**The examination papers as set for the pupils of schools in union with the College of Preceptors at midsummer, 1859.**


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### Publication/Creation

London : C.F. Hodgson, [1859]

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# College of Preceptors.

INCORPORATED BY ROYAL CHARTER, 1849.

THE

# EXAMINATION PAPERS

AS SET FOR THE

PUPILS OF SCHOOLS IN UNION WITH THE

COLLEGE OF PRECEPTORS

AT

# MIDSUMMER, 1859.

PUBLISHED BY AUTHORITY.

LONDON:

PUBLISHED BY C. F. HODGSON,

1, GOUGH SQUARE, FLEET STREET, E.C.

*Price Sixpence.*

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## ARITHMETIC.

(*First Class.*)

[The *maximum* value of this paper is 250 Marks. No pupil will pass in this subject who does not obtain at least one fifth of the whole.]

1. Explain 'abstract' and 'concrete' numbers. Define 'multiple' and 'measure' of any given numbers.

2. A wedge of gold weighing 14 lbs. 3 oz. 8 dwt., is valued at 514*l.* 4*s.*; what is the value of an ounce?

3. If 3000 copies of a book of 11 sheets require 66 reams of paper; how much paper will be required for 5000 copies of a book of $12\frac{1}{2}$ sheets?

4. If I spend 20 guineas in 14 days, what must my income be to enable me to lay by 200*l.* in the year 1860?

5. Find the greatest and the least of the fractions :—

(i.) $\frac{3}{4}$, $\frac{7}{12}$, $\frac{2}{3}$, $\frac{1}{6}$, and $\frac{1}{2}$. (ii.) $\frac{11}{12}$, $\frac{29}{30}$, $\frac{17}{18}$, $\frac{7}{16}$, and $\frac{47}{48}$.

6. State the rules for the multiplication and division of vulgar fractions; and simplify the following expressions :—

(i.) $2\frac{2}{3} + 3\frac{3}{4} + 4\frac{4}{5} + 5\frac{5}{6} + 6\frac{6}{7}$.

(ii.) $\frac{7}{11} + \frac{15}{17} - \frac{16}{31} + \frac{18}{45} - \frac{19}{58} + \frac{23}{67}$.

(iii.) $\left(\frac{8}{9} \times \frac{5}{7}\right) + \left(\frac{4}{15} \times \frac{1}{10}\right) + \frac{3}{5}\left(\frac{1}{12} + \frac{11}{14}\right) \div \frac{3}{70}\left(\frac{4}{7} - \frac{4}{15}\right)$.

(iv.) $\dfrac{\dot{0}2\dot{6} + \dot{2}3\dot{8} - \dot{4}5\dot{3}}{\dot{0}7\dot{2} + \dot{2}5\dot{6} - \dot{3}7\dot{6}} \times \left(\dfrac{\cdot016}{\cdot341} - \dfrac{\cdot0025}{\cdot015}\right)$.

7. A sells to B $\frac{7}{8}$ of $\frac{1}{3}$ of $\frac{4}{5}$ of 30 sheep for $\frac{3}{14}$ of $\frac{9}{28}$ of $\frac{8}{9}$ of 210*l.*; what was the average price of each sheep?

8. Reduce $3\frac{1}{2}$*s.* to the decimal of $\frac{5}{11}$ of a guinea: and find the values of ·232 of a cwt., and $4\dot{0}1\dot{7}\dot{1}$ of a mile.

9. A plate of gold 3 inches square and $\frac{1}{8}$ of an inch thick, is extended by hammering so as to cover a surface of 7 square yards; find its present thickness.

10. A can do a piece of work in 3 days, B can do thrice as much in 8 days, and C 5 times as much in 12 days: in what time would they do the work together?

11. Define Interest. Distinguish between Simple and Compound Interest. Find the present value of 1*l.* due 1 year hence at 1 per cent. per annum; and the amount of 1000*l.* in $3\frac{3}{4}$ years at 5 per cent. per annum compound interest.

12. A person possesses 3200*l.* in the 3 per cents. which he sells at $99\frac{3}{4}$; he invests the proceeds in Railway Shares at 56*l.* a share, which shares pay 5 per cent. interest on 45*l.*, the amount paid on each share. How much is his income altered by the transaction?

13. Find by duodecimals the capacity of a cube whose edge is 2 ft. 8 in., and prove the truth of the result by vulgar fractions.

14. Find the square root of 4·515625; and the cube root of 9·528128.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## ARITHMETIC.

(Second and Third Classes.)

[The *maximum* value of this paper is 200 Marks. No Third Class Candidate will pass unless obtains at least 30 marks, nor any Second Class Candidate unless he obtains at least 40.]

1. Define 'Reduction' and 'Practice.' Explain 'Multiplication' and 'Division' as applied both to integers and to fractions.

2. Reduce,—

(i.) 345600 farthings into threepences, shillings, and pounds.

(ii.) 12345 English ells into quarters, nails, and inches.

(iii.) 175 miles into furlongs, poles, and yards.

3. Find, by Practice, the value of,—

(i.) 3825 articles at 2*l.* 17*s.* $4\frac{1}{2}d.$ each.

(ii.) 84 cwt. 3 qrs. 14 lbs. of sugar, at 12*l.* 11*s.* 8*d.* per cwt.

4. How many tons of coal can be purchased for 315*l.* 3*s.* $10\frac{1}{4}d.$, at 17*s.* $3\frac{1}{4}d.$ per ton?

5. A wheel makes 514 revolutions in passing over 1 mile 476 yards 1 foot. What is its circumference?

6. A person bought 1763 yards of cloth at 5*s.* $3\frac{1}{2}d.$ per yard, and retailed it at 6*s.* 11*d.* per yard. What was his profit?

7. A bankrupt owes 3549*l.*, and can pay 17*s.* 6*d.* in the pound. What are his effects worth, and what loss do his creditors sustain?

8. If I get 8 oz. of bread for 6d. when wheat is 15*s.* a bushel; what ought a bushel of wheat to cost, when I get 12 oz. of bread for 4*d.*?

9. Find the greatest common measure of,—

(i.) 28, 84, 154, and 343. (ii.) 396, 5184, and 6914.

Find the least common multiple of,—

(i.) 24, 10, 32, 45, and 25. (ii.) 225, 255, 289, 1023, and 4095.

10. Reduce the following expressions to their simplest forms:—

(i.) $7\frac{1}{2} + \frac{5}{6} + \frac{2}{3}$ of $\frac{3}{4}$ of $19\frac{5}{6}$.

(ii.) $\frac{4}{5} + \frac{1}{8} - \frac{2}{13} + \frac{17}{19} - \frac{11}{12}$.

(iii.) $\left(\frac{1}{3\frac{1}{3}} - \frac{2\frac{1}{4}}{9} + \frac{3\frac{5}{8}}{2}\right) \div (3\frac{2}{3} \times 2\frac{1}{4})$.

(iv.) $(8{\cdot}315 \times {\cdot}025^2) \div (3{\cdot}14^3 + 2{\cdot}015 - 4{\cdot}1635.)$

11. Express 12*s.* $6\frac{3}{4}d.$; 15*s.* $9\frac{3}{4}d.$, and 4*l.* 13*s.* $4\frac{1}{2}d.$ as decimals of 1*l.*; and reduce 12 hrs. 55 min. 24 sec. to the decimal of a day.

12. By selling goods at 8 shillings, I lost 16 per cent.; at what rate should I sell them to gain 7 per cent.?

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## ENGLISH GRAMMAR, ANALYSIS, AND COMPOSITION.

(*First and Second Classes.*)

(N.B. Questions, &c., marked with an asterisk are intended only for Candidates for a First Class Certificate, who may omit questions 4 and 8. The total number of marks for this paper is 200. Second Class Candidates must obtain at least 30 marks; First Class Candidates at least 40.)

1. Enumerate and define the Parts of Speech.

2.* Mention some connective words which are not conjunctions.

3.* Is the definition usually given of the Relative Pronoun applicable to any other pronouns? What is the distinctive characteristic of the Relative Pronoun?

4. What is indicated by the apostrophe placed before the *s* in the possessive case singular of a noun?

5. Define the Degrees of Comparison of adjectives. Give a list of adjectives which have irregular forms for the Comparative and Superlative Degrees.

6. Define *Active Voice* and *Passive Voice*.

7. Take some English verb and analyse the compound tenses in the Indicative Mood of the Active Voice.

8. Give a list of verbs which may be followed by a dependent verb in the infinitive mood without the intervention of the preposition *to*.

9.* Give a list of prefixes and suffixes by which derived verbs may be formed from primary verbs, with examples of each.

10. When is the subject of a sentence said to be *enlarged*?

11. Mention the various kinds of secondary or subordinate clauses that may occur in compound sentences.

12. Analyse one of the following passages:

*a.* By ceaseless action all that is subsists.
Constant rotation of the unwearied wheel
That Nature rides upon, maintains her health,
Her beauty, her fertility. She dreads
An instant's pause, and lives but while she moves.
Its own revolvency upholds the world.
Winds from all quarters agitate the air,
And fit the limpid element for use,
Else noxious. Oceans, rivers, lakes, and streams
All feel the freshening impulse, and are cleansed
By restless undulation.

*b.** See the sole bliss Heaven could on all bestow,
Which who but feels, can taste, but thinks, can know;
Yet, poor with fortune, and with learning blind,
The bad must miss, the good, untaught, will find.
Who wickedly is wise, or madly brave,
Is but the more a fool, the more a knave.

13. Write down all the words in extract *a* which (directly or indirectly) are of Latin or Greek origin, and trace the derivation of ten of them.

14. Write a short composition on one of the following subjects:—

*a.* Hannibal. *b.* Milton.
*c.* The English Constitution. *d.* The Printing Press.

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# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## ENGLISH GRAMMAR.

(Third Class.)

(The total number of marks for this paper is 100; and no Candidate will pass who does not obtain at least one fifth of them.)

1. Enumerate the various ways in which the plural number is formed in English nouns. Give examples of each.

2. Define Case. Mention the different modes in which the Possessive Case is formed in nouns and pronouns.

3. Enumerate and classify the Pronouns.

4. What is meant by *Inflexion?* In an English verb, which tenses are formed by inflexion, and which by the use of auxiliary verbs? Analyse those tenses which are formed by auxiliaries.

5. What is a *Preposition?* What are the principal relations which prepositions indicate?

6. Mention derived nouns ending in (i.) *-age*, (ii.) *-hood*, (iii.) *-ling*, (iv.) *-th*, (v.) *-dom*. State from what other words they are derived, and explain the force of the termination.

7. Explain the terms *Subject* and *Predicate.*

8. What is meant by a *Substantive Clause?* What is meant by an *Adjective Clause?* What is meant by an *Adverbial Clause?* Give an example of each.

9. Parse the following passage:—

> The grove receives us next,
> Between the upright shafts of whose tall elms
> We may discern the thresher at his task.
> Thump after thump resounds the constant flail,
> That seems to swing uncertain and yet falls
> Full on the destined ear.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## ALGEBRA.

*(First and Second Classes.)*

(The total value of this Paper is 250 marks. For passing, Second Class Candidates must obtain at least 40 marks; First Class Candidates at least 50.)

1. Find $(a-b-c)^2$, $\left(x-\frac{1}{x}\right)^4$, $\left(x+\frac{1}{x}\right)^2 \cdot \left(x-\frac{1}{x}\right)^2$.

2. Express in *words* $\frac{a-b}{a+b}$, and the propositions enunciated by

$$(a-b)\ (a+b) = a^2-b^2; \quad (a+b)^3 = a^3+b^3+3ab\,(a+b).$$

Why do you say $-(-a) = a$, and $(-a) \times (-b) = ab$?

3. Find the least common multiple of $a^2-b^2$, $a^3-b^3$, $a^4-b^4$, and their greatest common measure.

4. Reduce to their simplest forms—

$$\frac{a^3+b^3}{a^5+b^5}, \quad \frac{1+x+x^2-3x^3}{3-9x+15x^2-9x^3}.$$

5. Solve the following equations :—

(i.) $1-\frac{2}{3}(x-2) = \frac{1}{3}(x-2)-3.$

(ii.) $\frac{1}{1-\frac{x}{1-x}} = 1.$

(iii.) $\begin{cases} \frac{2}{3x}+\frac{3}{2y} = \frac{5}{6} \\ \frac{1}{x}+\frac{1}{y} = \frac{5}{6} \end{cases}$

(iv.) $\sqrt{x+1} + \frac{1}{\sqrt{x+1}} = 2.$

What is the origin of the rule for transposing?

6. A sheet of paper is cut into a certain number of equal parts; if each part had been half as large again, there would have been one more of them than if each part had been double the original size. Into how many parts was the paper divided?

7. A, B, C are candidates at an election, when 300 vote: C receives all plumpers, and A and B all split votes. If one half of C's votes had gone over to the other side, the majority for A and B would have been 200. How many voted for C?

8. In how many terms will the sum of the series 4, $\frac{12}{5}$, $\frac{18}{5}$ amount to 0?

9. Sum the series $a$, $\sqrt{\frac{a}{x}}$, $\frac{1}{x}$, to $n$ terms and *in infinitum*.

10. Prove that every number, together with its reciprocal, is greater than 2.

11. If $a : b :: b : c :: c : d$, then $a : d :: a^3 : b^3$. Prove this. Can you give this as a *definition* in Euclid?

12. Find a multiplier to render $\sqrt[3]{3} + \sqrt[3]{5}$ rational.

13. Find the middle term of the expansion of $\left(\frac{a}{b}-\frac{b}{a}\right)^6$; also the sum of the 3rd and 5th terms.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## ALGEBRA.

*(Third Class.)*

(The total value of this Paper is 150 marks. For passing, Candidates must obtain at least 30 marks.)

1. Add (i.) $2a - 3b$ and $-5a + 7b$:

(ii.) $-\frac{5}{4}a + \frac{2}{3}b$ and $-2a - \frac{1}{9}b$:

(iii.) $3a - \left(5b + \frac{2}{3}c\right)$ and $3a - \frac{1}{2}b - \frac{8}{3}c$:

(iv.) $\frac{1}{a} + \frac{2}{ab}$ and $\frac{3}{abc}$.

2. From $3a + 5b - 8c$ take $-3a - b + 2c$:

from $-\frac{1}{5}x^2 + \frac{2}{7}y^2$ take $\frac{1}{10}x^2 + \frac{1}{7}y^2$:

from $1 - [1 - (1 - x)]$ take $3(1 - x)$:

from $\frac{3}{x} + \frac{5}{x}$ take $\frac{2}{x} + \frac{4}{x}$.

3. Reduce—(i.) $2a(a + b) - 3b(a + c) + b(a - 3c) - 5a$:

(ii.) $(a + b)(a + b) - (a - b)(a - b)$:

(iii.) $\frac{1}{2}[(x + y)(x - y) + (x + y)^2]$.

4. Multiply—(i.) $x^2 - x + 1$ by $x^2 + x + 1$:

(ii.) $2x + \frac{1}{2}$ by $x + \frac{1}{3}$: (iii.) $\frac{x}{y} + x$ by $\frac{y}{x} + \frac{1}{x}$.

5. Divide—(i.) $2a^2 + a - 6$ by $2a - 3$: (ii.) $64 - a^6$ by $2 - a$.

(iii.) $2x^2 - \frac{7}{6}x + \frac{1}{6}$ by $2x + \frac{1}{2}$:

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

(v.) 1 by $1 - 2x + x^2$ to four terms.

6. Solve the following equations:—

(i.) $\frac{x}{5} - \frac{x}{10} = \frac{1}{2}$: (ii.) $7x = 8 - \frac{1 - 9x}{2}$:

(iii.) $\frac{7x - 16}{21} - \frac{x - 8}{4x - 11} = \frac{x}{3}$.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

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## BOOK-KEEPING AND COMMERCIAL SCIENCE.

(The total number of marks for this Paper is 200. For passing, Candidates for the Lower Certificate must obtain at least 30 marks; those for the Higher Certificate, at least 40.)

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1. What is the distinction between Single and 'Double Entry,' and what are the principal Books employed in the systems of Book-Keeping represented by these terms?

2. What classes of Transactions are entered (1.) in the Day Book; (2.) in the Invoice Book; (3.) in the Bill Book; (4.) in the Cash Book?

3. What is the use of the Ledger? When two sides of a Ledger account do not agree, what name is given to the difference, and how is the account closed?

4. Name the Books in which you ought to insert the following Transactions; complete the calculations, and show the forms in which the Entries ought to be made.

*June* 1.—Joseph Gillot has purchased from me 6 pieces of cloth, each containing 45 yards, at 3*s*. 9½*d*. per yard.

*June* 2.—Bought of Samuel Phillips 5 chests of Tea, each 60 lbs., at 2*s*. 4*d*. per lb.

*June* 3.—Sold for Cash to Jameson and Son, 3 of the chests purchased on the 2nd June, on which I charged them an advance of 4*d*. per lb., allowing them a discount of 2½ per cent.

*June* 5.—Accepted Joseph Gillot's draft, at one month from this date for the cloth sold to him on the 1st June.

*June* 6.—Shipped to the order of Pierre Leroux, of Bordeaux, 10 bales of cotton, each 3½ cwts. at 5¾*d*. per lb., for which I draw upon him at two months, in a set of Exchange of three at the current rate of 25 fr. 57 cents. per £.

5. Define the following technical designations of the parties to a Bill. (i.) The Drawer. (ii.) The Acceptor. (iii.) The Endorser. (iv.) The Drawee.

6. John Marshall, of Liverpool, receives a set of Exchange of three for £800. sterling, drawn by Smith and Co., New York, on Dobson and Co., London, at thirty days, in favour of William Johnson, of Soho Square, London; the Bills have been endorsed by Johnson, to Stephenson and Sons, Manchester, and by them to the above named John Marshall. Required the form of the set, with their endorsations.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## GEOGRAPHY.

(FIRST AND SECOND CLASSES.)

(N.B.—The total value of this Paper is 150 marks. No Candidate will pass who does not obtain at least one fifth of the marks.)

1. What is comprised in a knowledge of Physical Geography?

2. State some of the facts which tend to prove that the earth is a round body.

3. When we are nearest to the sun our climate is much colder than when we are most remote from it. Explain this.

4. Compare the direction of mountain systems in the New and Old Worlds, and trace in a connected view the general lines of the great mountain systems of the globe.

5. Upon what does the course and magnitude of a river depend? Enumerate the larger rivers, and name the seas into which they fall.

6. To what properties of the atmosphere are winds to be referred? What is the principal agent in producing winds? Where do the trade winds prevail? What regions are visited by the monsoons, typhoons, and cyclones?

7. Enumerate the causes which determine physical climate. What are isothermal and isochimenal lines?

8. Where upon the earth's surface is the amount of heat greatest, and why?

9. Explain fully the causes of tides. What are spring and neap tides? Mention seas in which there are no tides, and account for this fact.

10. Trace the direction of the great oceanic current, and name its branches in the Pacific and Atlantic. State all you know about the Gulf Stream.

11. What are the chief objects of culture in India, the United States, France, Holland, China, Cape Colony, and Southern Australia? From what countries do we procure cork, currants, raisins, figs, prunes, olives, sponge, and spices?

12. Write down all you know about Australia, and explain why ships sailing from Atlantic ports to it, double the Cape of Good Hope, and when homeward bound return by Cape Horn.

13. Mention some of the battle-fields in Germany, England, Russia, Bavaria, Italy, the Netherlands, Spain, Asia, Africa, and America. Of what nations were the contending armies?

14. A friend of yours who left his "English Home" many years since, writes you a letter in which he asks you to mention some of the Great Trunk lines of Railway that have been laid down, and what points of land are now connected by the Submarine Telegraphic Cable. Tell him all you know about the matter.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## GEOGRAPHY.

(THIRD CLASS.)

(The total value of this Paper is 100 marks. No Candidate will pass who does not obtain at least one fifth of the marks.)

1. Write down the names of the natural divisions of land and water.

2. Mention some of the larger mountain ranges, rivers, and lakes, upon the earth's surface.

3. Name some of the larger islands, and state where they are situated.

4. Give the names of some of the plants, and of the wild and domestic animals, most useful to man, as articles of food and clothing.

5. Write out the names of the political divisions of Europe with their capitals.

6. What are the principal states of the Germanic confederation?

7. Draw an outline Map of the British Islands, and mark upon it the courses of some of the chief rivers.

8. Where are the British coal fields situated, and from what districts in Great Britain and Ireland are the most valuable metals obtained?

9. State the principal sea-ports in the British Islands, and underline those in which there are Royal Dockyards.

10. Enumerate the British Colonies and foreign possessions. What are the Presidencies of British India? Mention some of the largest cities and towns in India. Who now rules over nearly the whole of Hindoostan?

11. State where the following towns and cities are situated: viz. Florence, Hong Kong, Dantzic, Adelaide, Lyons, Cape Town, Novogorod, Melbourne, Potsdam, Liege, Sierra Leone, Odessa, and Trieste.

12. When it is 12 o'clock at Greenwich, what time is it at St. Petersburg, and what time is it at all places under the meridian of 75° west longitude?

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## FRENCH.

### FIRST AND SECOND CLASSES.

(N.B.—The total number of marks for this Paper is 200. No Second Class Candidate will pass who does not obtain at least 30 marks. First Class Candidates must gain at least 40 marks.)

1. Translate into French :—

"Let us sit down by the fire. The great poet Milton lived sixty-six years. Every body will know it to morrow. The duke of Wellington was born in 1769, and died in 1852. I would come if I could. His horse is worth fifty pounds. I cannot go out this evening. Will you send the servant to the post-office? Cæsar came, saw, and conquered. We will embark at Dover in the evening. I remember it well. We had just dined when he came. Stay and take tea with us. Which of these books is yours? Tell him to send it to me to-morrow morning. Remember me at home. I have not heard from him since he left England. He came back on the 15th of last month. He comes to town twice a week. Is your brother at home? No, sir, he is not. I will write to him this evening. I want twenty pounds. He broke his leg. I have a sore throat. She has a headache."

2. Translate into English :—

"Fréderic II prenait beaucoup de tabac; pour s'éviter la peine de fouiller dans sa poche, il avait fait placer sur chaque cheminée de son appartement une tabatière où il puisait au besoin. Un jour, il voit de son cabinet un de ses pages qui, ne se croyant pas vu et curieux de goûter du tabac royal, mettait sans façon les doigts dans la boîte ouverte sur la cheminée de la pièce voisine. Le Roi ne dit rien d'abord; mais au bout d'une heure il appelle le page, se fait apporter la tabatière, et après avoir invité l'indiscret à y prendre une prise: 'Comment trouvez-vous ce tabac?' 'Excellent, Sire.' 'Et cette tabatière?' 'Superbe, Sire.' 'Hé bien! Monsieur, prenez-la, car je la crois trop petite pour nous deux.'"

3. What orthographical changes take place in verbs of the first conjugation ending in *ger, cer, eler, eter, ayer?*

4. Give the rules for forming adverbs from adjectives, and write examples.

5. What mood of the verb is used after a preposition?

6. In what mood and tense should you put the verb following *falloir?* Give examples.

7. Write a short letter in French.

8. Give with examples the syntax of the words *nu, demi, excepté, supposé.*

9. Parse the following sentences, and explain the construction of the participle past in each :

Les livres que vous m'avez *apportés.*
Les chaleurs qu'il a *fait* pendant l'été.
Les personnes que j'ai *entendues* chanter.
Les chansons que j'ai *entendu* chanter.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## FRENCH.

(Third Class.)

(N.B.—The total number of marks for this Paper is 100; and no Candidate will pass who does not obtain at least 20 marks.)

1. Translate into French:—

"They will speak. Let us speak. I shall act. That I may act. We have received the money. Shall we receive a letter? That you may receive a present. I do sell paper. We did sell sugar. They sold flowers. Should you have punished the child? He gives to his friends the pretty flowers of his garden. London is a large city. We have had good oranges. His sisters are generous. Has he not the best horses? His house and mine are in the same street. We sell pens, ink, paper, books, and pictures. He speaks better than his brother. Lend me your slate, I have left mine at home."

2. Translate into English:—

"Je me porte bien. La porte est ouverte. Ouvrez la fenêtre. Asseyez-vous à mes côtés. Avez-vous faim? J'ai soif. Il fait très froid. Il est sorti avec son frère. Il a acheté deux beaux chevaux. Donnez-moi une livre de cerises. Il n'apprend pas sa leçon. Apportez-moi un verre d'eau. Il est neuf heures. Il nous a donné à chacun un livre. Le reine a fait le tour du parc en voiture. Nous avons reçu une lettre ce matin. Dépèchez-vous, le maître nous appelle Je lui ai prêté mon canif. Il vous le rendra ce soir. A quelle heure dînez-vous?"

3. Write the feminine of the following words: *sage, grand, poli, bon, ancien, bref, généreux, blanc, beau, doux, public, ambassadeur.*

4. Write the plural of the following words: *livre, nez, château, cristal, travail, bijou, feu, ciel, œil, détail.*

5. Write the comparative and superlative of, *bon, mauvais, petit, bien, mal, peu.*

6. Write the present participle, the past participle, the first person singular of the present tense indicative, and of the preterite tense of, *manger, punir, devoir, vendre.*

7. Write in French the cardinal numbers from one to twenty.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

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## HISTORY OF ENGLAND.

(The total number of marks for this Paper is 100; and no Candidate will pass who fails to obtain at least one fifth of them.)

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1. Explain the terms Witenagemote, Danegelt, Curfew, Domesday Book, Scutage, Magna Charta.

2. Who were the sons of Ethelwolf? Relate briefly the history of the most distinguished one.

3. On what did William the Norman found his claim to the crown of England, and how did he obtain it?

4. From the death of William I. to the accession of Henry VII. eight monarchs assumed the crown of England, to the detriment of the rightful heirs. Name them.

5. Under what Sovereigns was the Reformation in England begun and completed? What interruptions did it meet with?

6. When were England and Scotland united under one Sovereign, and by what claim did the King of Scotland succeed to the crown of England?

7. What was the Spanish Armada?

8. Who was William III.? Give an outline of the circumstances which led to his becoming King of Great Britain. In what year did this event occur?

9. Under what Commanders, and when were the Victories of Cressy, Agincourt, Blenheim, Quebec, Trafalgar, Waterloo and Alma gained?

10. Describe the government of Great Britain.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## SCRIPTURE HISTORY.

(The total number of marks for this Paper is 100; and no Candidate will pass who fails to obtain at least one fifth of them.)

### I. OLD TESTAMENT.

1. For what cause did Jacob leave his father's house? Whither did he go? To whom was he married? What children had he? Why was his name changed?

2. Who of the men that left Egypt with Moses were alone permitted to enter the Promised Land? Why was this privilege accorded to them?

3. Jotham's Parable. Jepthah's vow. Samson's riddle. Relate one of these, with its attendant circumstances.

4. Who was the first King of Israel, and why was the Kingdom taken away from his family?

5. The dates of the following events are required: The Flood. The death of Israel. The Exodus. David's accession. The revolt of the Ten Tribes. The carrying away into Babylon.

### II. NEW TESTAMENT.

1. Sketch a Map of Palestine. Denote where the following events in our Lord's history occurred: Birth. Baptism. Crucifixion. Interview with the Samaritan woman. Miracle upon blind Bartimeus. Miraculous draught of fishes.

2. When did our Lord visit Jerusalem with Mary and Joseph? What circumstance occurred at that visit?

3. In what did our Lord's teaching differ from that of all who preceded Him?

4. Relate the Parable of the Sower, and its explanation.

5. What did our Lord teach respecting the observance of the Sabbath?

6. Who was the Apostle of the Gentiles, and in what miraculous manner was he called to the work of the Ministry?

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## LATIN.

(FIRST CLASS.)

(N.B.—Candidates need not take more than two authors, one prose, the other poetical. The total number of marks for two authors is 250; and no Candidate will pass who does not obtain at least 50 marks.)

### VIRGIL—ÆNEID, LIB. I.—III.

*Translate into English:—*

Postquam introgressi, et coram data copia fandi,
Maximus Ilioneus placido sic pectore coepit:
O regina, novam cui condere Jupiter urbem
Justitiaque dedit gentes frenare superbas,
Troes te miseri, ventis maria omnia vecti,
Oramus: prohibe infandos a navibus ignes;
Parce pio generi, et propius res adspice nostras.
Non nos aut ferro Libycos populare Penates
Venimus, aut raptas ad litora vertere praedas;
Non ea vis animo, nec tanta superbia victis.
Est locus, Hesperiam Graii cognomine dicunt,
Terra antiqua, potens armis atque ubere glebae;
Oenotri coluere viri; nunc fama, minores
Italiam dixisse ducis de nomine gentem.

*Questions.*

(i.) Supply the ellipses in the first and second lines. (ii.) Who was the queen here addressed? (iii.) Explain the use of the accusative 'maria omnia.' (iv.) What construction would be employed in prose instead of the infinitives 'populare and 'vertere'? (v.) State the etymology of the following words: coram, condere, infandos, potens, (vi.) Scan the last four lines.

*Translate into English:—*

O patria, o divûm domus Ilium, et incluta bello
Moenia Dardanidum! quater ipso in limine portae
Substitit, atque utero sonitum quater arma dedere.
Instamus tamen immemores caecique furore,
Et monstrum infelix sacrata sistimus arce.
Tunc etiam fatis aperit Cassandra futuris
Ora, dei jussu non unquam credita Teucris.
Nos delubra deûm miseri, quibus ultimus esset
Ille dies, festa velamus fronde per urbem.
Vertitur interea coelum, et ruit oceano nox,
Involvens umbra magna terramque polumque,
Myrmidonumque dolos; fusi per moenia Teucri
Conticuere; sopor fessos complectitur artus.

*Questions.*

(i.) What are the nominatives to 'substitit' and 'instamus'? (ii.) Give an account of the 'monstrum' here spoken of. (iii.) Who was Cassandra? and what God is alluded to? (iv.) What is the antecedent to 'quibus'? (v.) What is the object of the verb 'velamus'? (vi.) Give the roots of the following words: incluta, immemores, monstrum, delubra, conticuere.

### HORACE—ODES, LIB. I.—III.

*Translate into English:—*

Mercuri, facunde nepos Atlantis,
qui feros cultus hominum recentum
voce formasti catus, et decorae
more palaestrae:
te canam, magni Jovis et deorum
nuntium, curvaeque lyrae parentem;
callidum, quidquid placuit, jocoso
condere furto.

Te, boves olim nisi reddidisses
per dolum amotas, puerum minaci
voce dum terret, viduus pharetra
risit Apollo.

Quin et Atridas, duce te, superbos
Ilio dives Priamus relicto
Thessalosque ignes et iniqua Trojae
castra fefellit.

Tu pias laetis animas reponis
sedibus, virgaque levem coerces
aurea turbam, superis deorum
gratus et imis.

*Questions.*

(i.) Give an account of the events referred to in the third and fourth stanzas. (ii.) What was that function of Mercury which is spoken of in the last stanza? (iii.) In what cases are the following words, and on what is each dependent?—palaestrae, callidum, te (3rd stanza), pharetra, Trojae, sedibus.

*Translate into English :—*

Quid tristes querimoniae,
si non supplicio culpa reciditur:
quid leges sine moribus
vanae proficiunt? si neque fervidis
pars inclusa caloribus
mundi, nec Boreae finitimum latus,
durataeque solo nives
mercatorem abigunt? horrida callidi
vincunt aequora navitae?

magnum pauperies opprobrium jubet
quidvis et facere et pati,
virtutisque viam deserit arduae?
Vel nos in Capitolium,
quo clamor vocat et turba faventium,
vel nos in mare proximum
gemmas et lapides aurum et inutile,
summi materiem mali,
mittamus, scelerum si bene poenitet.

*Questions.*

(i.) What is the metre of this ode? Scan the last four lines. (ii.) To what verb is 'querimoniae' the nominative? (iii.) In what cases are 'Boreae' and 'opprobrium'? (iv.) With what must 'in Capitolium' be connected? (v.) Explain the construction of 'poenitet,' and similar verbs. (vi.) Give the etymology of the following words: querimoniae, reciditur, abigunt, mercatorem, summi. (vii.) Bentley reads 'deserere' instead of 'deserit.' What arguments may be alleged in support of this conjecture? How may the common reading be defended?

## CICERO—De Senectute.

*Translate into English :—*

Scipio. Saepenumero admirari soleo cum hoc C. Laelio tum ceterarum rerum tuam excellentem, M. Cato, perfectamque sapientiam, tum vel maxime quod nunquam senectutem tibi gravem esse senserim, quae plerisque senibus sic odiosa est ut onus se Aetna gravius dicant sustinere. Cato. Rem haud sane difficilem, Scipio et Laeli, admirari videmini. Quibus enim nihil est in ipsis opis ad bene beateque vivendum, iis omnis aetas gravis est: qui autem omnia bona a se ipsi petunt, iis nihil potest malum videri quod naturae necessitas afferat. Quo in genere est in primis senectus, quam ut adipiscantur omnes optant, eandem accusant adeptam: tanta est stultitiae inconstantia atque perversitas. Obrepere aiunt eam citius quam putavissent. Primum, quis coegit eos falsum putare? Quid enim citius adolescentiae senectus quam pueritiae adolescentia obrepit? Deinde, quî minus gravis esset iis senectus, si octingentesimum annum agerent quam octogesimum? Praeterita enim aetas quamvis longa quum effluxisset, nulla consolatione permulcere posset stultam senectutem.

*Questions.*

(i.) Explain the use of the subjunctive in the sentences to which the following verbs belong: senserim, dicant, adipiscantur, esset, agerent. (ii.) What is the distinction between deponent and other verbs? Make a list of all the deponent verbs in the passage. (iii.) Give the derivation of the following words: excellentem, difficilem, genere, adipiscantur, perversitas, coegit, adolescentiae. (iv.) If the whole duration of human life be divided into four ages, three of which are here mentioned, what Latin term may be used to designate the fourth?

*Translate into Latin :—*

(1) In-young-men endowed with a good disposition wise old-men take-pleasure, and the old-age of those who are respected and beloved by the young becomes more-tolerable. (2) Lysander the Lacedemonian, of whom I made mention just now, was wont, they say, to say that Sparta was the most honorable abode of old-age: for nowhere is so much (respect) given to age, nowhere is old-age more respectable. (3) All men who deliberate respecting doubtful matters ought to be free from hatred, friendship, anger, and compassion.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

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## LATIN.

(SECOND CLASS.)

(N.B. The total number of Marks for the Caesar, and *either* the Virgil or the Horace, is 200; and no Candidate will pass, who does not obtain at least 40 marks.)

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## CAESAR.

I. Translate into English :—

Hac eodem tempore Caesari mandata referebantur, et legati ab Aeduis et a Treviris veniebant: Aedui questum quod Harudes qui nuper in Galliam transportati essent, fines eorum popularentur; sese ne obsidibus quidem datis pacem Ariovisti redimere potuisse: Treviri autem, pagos centum Suevorum ad ripas Rheni consedisse, qui Rhenum transire conarentur; iis praeesse Nasuam et Cimberium fratres. Quibus rebus Caesar vehementer commotus, maturandum sibi existimavit, ne si nova manus Suevorum cum veteribus copiis Ariovisti sese conjunxisset, minus facile resisti posset.

*Questions.*

(i.) Decline the following words: eodem (three genders), fines, rebus, manus. (ii.) Write the nom. sing. of the following words, and state the gender of each: tempore, obsidibus, pacem, copiis. (iii.) State to what part of speech each of these words belongs: et, ab, quod, quidem, potuisse, centum, vehementer, maturandum, sibi, minus. (iv.) What substantive does each of the following pronouns represent?—eorum, sese, iis, sibi, sese (conjunxisset). (v.) On what is 'questum' dependent, and to what class of words does it belong?

II. Translate into English :—

Legionis nonae et decimae milites, ut in sinistra parte aciei constiterant, pilis emissis, cursu ac lassitudine exanimatos vulneribusque confectos Atrebates (nam his ea pars obvenerat) celeriter ex loco superiore in flumen compulerunt, et transire conantes insecuti gladiis magnam partem eorum impeditam interfecerunt. Ipsi transire flumen non dubitaverunt, et in locum iniquum progressi, rursus regressos ac resistentes hostes redintegrato proelio in fugam dederunt.

*Questions.*

(i.) From what more simple words (roots) are the following derived?—lassitudine, exanimatos, confectos, transire, iniquum, redintegrato. (ii.) Write out all the six persons of the tenses to which the following verbs belong:—obvenerat, dederunt, proeliabantur. (iii.) Point out any examples of the ablative absolute in the passage.

III. Translate into Latin :—

(N.B. All the Latin words required are contained in the second passage from Caesar; so that the Candidate has merely to make the needful changes in the forms of the words.)

1. The ninth legion has posted itself on the higher ground.
2. The soldier was killed with a javelin, while endeavouring to pursue the enemy across the river.
3. A great part of the soldiers, having advanced to the bank of the river, was routed by the Atrebates.
4. We ourselves will not hesitate to renew the battle.

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## VIRGIL.

IV. Translate into English :—

1. Ac veluti magno in populo cum saepe coorta est
   Seditio, saevitque animis ignobile vulgus;
   Jamque faces ac saxa volant, furor arma ministrat.
   Tum pietate gravem ac meritis si forte virum quem

Conspexere, silent, arrectisque auribus adstant;
Iste regit dictis animos et pectora mulcet:
Sic cunctus pelagi cecidit fragor, aequora postquam
Prospiciens genitor, coeloque invectus aperto,
Flectit equos, curruque volans dat lora secundo.

2. Solvite corde metum, Teucri, secludite curas.
Res dura et regni novitas me talia cogunt
Moliri, et late fines custode tueri.
Quis genus Aeneadum, quis Trojae nesciat urbem,
Virtutesque virosque, aut tanti incendia belli?
Non obtusa adeo gestamus pectora Poeni,
Nec tam aversus equos Tyria Sol jungit ab urbe.
Seu vos Hesperiam magnam Saturniaque arva,
Sive Erycis fines regemque optatis Acesten,
Auxilio tutos dimittam, opibusque juvabo.
Vultis et his mecum pariter considere regnis?
Urbem quam statuo, vestra est; subducite naves;
Tros Tyriusque mihi nullo discrimine agetur.

*Questions.*

On passage (1.) (i.) What is the name of the metre in which the Aeneid is written? State its principal rules, and scan the first five lines of the passage. (ii.) What is the correlative here to veluti? (iii.) What is the subject of conspexere? How do you account for the verb being plural? (iv.) Who is designated by the word genitor?——On passage (2.) (i.) By whom were these words spoken? (ii.) What war is that mentioned in v. 5? (iii.) What countries are meant in vv. 8 and 9? Explain the form Acesten. (v.) Explain the construction of the sentence, 'urbem quam statuo vestra est,' and of the dative 'mihi.' (vi.) Write out the 1st pers. sing. of the present (imperfect) and (present) perfect of the following verbs, with their supines:—solvite, secludite, cogunt, jungit, optatis, dimittam, vultis, tueri.

## HORACE.

V. Translate into English:—

1. Neque te silebo
Liber; et saevis inimica virgo
belluis; nec te, metuende certa,
Phoebe, sagitta.

Dicam et Alciden, puerosque Ledae,
hunc equis, illum superare pugnis
nobilem: quorum simul alba nautis
stella refulsit,
defluxit saxis agitatus humor;
concidunt venti, fugiuntque nubes:
et minax—di sic voluere—ponto
unda recumbit.

Romulum post hos prius, an quietum
Pompili regnum memorem, an superbos
Tarquini fasces, dubito, an Catonis
nobile letum.

2. Occidit et Pelopis genitor, conviva deorum,
Tithonusque remotus in auras,
et Jovis arcanis Minos admissus; habentque
Tartara Panthoiden, iterum Orco
demissum, quamvis, clypeo Trojana refixo
tempora testatus, nihil ultra
nervos atque cutem morti concesserat atrae;
judice te non sordidus auctor
naturae verique. Sed omnes una manet nox,
et calcanda semel via leti.
Dant alios Furiae torvo spectacula Marti:
exitio est avidum mare nautis.

*Questions.*

On passage (1.) (i.) What is the metre of this Ode? Scan the first stanza. (ii.) Who was the 'virgo' here mentioned? (iii.) In what case are the words 'inimica virgo'? (iv.) Give an account of the persons mentioned in the second stanza. (v.) What constellation is designated by the words 'alba stella'? (vi.) Explain the historical references made by the phrases, 'quietum Pompili regnum,' 'superbos Tarquini fasces,' and 'Catonis nobile letum.' On passage (2.) (i.) Who was Pelopis genitor? Explain the allusion in v. 1. (ii.) Who is meant by Panthoiden? Explain the expression, '*iterum* Orco demissum.' (iii.) Explain the construction of v. 12.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATIONS.—Midsummer, 1859.**

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## LATIN.

*(Third Class.)*

(N.B. The total number of Marks for this Paper, is 150; and no Candidate will pass, who does not obtain at least one-fifth of them.)

I. Translate into English:—

1. Non solum ipsa fortuna caeca est, sed eos etiam plerumque efficit caecos quos complexa est.
2. Nulla possessio, nulla vis auri et argenti pluris quam virtus aestimanda est.
3. Non satis magnam homines tribuunt inventoribus gratiam.
4. Historia est testis temporum, lux veritatis, vita memoriae, magistra vitae, nuntia vetustatis.
5. Patria est communis omnium parens.
6. Apud bonum judicem argumenta plus quam testes valent.

*Questions.*

(i.) Which are the nominatives to the following verbs?—complexa est, tribuunt, valent. (ii.) In what cases are the following words, and by what is each of them governed?—eos, gratiam, inventoribus, temporum. (iii.) Decline the following substantives: possessio, auri, virtus, judicem.

## CAESAR.

II. Translate into English:—

Interea ea legione quam secum habebat militibusque qui ex provincia convenerant, a lacu Lemanno, qui in flumen Rhodanum influit, ad montem Juram qui fines Sequanorum ab Helvetiis dividit, millia passuum decem novem murum, in altitudinem pedum sedecim, fossamque perducit. Eo opere perfecto, praesidia disponit, castella communit, quo facilius, si se invito transire conarentur, prohibere possit. Ubi ea dies, quam constituerat cum legatis, venit, et legati ad eum reverterunt, negat se more et exemplo populi Romani posse iter ulli per provinciam dare; et si vim facere conentur, prohibiturum ostendit.

*Questions.*

(i.) Write the nom. sing., and state the gender of each of the following words: militibus, lacu, flumen, montem, altitudinem, pedum, opere, legatis, more, vim. (ii.) State the conjugation, tense, mood, and voice of each of these verbs: habebat, convenerant, influit, transire, conarentur, possit, reverterunt, posse, conentur. (iii.) For what substantive does each of the following pronouns stand?—quam, qui (ex provincia), qui (fines), se, eum. (iv.) What are the modern names of lacus Lemannus and flumen Rhodanus, and where are they situated?

III. Translate into English:—

Prima luce, quum summus mons a T. Labieno teneretur, ipse ab hostium castris non longius mille et quingentis passibus abesset, neque, ut postea ex captivis comperit, aut ipsius adventus aut Labieni cognitus esset, Considius equo admisso ad eum accurrit; dicit montem quem a Labieno occupari voluerit ab hostibus teneri; id se a Gallicis armis atque insignibus cognovisse. Caesar suas copias in proximum collem subducit, aciem instruit. Labienus, ut erat ei praeceptum a Caesare, ne proelium committeret nisi ipsius copiae prope hostium castra visae essent, ut undique uno tempore in hostes impetus fieret, monte occupato nostros exspectabat proelioque abstinebat.

*Questions.*

(i.) Decline in full the following words: ipse (three genders), captivis, copias, impetus. (ii.) Write out in full (three singular persons, three plural) the tenses to which the following verbs belong: teneretur, dicit, voluerit, fieret, abstinebat. (iii.) What was Caesar's distance from the enemy's camp, in English miles? (iv.) What are the comparatives corresponding to the superlatives, primus, summus, and proximus?

IV. Translate into Latin:—

(N.B. All the Latin words required are contained in the second passage of Caesar; so that the Candidate has merely to change the forms of the words as the sense renders necessary.)

1. I was not more than 500 paces from the mountain.
2. The prisoners had ascertained that the nearest hills were held by our forces.
3. You had instructed me not to make an attack upon the camp.
4. We learnt that-fact from the prisoner who was awaiting our arrival on the top of the hill.

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**PUPILS' EXAMINATIONS.—Midsummer, 1859.**

## GEOMETRY AND TRIGONOMETRY.

(N.B.—The total number of marks for this Paper is 300; and no Candidate will pass unless he obtains at least 60 marks.)

### EUCLID, BOOKS I—III.

1. Define a superficies, right angle, rhombus, and parallelogram.
2. Enunciate and prove Prop. 4., Book I.
3. The exterior angle of a triangle is greater than either of the interior and opposite angles. Prove both cases.
4. Through a given point draw a straight line parallel to a given straight line. How would you do this practically?
5. If the sides of a quadrilateral figure be bisected, and the points of bisection joined, the included figure is a parallelogram.
6. If a straight line be divided into two equal and also into two unequal parts, the rectangle contained by the unequal parts, together with the square of the line between the points of section, is equal to the square of half the line.
7. Describe a square that shall be equal to a given rectilineal figure.
8. Distinguish between the angle in a segment, and the angle of a segment. How is the latter measured?
9. If from a point within a circle more than two equal straight lines be drawn to the circumference, that point is the centre of the circle. How would the proof fail, if there were only two such lines?
10. The angle at the centre is double the angle at the circumference upon the same base. Is this true, when the base is not less than a semicircle?
11. The angle in a semicircle is a right angle; the angle in a segment greater than a semicircle is less than a right angle; and the angle in a segment less than a semicircle is greater than a right angle.
12. If two straight lines intersect at right angles within a circle, the rectangle contained by the segments of one is equal to the square of half the other.

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### TRIGONOMETRY.

1. Define the sine, cosine, and tangent of an angle, and trace the variations in sign and magnitude which the cosine undergoes as the angle increases from 0 to 360°.
2. Prove that,

(i.) $\tan A = \dfrac{\sin A}{\cos A}$. (ii.) $\sin^2 A + \cos^2 A = 1$.

(iii.) $\sin (180° - A) = \sin A$. (iv.) $\text{Cos } 30° = \dfrac{\sqrt{3}}{2}$.

3. Prove the following formulæ:

(i.) $\text{Sin } (A + B) = \sin A \cos B + \cos A \sin B$.

(ii.) $\text{Cos } B - \cos A = 2 \sin \frac{1}{2} (A + B) \sin \frac{1}{2} (A - B)$.

(iii.) $2 \sin^2 A = 1 - \cos 2A$.

4. Solve the triangle in which $a$, $b$, C, are given.

Example. $a = 7$, $b = 4$, $C = 40°$, find A and B;

given $\log 11 = 1{\cdot}041393$; $\log 3 = {\cdot}477121$;

$\log \cot 20° = 10{\cdot}438934$; $\log \tan 36° 50' 41'' = 9{\cdot}874662$.

5. If $\alpha + \beta + \gamma = 180°$, shew that, (i.) $\sin (\alpha + \beta) \sin (\alpha + \gamma) = \sin \beta \sin \gamma$; and (ii.) $\sin 2\alpha + \sin 2\beta + \sin 2\gamma = 4 \sin \alpha \sin \beta \sin \gamma$.

6. In any triangle, $\dfrac{\sin A}{a} = \dfrac{\sin B}{b} = \dfrac{\sin C}{c}$.

7. A person observes the angle of elevation of an inaccessible object to be 45°, and after walking forward 824 yards up a hill inclined at 30°, he observes the angle of elevation to be 60°. Find the height of the object.

8. Find the radius of the circle in which an arc of 30 feet subtends an angle of 20°, $\pi$ being equal to $\frac{22}{7}$.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

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## GEOMETRY.

### EUCLID, BOOK I.

*(Second Class.)*

(The total number of marks for this Paper is 150 marks; and no Candidate will pass who fails to obtain at least one fifth of them.)

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1. Define a plane angle, square, rhombus, and parallel straight lines. Can you give any other definition of parallel straight lines?

2. Of what use are the Postulates and Axioms?

3. If two angles of a triangle be equal to each other, the sides also which subtend the equal angles shall be equal to each other.

4. Enunciate and prove Prop. VIII.

5. Draw a straight line at right angles to a given straight line from a given point in the same.

6. Any two angles of a triangle are together less than two right angles. Prove all the cases.

7. Describe a triangle that shall have its sides equal to three given straight lines. What is the condition respecting the three lines? Where would the construction fail without it?

8. If a straight line falling upon two other straight lines make the exterior angle equal to the interior and opposite angle upon the same side of the line; or make the two interior angles upon the same side together equal to two right angles; the two straight lines shall be parallel to each other.

9. The straight lines which join the extremities of two equal and parallel straight lines towards the same parts, are also themselves equal and parallel.

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

11. If the square described upon one of the sides of a triangle be equal to the squares described upon the other two sides; the angle contained by these two sides is a right angle.

12. Two adjacent sides of a rhomboid being drawn, show how to complete the figure.

13. If the diagonals of a quadrilateral figure bisect each other at right angles, the figure is a square.

# COLLEGE OF PRECEPTORS.

**PUPILS' EXAMINATION.—December, 1858.**

## XENOPHON'S ANABASIS, Books I. II. III.; AND THE HECUBA OF EURIPIDES.

1. Give the purport of Xenophon's narrative of his own personal history, so far as it is contained in these books; and sketch the latter part of his life.

2. Draw a map of the route of Cyrus and the Greeks in their retreat, pointing out the countries and chief towns which they passed.

3. Translate:—Καὶ ἤδη τε ἦν μέσον ἡμέρας, καὶ οὔπω καταφανεῖς ἦσαν οἱ πολέμιοι· ἡνίκα δὲ δείλη ἐγίγνετο, ἐφάνε κονιορτὸς ὥσπερ νεφέλη λευκὴ, χρόνῳ δὲ συχνῷ ὕστερον ὥσπερ μελανία τις ἐν τῷ πεδίῳ ἐπὶ πολύ. Ὅτε δὲ ἐγγύτερον ἐγίγνοντο, τάχα δὴ καὶ χαλκός τις ἤστραπτε καὶ αἱ λόγχαι καὶ αἱ τάξεις καταφανεῖς ἐγίγνοντο.

Why is μέσον neuter? The Latin version of οὔπω? Conjugate ἐφάνη, ἐγίγνοντο. Derive κονιορτός, δείλη. In what different senses does Xenophon use the term τάξις? Distinguish between the constructions: ὅτε ἐγίγνοντο, ὅταν γίγνωνται, and ὅτε γίγνοιντο.

4. Translate into English and Latin:—Ἡμεῖς οἰόμεθα, εἰ μὲν δέοι Βασιλεῖ φίλους εἶναι, πλείονος ἂν ἄξιοι εἶναι φίλοι, ἔχοντες τὰ ὅπλα, ἢ παραδόντες ἄλλῳ· εἰ δὲ δέοι πολεμεῖν, ἄμεινον ἂν πολεμεῖν, ἔχοντες τὰ ὅπλα, ἢ ἄλλῳ παραδόντες. Why are φίλοι and φίλους in different cases?

5. Translate:—Ἐπεὶ δὲ ταῦτ' ἔγνωσαν οἱ στρωτηγοὶ, ἐποίησαν ἓξ λόχους ἀνὰ ἑκατὸν ἄνδρας, καὶ λοχαγοὺς ἐπέστησαν, καὶ ἄλλους πεντηκοντῆρας, καὶ ἄλλους ἐνωμοτάρχους. Οὗτοι δὲ πορευόμενοι οἱ λοχαγοὶ, ὁπότε μὲν συγκύπτοι τὰ κέρατα, ὑπέμενον ὕστεροι, ὥστε μὴ ἐνοχλεῖν τοῖς κέρασι· τότε δὲ παρῆγον ἔξωθεν τῶν κέρατων. Ὁπότε δὲ δ.άσχοιεν αἱ πλευραὶ τοῦ πλαισίου, τὸ μέσον ἀνεξεπίμλασαν, εἰ μὲν στενώτερον εἴη τὸ διέχον, κατὰ λόχους· εἰ δὲ πλατύτερον, κατὰ πεντηκοστοῦς· εἰ δὲ πάνυ πλατὺ, κατ' ἐνωμοτίας· ὥστε ἀεὶ ἔκπλεων εἶναι τὸ μέσον.

Explain clearly the meaning of the arrangements in this last sentence. What number of men were contained in this ἐνωμοτία? What number usually? Derive the word.

6. Translate into Greek prose:—"Now they marched thence four stages (i.e. twenty parasangs) to an inhabited city, large and flourishing. From this city the governor of the country sent a guide to the Greeks, to conduct them through the country at war with his own people. Now when he came he said he would lead them in five days to a position, from which they could behold the sea,—otherwise he engaged to suffer death."

7. Sketch the origin and progress of the Grecian drama, pointing out especially the improvements introduced by Æschylus and Sophocles. Quote also the lines of Horace on this subject.

8. Explain the force of each word in the full description of a Senarius: Tragicus Iambicus Trimeter Acatalecticus. Give the chief variations of which such a line is capable, and the laws to which it is subject. Which of these were discovered by Person?

9. Translate:—

Ὁ Πηλέως γὰρ παῖς, ὑπὲρ τίμβον φανεὶς,
κάτεσχ' Ἀχιλλεὺς πᾶν στράτευμ' Ἑλληνικὸν,
πρὸς οἶκον εὐθύνοντας ἐναλίαν πλάτην·
αἰτεῖ δ' ἀδελφὴν τὴν ἐμὴν Πολυξένην
τύμβῳ φίλον πρόσφαγμα καὶ γέρας λαβεῖν.
καὶ τεύξεται τοῦδ', οὐδ' ἀδώρητος φίλων
ἔσται πρὸς ἀνδρῶν· ἡ πεπρωμένη δ' ἄγει
θανεῖν ἀδελφὴν τῷδ' ἐμὴν ἐν ἥματι.

Parse all the verbs in this extract. What is the syntax of the verbs λαβεῖν, θανεῖν? How would these verbs be rendered in Latin? Under what circumstances did Æneas meet with Polydorus, according to Virgil?

10. Translate:—

Οἴμοι τάλαινα, ποῖ μ' ὑπεξάγεις πόδα;
ἔοικα πράξειν οὐδέν· ὦ τάλαιν' ἐγώ·
τί δῆτα θνητοὶ τἄλλα μὲν μαθήματα
μοχθοῦμεν ὡς χρὴ, πάντα, καὶ μαστεύομεν,
πειθὼ δὲ, τὴν τύρωννον ἀνθρώποις μόνην,
οὐδέν τι μᾶλλον ἐς τέλος σπουδάζομεν,
μισθοὺς διδόντες, μανθάνειν ἵν' ᾖ ποτὲ
πείθειν ἃ τις βούλοιτο, τυγχάνειν θ' ἅμα;

Musgrave considered that the diphthong οι was elided in the first line. Point out the reason of his error, and the real construction. How does Porson distinguish between the adverbs ποι, ποῦ, and πῇ?

11. Translate:—

Πᾶ πόδ' ἐπάξας, σαρκῶν ὀστέων τ'
ἐμπλησθῶ, θοίναν ἀγρίων θηρῶν
τιθέμενος, ἀρνύμενος λώβαν,
λύμας ἀντίποιν' ἐμᾶς; ἰὼ τάλας,
ποῖ, πᾶ φέρομαι, τέκν' ἔρημα λιπῶν
Βάκχαις Ἅϊδου διαμοιρᾶσαι,
σφακτὰν κυσίν τε φοινίαν
δαΐτ' ἀνήμερον, ὀρείαν τ' ἐκβολάν;
πᾶ στῶ, πᾶ κάμψω, πᾶ βῶ,
ναῦς ὅπως ποντίοις πείσμασιν
λινόκροκον φάρος στέλλων
ἐπὶ τάνδε συθεὶς,
τέκνων ἐμῶν φύλαξ,
ὀλέθριον κοίταν;

Account for the use of Doric forms by a Greek Chorus.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## GERMAN.

(The first four numbers in each of the three parts are for Third-class Candidates; the first six numbers in each part, for Second-class Candidates; and the whole Paper for First-class Candidates. The total number of marks for this Paper is 200; no Third-class Candidate will pass who does not obtain at least 20 marks; a Second-class Candidate must obtain at least 30; a First-class at least 40.)

### PART I.

*Write Answers to the following Questions :—*

1. Decline the Definite and Indefinite articles.
2. How are Feminine Substantives and those Masculine Substantives that end in el, en, r, and e, declined?
3. In how many ways is the Adjective declined if it precedes its Substantive? Translate—red wine, blue colour, white paper, with the Definite and Indefinite Article, and without an article.
4. Name and decline the personal pronouns. Like what are the possessive pronouns declined?
5. How are the Present and Imperfect Tenses, and the Past Participle of regular Verbs formed?
6. Conjugate in the Present, Imperfect, and Perfect Tenses the following verbs :—fliehen, gleiten, ſingen, kommen.
7. How is the Passive Voice formed? Conjugate in the Present Tense—ſich beklagen.
8. What is a compound verb, and how many sorts of compound verbs are there? Name the inseparable prefixes of compound verbs. How are the Imperfect and Past Participles of compound verbs formed?
9. When is the Subjunctive Mood used? When is the Nominative placed after the Verb or after the Auxiliary in a sentence?

### PART II.

*German Sentences to be Translated into English :—*

1. Die Liebe des Vaters und der Mutter iſt groß.
2. Mit den Netzen fangen die Fiſcher und Jäger Fiſche und Vögel.
3. Die Füße dreier Menſchen ſind ſechs.
4. Der beſte Mann iſt derjenige, welcher der gerechteſte iſt. Weſſen Bruder iſt der Beſte?
5. Wenn ihr eure Pflichten treulich erfüllt, ſo werdet ihr geliebt und gelobt werden.
6. Wenn du von hier wirſt abgereiſt ſein, ſprach Calypſo zu Telemach, um in dein elendes Ithaka zurückzukehren, ſo wirſt du es bereuen.
7. Hermann wurde in Rom erzogen und gebildet, als aber derſelbe in ſein Vaterland zurückgekehrt war, vertrieb er die Römer aus Germanien.
8. In der Schlacht an der Katzbach wurde ein Viereck franzöſiſcher Grenadiere von einem preußiſchen Landwehr Regimente mit dem Bayonnet angegriffen,
9. Und nachdem es ſich vergebens zuſammengedrängt hatte, um den Feind nicht durchzulaſſen, mit den Kolben zu Boden geſchlagen.

### PART III.

*English Sentences to be translated into German :—*

1. The size of the house. The heat of the summer. The diligence of the boy.
2. The brother's house is large. The forests are full of animals and birds.
3. Where is my black coat? It is in my new house.
4. The tallest man is not always the most handsome.
5. Four times twenty-four make ninety-six. Write in German :—30th, 55th, 99th, 155th, 677th, 1,007th, 3,696th, 20,540th.
6. Who was it, I or you? These books are mine. This is the man from whom I received the money, which I gave to you.
7. You shall not do it. I will not believe it. He could swim. What must we do?
8. You would learn German in a short time, if you would study diligently.
9. Whatever may happen, I shall not complain. They flatter themselves. If I succeed, you will be rewarded. He promised to commence to-day. I rise at day-break.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## NATURAL PHILOSOPHY.

(N.B.—The total number of marks for this paper is 150. Second Class Candidates will not pass unless they obtain at least 20 marks. First Class Candidates must obtain at least 30 marks.)

1. Define force. How is accelerating force measured? Distinguish it from moving force.

2. What is the condition of equilibrium on a lever? Give examples of each kind. The arms of a lever being 2 and 10 inches, what force at the end of the shorter arm will balance a weight of 10 lbs. at the end of the longer?

3. At what point of a lever, 7 inches long, must a fulcrum be placed, so that 10 lbs. at one end may balance 18 lbs. at the other end?

4. In the single movable pulley with parallel strings, find the relation between the power and weight. When the power has descended through 2 feet, how high has the weight been raised?

5. Define the centre of gravity of a body or system of bodies. Find that of four equal particles placed at the corners of a square, and of three equal particles placed at the corners of a triangle.

6. Find the velocity of a falling body at the end of 5 seconds, the whole space described, and the space described in the last second, gravity being 32·2.

7. How are forces represented by lines? Enunciate the parallelogram of forces. Explain the composition and resolution of forces.

8. State the second law of motion, and give experimental proofs.

9. A boat is being pulled at right angles to the course of a stream at the rate of 4 miles an hour, the stream running at the rate of 3 miles an hour, find the direction and velocity of the boat.

10. Explain fully the action of the syphon.

11. Describe the barometer, and mention some of the uses to which it has been applied.

12. How is sound propagated? At what rate? Distinguish between a musical note and a noise. Account for the existence of echoes.

13. Name the primary colours. Explain the formation of the rainbow.

14 State Kepler's laws of planetary motion.

# COLLEGE OF PRECEPTORS.

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

## CHEMISTRY.

(N.B.—The total number of marks for this Paper is 150. For passing, Second Class Candidates must obtain at least 20 marks; First Class Candidates at least 30.)

1. What is an element? Name the gaseous elements, with their equivalents and symbols.

2. Explain the terms *anhydrous*, *deliquescent*, *bibasic*, *hydracid*, *haloid*, and *equivalent*.

3. State the fundamental laws of chemical affinity. Explain and illustrate the difference between a mechanical mixture and a chemical combination.

4. What is the composition of the air? How is the atmosphere affected by living plants and animals?

5. Explain the chemical changes which take place during the process of combustion in an ordinary fire.

6. Describe the properties of hydrogen, and the various modes of obtaining it.

7. Explain (by symbols or diagrams) the changes which ensue when the following mixtures are made:—

(i.) Common salt and nitrate of silver.

(ii.) Sugar of lead and chromate of potass.

(iii.) Iodide of potassium and corrosive sublimate.

(iv.) Sal-ammoniac and quick-lime.

8. Explain the following formulæ:—

(i) $2SO_3 + Cu = CuO,SO_3 + SO_2$.

(ii.) $NaCl + MnO_2 + 2(HO,SO_3) = NaO,SO_3 + MnO,SO_3 + 2HO + Cl$.

(iii.) $CaO,NO_5 + KO,CO_2 = CaO,CO_2 + KO,NO_5$.

(iv.) $C_4H_6O_2 + HO,SO_3 = C_4H_4 + HO,SO_3 + 2HO$.

9. State the principal tests for iron, copper, lead, sulphuric acid, and iodine.

10. Trace the connection between sugar, alcohol, vinegar, ether, and chloroform.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## NATURAL HISTORY.

(The total number of marks for this Paper is 150. For passing, Second Class Candidates must obtain at least 20 marks; First Class at least 30.)

### I. GEOLOGY AND MINERALOGY.

1. What are the chief minerals which enter into the composition of the crust of the earth?

2. Define the terms crystalline, granular, porous, fibrous, earthy, and compact, as applied to the structure of rocks and minerals; and give examples.

3. In what form do the following minerals most commonly occur, and from what substances can they be most easily obtained?—(i.) Lime; (ii.) Gypsum; (iii.) Alumina; (iv.) Magnesia; (v.) Cinnabar; (vi.) Malachite; (vii.) Alabaster.

4. What are the most useful ores of iron, copper, tin, and lead? How is the separation of the metal from the ore effected?

5. What are the most useful varieties of building stone used in England, and where are they obtained?

6. What is the composition of coal? How has its formation been accounted for? In what countries is it found in the greatest abundance?

7. In what order have geologists arranged the strata, of which the Earth's crust is composed? Make a table of these strata, and mention, if you can, any fossils which are characteristic of the formations in which they occur.

### II. BOTANY.

1. What is the most common classification of plants adopted by writers on Botany? What are the relative advantages of the "Linnæan" and of the "Natural" system of classification?

2. Define the terms, "exogen," "endogen," and "acrogen." Give examples of these forms of growth.

3. What are the terms employed by Botanists to distinguish the various forms of the leaves, the stems, and the roots of plants? Give examples.

4. Enumerate the parts of a perfect flower.

5. Trace the progress of any plant, whose growth you may have observed, from the seed to its perfect form.

6. Mention the wild flowers which are most common in the district in which you live, and the time of the year at which they bloom.

7. Mention any vegetable products useful in Commerce, Medicine, or the Arts. Describe their uses and applications, and state from what plants they are obtained.

8. Give some examples of plants belonging to the following natural orders:—"leguminosæ," "gramineæ," "rosaceæ," "ranunculaceæ," and "umbelliferæ." Assign, if you can, the same plants to their proper class and order in the Linnæan System.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

**PUPILS' EXAMINATION.—Midsummer, 1859.**

## NATURAL HISTORY AND PHYSIOLOGY.

(N.B.—The total value of this Paper is 150 marks. For passing, Second Class Candidates must obtain at least 20 marks, First Class, at least 30.)

### I. ZOOLOGY.

1. What is the usual classification of the animal kingdom adopted by writers on Zoology, and on what principle is this classification based?

2. Define the terms "species," "order," "class," and "sub-kingdom," and show how they are applied.

3. Make a table of the chief orders of the class "mammalia," with one or two examples belonging to each.

4. Arrange under their proper class, order, and sub-kingdom, the following animals:—the lion, the horse, the sheep, the rabbit, the whale, the eagle, the hen, the herring, the lobster, the butterfly, the spider, the snail, and the starfish; and give, if you can, the scientific names of these examples.

5. Describe the different stages in the existence of the silk-worm.

6. Mention any animal products, useful in commerce or the Arts, which may be known to you; and explain their uses and applications.

7. Show proofs of intelligent contrivance in the trunk of the elephant, in the wing of the bat, in the web-foot of aquatic birds, and in the human hand.

### II. PHYSIOLOGY.

1. Of what subjects does Physiology treat? How is it distinguished from Zoology, and from Anatomy?

2. What functions of the animal body are specially connected with the maintenance of life?

3. Describe the process by which food is converted into the substance of the animal frame.

4. What connexion is there between the structure of the teeth and the kind of food upon which animals live? Show this by reference to the teeth of man, of the horse, of the dog, and of the rabbit.

5. What are the chief constituents of the blood? Describe the means by which its circulation and its purification are effected.

6. Describe the human eye and ear. Show how the functions of sight and of hearing are performed.

7. What functions are performed by the following parts of the body—the brain, the nerves, the liver, the stomach, the heart, the skin? Describe in detail any of these organs, with the structure of which you may be acquainted.

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

PUPILS' EXAMINATION.—Midsummer, 1859.

## LAND AND MARINE SURVEYING.

(The total number of marks for this Paper is 200; and no Candidate will pass who fails to obtain at least one fifth of them.)

### I.—LAND SURVEYING AND MENSURATION.

1. Find the area of a rhombus whose side is 15 feet 4 inches, and perpendicular height 6 feet. What is the acreage of a rectangular field whose length is 1375 links, and breadth 95 links?

2. What is the area of a circular plot of ground whose diameter is three chains?

3. What is the rule for determining the area of a plain surface bounded by an irregular line?

4. Describe the Theodolite, and Gunter's Chain; and explain their uses.

5. The area of a rectangular field is 40A. 0R. 38P., and one side is double the other. What are its sides?

6. Given the several offsets, 12, 18, 14, 6, 8, 9, taken at one chain's length. Construct a field-book, with these measurements, and give the plan and area of the field.

### II.—MARINE SURVEYING AND NAVIGATION.

1. Describe the Mariners' Compass. What instruments are essential in navigating a ship at sea?

2. What are the various modes of ascertaining the latitude by observation? What corrections are necessary in deducing the latitude from the meridian altitude of the sun?

3. Describe the method of finding the longitude by Chronometer.

4. What is the distinction between 'Parallel,' 'Middle Latitude,' and 'Mercator's' Sailing?

5. What is meant by 'Great Circle Sailing'? What advantages does it possess over the methods mentioned in the last question? Is it practicable in all parts of the world?

6. How would you proceed to survey a harbour, from a base line on shore?

7. Describe the method of deducing the longitude from a lunar observation? What are the most convenient Stars for taking lunar distances?

8. Describe the Sextant and explain its use. In what respects does it differ from the Quadrant?

# COLLEGE OF PRECEPTORS.

(Incorporated by Royal Charter.)

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**PUPILS' EXAMINATION.—Midsummer, 1859.**

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## MUSIC.

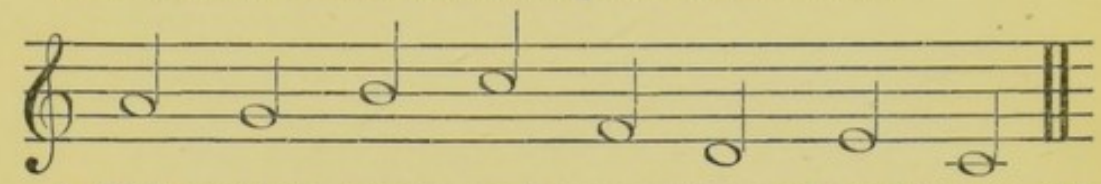
1. Name the principal *clefs*, and place them on the stave, in their proper situations.

2. Place the following notes on the stave, in the order here given :—

   (i.) In the Treble clef, A, E, G, F, B, C, and D.

   (ii.) In the Bass clef, E, F, C, B, G, A, and D.

3. What are the names of the following notes in vocal music?



4. Write crotchets, quavers, semibreves, minims, and semiquavers; and state how many of each are equal to a semibreve.

5. Explain the difference between a crotchet-rest and a quaver-rest.

6. Write sharps, flats, and naturals; and state how they affect the notes before which they are placed.

7. Describe how a note is affected by having a *dot* placed immediately after it.

8. Explain the meaning of the following figures :— $\frac{C}{}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$

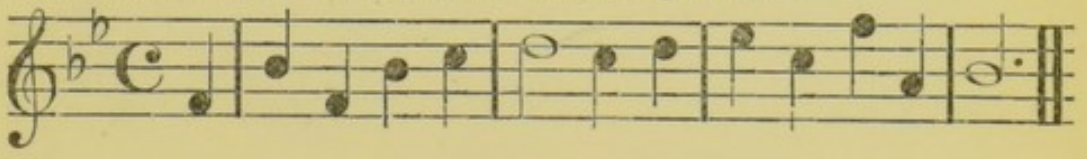
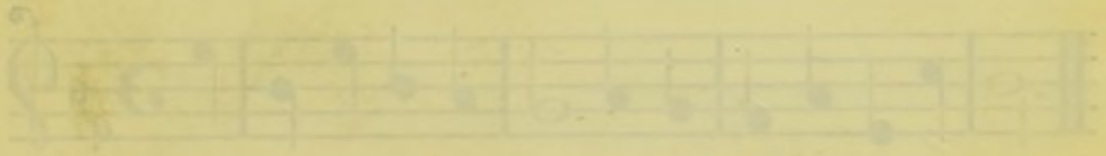
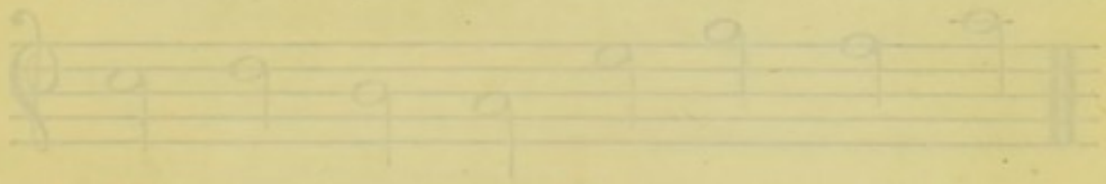
9. Write the intervals of an octave, a fifth, a third, a second, and a seventh, from the note D.

10. Give an example of a Common Chord.

11. State how many sharps or flats are required at the signature in the folfowing keys :—

   (i.) Major—B, A, B flat, F, and D.

   (ii.) Minor—F sharp, G, and C sharp.

12. Give an example of the Chord of the Dominant Seventh, with its inversions.

13. Transpose the following theme into the key of C :—