole pine form the bulk of this material, which at present is not being extensively exploited.

The forests of the (¾) Prairie Provinces, including the eastern slopes of the Rocky mountains and the north of the treeless plains, are of entirely different character from those of British Columbia. (5)

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STENOGRAPHIC PRACTICE.

(Time-limit for Transcription, 1 hour.)

[TO THE PRESIDING EXAMINER.—*The following letters are to be dictated* ONCE *only at 80 words per minute. The teacher of the students may be permitted to give the dictation; but must not be permitted to give any information about words or letter contents prior to dictation. The time of the dictation must be checked closely.*]

[TO THE DICTATOR.—*Dictate at 80 words per minute. Letters are divided into quarter-minute sections, each containing twenty words, or their equivalent, with 1.5 intensity No instruction concerning words or contents can be permitted. Periods and paragraphs, but no other punctuation-marks, should be indicated during the reading only. After reading a letter the Dictator should rest until his watch indicates the beginning of the next even minute before commencing the following letter.*]

[TO THE CANDIDATES.—*The letters are to be typed and carbon copies taken. An envelope must be addressed for each letter. The mailing copy of each letter has to be folded for insertion in its envelope. It must not be put in the envelope, but must be unfolded again and handed in flat, ready for signing, together with carbon copy and envelope. Shorthand notes to be handed in with each letter. Examination number to be placed upon each loose sheet or envelope in the top right-hand corner. One hour is allowed from the time of commencing the transcription. If finished before time the Presiding Examiner will indicate the actual time taken on your first envelope.*]

*Letter 1.*

Mr. Henry Evans,
Victoria, B.C.

Dear Sir:

While not quite clear as to just what use you wish to make (¼) of the illustrations in our catalogue, I think there is no objection to your use of them.

Very truly yours, (½)

*Letter 2.*

Messrs Barker & Smith,
Hastings St. West,
Vancouver, B.C.

*Gentlemen:*

We are mailing you, under separate cover, our (¼) contract for this year's photography.

There will be a fee of one dollar charged on each individual sitting. For (½) the one dollar we will furnish a black and white half-tone photograph in the style suited for engraving. The (¾) dollar will be refunded to each individual who orders one dozen photographs.

May we have your favourable (1) consideration?

Very truly yours,

*Letter 3.*

The West Manufacturing Co.,
New Westminster, B.C.

Gentlemen:

We should like to make an estimate on your painting. (¼) We employ a large force of experienced men and are consequently in a position to handle contracts of any (½) size. On all work we guarantee satisfaction. It would be a pleasure to submit an estimate without obligating (¾) you to employ us.

We can refer you to numerous prominent manufacturing corporations, railroads, etc., (1) whose executive plants we have painted and who repeatedly favour us with their contracts. The fact that we have satisfied (¼) so many exacting customers should be proof positive of the merits of our workmanship.

May we submit estimates for (½) your consideration?

Yours very truly,

*Letter 4.*

The Manager,
The Vancouver Engineering Works, Limited,
Cambie St., Vancouver, B.C.

Dear Sir:

Have you considered (¼) the advantages of having a special form of bank cheque, preferably one of voucher form?

A voucher cheque, designed (½) for your particular needs, will prove most satisfactory, and will be a real help to your Accounting Department. (¾)

Progressive concerns are realizing more and more the value of having a cheque made specially for them in lieu of (1) the regulation cheques supplied by their banks. Furthermore, there is an advertising value in having a cheque especially (¼) engraved or lithographed.

A few specimens of our work are illustrated in half-tone on the enclosed sheet. These are (½) but a few of many suggestions we could offer. May we submit specimens of vouchers with an idea of cost? (¾) Check the enclosed postcard. You will be under no obligations.

If there is any doubt in your mind as (2) to the practicability of adopting a voucher cheque in your business, we shall be very glad to go over (¼) the matter with you in detail.

Yours truly,

*Letter 5.*

Hon. W. MacKenzie King,
Minister of Labour,
Ottawa, Ont.

Dear Sir:

I beg to acknowledge (¼) receipt of your favour of the 13th inst. informing me that the Dominion Government is considering (½) the advisability of appointing a Royal Commission to inquire into the needs and present equipment (¾) of the Dominion as regards industrial training and technical education, and into the system of (1) methods of technical instruction prevailing in other countries, especially in Great Britain, France, Germany, (¼) and the United States.

I entirely agree with the view of the government to the effect that a commission of (½) this kind might render valuable service to the Dominion as a whole, and I have no hesitation in saying (¾) that the appointment by the federal authorities of a commission of the character and scope suggested in (2) your letter would meet with the approval of my government, and no exception would be taken to such a course (¼) on any ground of jurisdiction.

Yours very truly,

TYPEWRITING.

[TO THE PRESIDING EXAMINER.—*The Typewriting paper consists of two parts, A and B. In Part A, 900 five-stroke words are given and the candidates are to be allowed 15 minutes. In Part B, the candidates are also to be allowed 15 minutes, and as many words as possible should be written. No carbon copies are required in either Parts A or B. The work should be done in double spacing.*]

*Part A.*

Value.

50 I am an appointed official of possibly average success. The source of my banking life was far up among the green hills of boyish fancy, the beginning rivulet so unformed it scarcely knew to which watershed it belonged, its current so small and sensitive that it could be turned aside or diverted by a spade. To-day the stream has come to its lower and calmer reaches, thirty years wide and deep as its powerful controlling recollections. This settled well-fed stream, moving toward the inevitable sea-level, has received the product of many a line ditch and babbling brook. Its original name and general direction remain, but in the main the river is a composite of a round dozen of tributaries—the influence of the branch managers or general managers who have been set over me. As each tributary has swept into my life its influence has been too strong, too dominating for the moment to permit of analysing or estimating. Its swift or stagnant weight could not be avoided; it simply had to be borne along. But to-day I look back perspectively and review the currents, limpid green, glacial grey, or dark brown. My first manager reigned voicelessly behind a sentried glass door and across a rich wide rug. He was not known ever to bully. He was a gentleman therefore. He worked unselfishly on charity boards (for little children, we understood) so he was a kindly man. But he did not think of me as one of his little children. He did not know my name. I could look up to his citizenship in principle only. My second manager was old and good-natured and inebriated. Being that, he was brutal one day and obsequiously considerate the next. He neglected his duties at times, his opportunities generally and his dignity frequently, but opportunities for the welfare and advancement of his staff, never. It was a relic of his better self. But for his unfortunate preoccupations, I feel he was the man who would have talked to me sympathetically and encouragingly about my career—the man I needed so sorely. We worked long and late to make up for his deficiencies. We did it cheerfully and loyally. At his funeral we wept. Then came the man who was my leader because he led in efficiency, wisdom, manliness, and ambition. I liked him because he short-cutted straight to me through the little shams and conceits of the accountant. Even to-day I yearn to have him as a friend—if, now, he would.

Back again all too shortly to the metropolitan arena, this time double glass doors and a wider, richer carpet. But, by one of those curious mistaken turns, I became a privileged inhabitant of the solemn room. Voluntary evening training had qualified me. I was to be co-confidant of valuable trade secrets, golden chances were mine. The mistake was that the confidence of a bank manager was to me a strange language. No superior officer had ever taken ten minutes to talk to me about opportunities. No manager had ever paid me the slightest attention outside his office, and very little inside it. For eighteen months—I was a mere boy in a strange city—my accountant lived next door and never asked me to come in. My father was a professional man, without the experience to counsel me, and I found no second father. If managers and accountants took time to notice me, it was for the purpose of the secret report sent three times a year. Had I known about myself what the head office knew (and why in all conscience should I not!) I would have known how to conduct myself in that position I had earned by industry and self-denial. I lost the position and was never told why. For me it was the parting of the ways, a failure from which I went down instead of up. Leadership was a sphinx, cold, impersonal, watching all and imparting nothing. I was never told. Discouraged and with ambition sapped, a smaller branch received me. Its manager's popular reputation rested on one trait—his social

Value.

superiority complex. His employees were his hired men, his house a castle, they the peasantry. And thus his leadership. Sympathy could have saved me, but the only time he had me in his room was to administer a sound scolding for being the recipient of an enclosed letter from a chum at my last branch addressed to me by an undignified nickname. Long afterward I learned that the manager had requested my removal. From my heart I thank him, but otherwise, then as now, I can only guess at the reason for wanting to be rid of me. Five years at my chosen lifework had been a failure. Of fourteen managers and accountants, one man had invited me to his home and permitted me to be a personal friend. That these two facts were related I have not the slightest doubt.

(909 five-stroke words.)

*Part B.*

50 Initiative simply means making the first move. It is the power to see what needs to be done and the ability to start the necessary machinery to put it into operation. It is vision vitalized. People who have initiative think out a problem, decide what is to be done, and proceed to do it. They weigh all the circumstances of the situation, decide upon a line of action, and follow it through unwaveringly.

Initiative, without the power of doing things, or of getting them done, is of little value. There is no qualification that a secretary can possess that will mean more in the way of promotion, or, in carrying on effectively the work he is expected to do to-day, that will yield more satisfactory results than initiative.

Initiative is the power to do things without being told. In every office some persons will be found who go ahead and do the necessary things without waiting for instructions. These are the leaders. They are the ones who reach the positions of responsibility and who develop into executives. Those without initiative follow their leadership. They cannot rise to positions of higher responsibility, simply because they have not the ability.

As a simple illustration: Some of the executives of a business were having an informal discussion of some correspondence in the presence of a secretary. The secretary, as soon as the company's name was mentioned, went immediately to the file and brought out the folder containing the correspondence in question and quickly selected the letter dealing with the matter under discussion. The letter would have been called for by the executives, but before they gave him instructions, the secretary had anticipated what was needed. It was an elementary exercise of initiative, because in a sense this was the obvious action; but it illustrates the point that initiative in a business office, as elsewhere, is a matter of making the first move.

Hundreds of opportunities of this kind occur every day in a busy office, where the secretary can exercise initiative and thus hasten decisions. The secretary without initiative would have waited to be told what was needed and then perhaps would have asked what file the material was in, the date, and all the circumstances surrounding it before taking any action.

Can initiative be acquired? It can. Initiative can be acquired by simply keeping one's eyes and ears open and by having the courage to act on one's judgment. Even those who have little power of initiative can improve it. It can be cultivated in the school-room. Every student of the secretarial course should make a practice of exercising whatever power of initiative he has in all his work. It can be manifested in the way he prepares his lessons in this course, his co-operation with his teachers and the other members of his class.

Lack of initiative usually is a result of fear. We fear the results of our action. We place an inhibition on initiative by a failure to act even in the most obvious instances. Lack of initiative is also a result of undeveloped or weak imagination. People without imagination rarely have initiative. The person with initiative is willing to take a chance, and, if wrong, will try to learn from his mistakes, and will not resent criticism. In all human actions and relations there is no such thing as absolute, mathematical accuracy. Conditions are fluid, changing almost

with each minute. Consequently, the need for initiative is ever present. Initiative, to be effective, must be immediate, but always preceded by analysis and weighing of the results that are likely to follow an action. Initiative may be carried too far, or may be based upon poor judgment. A sales manager had dictated a list of net prices, giving the exact figures to be used in filing a bid, which had been prepared quickly to catch the fast mail. The quotations involved the question of discount, and in many instances the exact figures would have run into fractions. It was the rule in the business, however, to use the next lowest whole number if the fraction was one-half cent or lower, and the next highest if more than one-half cent. He was amazed, upon receiving the bid from his typist, to find that in every instance where the figure involved the question of a fraction, the price was changed to the next highest whole number, although the sales manager had been specific in dictating the exact figures to be used. The secretary in exercising "initiative" had gone too far and, thinking that the firm was losing, as she thought, a fraction of a cent here and there, proceeded to make the correction. As a result the bid could not be sent and the opportunity of bidding was lost.

(1,035 five-stroke words.)

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