

(Candidates are at liberty, as per syllabus of examination, to write on such two of the first three subjects given below as they may choose. No credit will be given to papers on all subjects from the same candidate.)

CHEMISTRY.

1. Give formulæ and chemical names of the following: *Burnt lime, Slacked lime, Common salt, Saltpetre, Superphosphate, Bone earth, and Oil of Vitriol.*
2. Write a note on soils, (1) as to origin (2) as to classification.
3. What are the chief properties and compounds of chlorine?
4. Describe as fully as you can the effects of common salt upon plant life, when used as a fertilizer.
5. Write a note on copper, its uses, and where found, and detail an experiment for testing for salts of copper.
6. Name and describe the principal substances which constitute the organic matter of plants, dividing them into nitrogenous and non-nitrogenous bodies.

PHYSICS.

1. "All matter exists in one of three states." Explain fully.
2. State the law regulating the pressure of liquids, and describe an experiment illustrating the same.
3. Explain fully the construction and working of the Common Water-pump.
4. Discuss *sound* and its transmission.
5. Explain the principle of *freezing mixtures*.
6. "You have now learned what the electric current can do" Explain under five heads.

FRENCH.

Translate into English:

Monsieur Jourdain a raison, madame, de parler de la sorte, et il m'oblige, de vous faire si bien les honneurs de chez lui. Je demeure d'accord avec lui que le repas n'est pas digne de vous. Comme c'est moi qui l'ai ordonné et que je n'ai pas sur cette matière les lumières de nos amis, vous n'avez pas ici un repas fort savant, et vous y trouverez des incongruités de bonne chère, et des barbarismes de bon goût. Si Damis s'en étoit mêlé, tout seroit dans les règles; il y auroit partout de l'élégance et de l'érudition, et il ne manqueroit pas de vous exagérer lui-même toutes les pièces du repas qu'il vous donneroit et de vous faire tomber d'accord de sa haute capacité dans la science des bons morceaux; de vous parler d'un pain de rive à biseau doré, relevé de croûte partout, croquant tendrement sous la dent; d'un vin à sève veloutée, armé d'un vert qui n'est point trop commandant; d'un carré de mouton gourmandé de persil; d'une longe de veau de rivière, longue comme cela, blanche, délicate, et qui sous les dents, est une vraie pâte d'amandes; de perdrix relevées d'un fumet surprenant; et pour son opéra, d'une soupe à bouillon perlé soutenue d'un jeune gros dindon cantonné de pigeonneaux, et couronné d'oignons blancs mariés avec la chicorée. Mais, pour moi, je vous avoue mon ignorance; et, comme monsieur Jourdain a fort bien dit, je voudrais que le repas fut plus digne de vous être offert.

1. Where are adjectives generally placed in French? Write a list of adjectives which precede the substantive.
2. How are the possessive pronouns expressed in French when connected with the verb *to be*? Give examples.
3. State the rule of the past participle when used with (a) *avoir* (b) *être*.
4. Write sentences illustrating the use of *que* (1) as a relative (2) an interrogative (3) an adverb (4) a conjunction.
5. Write the plural of *chateau, clou, bijou, bal, perdrix, cheval, gouvernail*, and the feminine of *faux, blanc, public, bon, cruel, ancien, discret, mon, vieux, jaloux, and doux*.
6. Write the present subjunctive of *vaincre, rire, dechoir, venir, cueillir, and s'en aller*.

Translate into French:

An officer, a man of merit, presented himself one day before the Emperor Joseph and solicited assistance for his family which was in want. "I have only twenty-four sovereigns with me," said the Emperor to him "here they are." "That is too much," muttered a courtier, indiscreetly "twenty-four ducats would be sufficient." The Emperor, who heard him, said: "Have you them." The courtier took them from his purse and presented them to Joseph, who added them to the twenty-four sovereigns and said to the officer: "Thank the gentleman who wishes to divide with me the pleasure of assisting you."

SCHOOL SYSTEM AND SCHOOL MANAGEMENT.

1. Give the substance of the law relating to the *calling, organization, constitution, and duties* of the annual school meeting.
2. "Inattention in a class may proceed from the faults of the teacher himself." Explain as fully as possible.
3. What are the principles which should regulate the construction of time-tables? Give your weekly allotment of time for each of the following subjects as laid down in Grade VIII of the Course of Study for Common Schools: Reading and Spelling, Writing, Drawing, Grammar, Composition, History, Geography, Arithmetic, Elementary Science. (Answer as for department of Graded School.)
4. Explain what is meant by the statement that "the County School Fund operates as a stimulus both for the maintenance of schools and regularity of attendance."
5. State in as great detail as possible what you would expect to find the leading features of a school whose teacher has the reputation of being an *excellent disciplinarian*.

TEACHING.

1. What is meant by the phrase "to cultivate the powers of observation"? Give in connection with your answer a specimen of your method of teaching any subject specially adapted to secure this object.
2. What do you understand by "cram"? Is the practice of teaching carefully-worded definitions (as in Grammar, Geography, or Arithmetic) to be commended or condemned? Give reasons for your answer.
3. Discuss the statement that "any one who knows a subject can teach it."
4. State your method of teaching Simple Proportion to a class.
5. Write directions for the guidance of a Primary Teacher in giving lessons in Oral Geography.
6. Describe as fully as possible the correct method of *questioning*. State and illustrate improper methods.

COMPOSITION.

1. Name the qualities of *language* on which excellence of style depends, and state, with necessary explanations, the quality, or qualities, disregarded in each of the following sentences:
 - (1) "*Net Work*—a series of reticulated decussations with interstitial vacuities." (Johnson's Dictionary.)
 - (2) The subject before us, which we are now contemplating, is very trite and familiar.
 - (3) Newton's claim to be the inventor of universal gravitation is not overthrown by the fact that his predecessors had learned him some important principles.
 - (4) Stop that racket, or I'll pound you black and blue all over.
2. Quote from well-known authors examples of *Hyperbole, Metaphor, Apostrophe, and Personification*.
3. Define *Melody*, and state the leading conditions on which it depends.
 - What is *Alliteration*? Give an example.
 - What is the distinction between a "Period" and a "Loose Sentence"? Illustrate.
- Discuss the following sentence, with reference to the four required *qualities of construction*.

"The earth has been assigned by its Creator to each generation of men in turn for their support; and any dominion a man is allowed to exercise over it after his death is clearly artificial, and must be bounded by the interest of succeeding generations."
6. Describe *Heroic measure*, and illustrate both its rhymed and unrhymed forms.
7. State the conditions of a *perfect rhyme*.
8. Scan the following, naming the authors when known:

"Lord Marmion turned, well was his need,
And dashed the rowels in his steed."

"And the sheen of their spears was like stars on the sea,
When the blue wave rolls nightly on deep Galilee."

"My coursers are fed with the lightning
They drink with the whirlwind's stream."

"Onward, onward, may we press,
Through the path of duty;
Virtue is true happiness,
Excellence true beauty,
Minds are of celestial birth;
Make we then a heaven of earth."