

FIRST CLASS LICENSE (Grade B.)

GEOGRAPHY.

1. Give as full a description as you can of the motions of the sea.
2. Write a full note on the races and religions of Europe.
3. Describe the British Isles, covering the following particulars: location, divisions, climate, manufactures and commerce.
4. Australia—its situation, surface, government, cities, plants and animals.
5. "The position of Afghanistan gives the country great importance in the estimation of Russia and Great Britain." Discuss this statement, giving a short description of the country.
6. Give the country *in* which and the river *on* which each of the following places is situated: Three Rivers, Winnipeg, Memphis, Cologne, Canton, Bordeaux, Florence, Calcutta, Hobart, Buenos Ayres.
7. State the most important geographical discoveries made in Africa during modern times, noting as far as possible the persons by whom they were made.

BRITISH HISTORY.

1. Under the following heads write what you know of early English institutions; Druidism, Bretwalda, Witenagemot, Danegeld, Administration of Justice.
2. Describe briefly the political, social and literary progress during the Plantagenet period.
3. Discuss the general policy of the Tudor Sovereigns.
4. State in detail the chief events of the reign of Queen Anne.
5. "Great Britain has never made greater progress than during the long reign which happily is not yet closed." Illustrate this statement.
6. Write a full note on the varieties of Colonial Governments prevailing throughout the British Empire.

UNIVERSAL HISTORY.

1. Give the leading characteristics of the following Oriental nations: (a) Persians, (b) Hebrews, (c) Egyptians.
2. Write a note on Grecian art and religion.
3. Describe the empire of Charlemagne.
4. Explain what is meant by the term "balance of power," as used in modern European History.
5. Name the chief events of the present century which tend to corroborate the statement that it is "an age fuller, richer and more varied than was ever seen before."
6. Trace the events leading to the breaking out of the Great American Civil War.

COMPOSITION.

1. Define the term "Unity," as applied to a quality of a sentence. Give an example of a sentence wanting that quality, and show how that fault may be corrected.
2. Write sentences, illustrating the shades of meaning in the following pairs of synonyms: graceful, elegant; changeable, fickle; tidings, news; abandon, desert; burden, load; haste, hurry.
3. Quote, from well-known authors, examples of simile, hyperbole, epigram, apostrophe.
4. Define rhythm, rhyme, foot, tetrameter, pentameter, and explain allowable rhyme. Give Dr. Latham's formulae for scanning English poetry, and illustrations of their applications.
5. Write a short essay on any one of the following subjects: The force of habit, The benefits of commerce, The history of a pin, A thunderstorm, The evils of intemperance, The advantages of an education.

BOOK-KEEPING.

1. State the object and briefly describe the process of closing the Ledger.
2. State what is meant by the terms: Assignment, Bill of Exchange, Indorsement, Composition, Letter of Credit, Promissory Note, Dividend.
3. How are transactions under the following accounts journalized? Consignment, Shipment, Expenses, Interest, Cash, Commission and Merchandize.
4. Write the following:—
 - (a) An advertisement applying for a situation as bookkeeper.
 - (b) A letter to your employer asking for more wages (giving reasons).
5. Journalize:—
 - (a) Sold Jas. Johnston on his note 100 bush. wheat, at \$1.75 per bushel.
 - (b) Bought for Cash 400 bush. barley, at 80c. per bush.
 - (c) Sold Jas. Miller on acct. 200 bbls flour, at \$6.50 per bbl.
 - (d) Bought from H. Jones on my note 200 bush. oats, at 50c. per bush.
 - (e) Paid Cash for my note, \$650.00.
 - (f) Received Cash in full, for John Smith's note, \$175.
 - (g) Deposited in Merchant's Bank, \$500.

GRAMMAR.

1. Write a full note on "Auxiliary Verbs," distinguishing between *tense auxiliaries* and *voice auxiliaries*, and account for the various parts of the verb *to be*.
2. State the principal relations indicated by prepositions. Give any other classification.
3. Illustrate the statement that we must classify a word in a sentence, not by its form, but by its function.
4. State the natural order of words in an English sentence, and give the principal exceptions to the following rule: "The subject precedes the verb."
5. Account historically for the presence of so many words of foreign origin in the English language.
6. Parse the italicized words in the following: I am going *fish-ing*. Nothing in his life *became him like the leaving it*. They hated *each other*. At this school I *was taught Latin and Arithmetic*. Thou *sit'st a queen*. The wind had blown a *gale all day*. *Hence, home, you idle creatures*.

ANALYSIS.

1. "There are four types of co-ordination in compound sentences." Explain and illustrate this statement.
2. Point out and explain the distinction in Analysis between clauses introduced by *for* and *because*, respectively.
3. Give general and detailed analysis of:

The impression was increased when, the tapestry being drawn aside, a female form dressed in a rich habit, which partook more of the Eastern taste than of that of Europe, glided through the door which it concealed, and was followed by a swarthy domestic.

ARITHMETIC.

1. Prove that a vulgar fraction will produce a finite decimal, or a pure circulating decimal, or a mixed circulating decimal, according as its denominator has *only* the factors of 10, *none* of such factors, *other* factors *also*; and that the number of finite figures will be equal to the greatest number of equal factors, 2 or 5, in the denominator.
2. Supposing a linear yard to be $\frac{32}{35}$ of a metre, find approximately the difference between a cubic yard and $\frac{4}{5}$ cubic metre, expressing the answer in cubic inches.
3. "The course of exchange on England is usually given with reference to the *old par* of exchange." Explain this statement. A Bill of Exchange in London for £720, cost \$3472; find the course of exchange.
4. An empty cistern has three pipes, A, B and C. A and B can fill it in three and four hours respectively, and C can empty it in one hour. If these pipes be opened in order at 1, 2, and 3 o'clock, find when the cistern will be empty.
5. A person sells 25 articles for the same money which he paid for 32; find his gain per cent. Also if he sells 32 articles for the same money which he paid for 25, find his loss per cent.
6. Bought 336 gallons of molasses at 37½ cents per gallon, and paid \$7.50 for freight; if 5% be allowed for leakage, 4% of the sales for bad debts, and 1% of the remainder for collecting, what selling price per gallon will yield me a net gain of 25% on the whole cost?
7. A cubical block of metal 7 84 inches side weighs .25 lbs. per cubic inch. A hole of square sectional area is to be cut completely through the metal perpendicular to a face of the cube, in order that the weight of metal left may be 100 lbs. Find to three places of decimals the side of the square section.

PRACTICAL MATHEMATICS.

1. If the sine of an angle is .5, find the value of each of its other trigonometrical functions.
2. Find the breadth of the river in a level plain and the height of the tower on its bank, given elevation of top of tower from opposite bank 60° and from a point 450 feet further back 30°.
3. Given log. 2 = .30103, and log. 3 = .47712, find the logarithms of 1.8 and $\left(\frac{2^6}{3^8}\right)$.
4. Left Lat. 52° 6' N., Lon. 35° 20' W.; Course N. 50° W.; distance by log 360 miles. Required the lat. and long. in by Mid. lat. sailing (Given Cos. 50° = .6428, Sin. 50° = .766, Cos. 54° 2' = .585).
5. Deduce the formula for the area of a triangle when the three sides are given.
6. A sphere of lead one foot in diameter is hammered into the shape of a cube. Find the height of the cube in inches.
7. A uniform beam 20 ft. long and weighing 400 lbs. is supported on a cross beam 6 ft. from one end. What weight must be overcome in raising the other end?
8. If a bullet be fired vertically with an initial velocity of 1,200 feet per second, how high will it ascend, and when will it return, neglecting atmospheric resistance?