

MOCK CBSE BOARD EXAM



SCIENCE

CLASS X

(PAPER 3)

(AS PER THE GUIDELINES OF CBSE)

Time: 2½ Hours

Max. Marks: 60

General Instructions

1. The question paper comprises of two sections A and B. You are supposed to attempt both the sections.
2. All questions are compulsory.
3. There is no overall choice. However, internal choice has been provided in all the three questions of five marks category. Only one option in such questions is to be attempted.
4. All questions of section A, and all questions of section B are to be attempted separately.
5. Questions 1 to 6 in section A, and 17 to 19 in section B are short questions. These carry one mark each.
6. Questions 7 to 10 in section A, and 20 to 24 in section B are short answer type questions; and carry two marks each.
7. Questions 11 to 14 in section A, and 25 to 26 in section B are also short answer type questions; and carry three marks each.
8. Questions 15 and 16 in section A, and question 27 in section B are long answer type questions; and carry five marks each.

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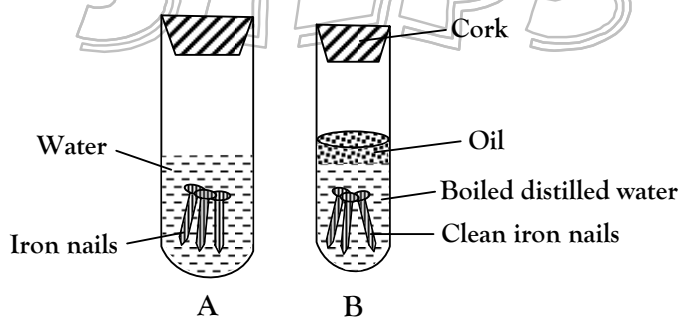
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SECTION - A

1. What is the focal length of a plane mirror?
2. Name an element which has a variable valency.
3. Why is an earth wire connected to a device?
4. Name one salt whose aqueous solution is basic in nature.
5. The ciliary muscles of a normal eye are in their (i) most relaxed (ii) most contracted state. In which of the two cases is the focal length of the eye-lens more?
6. Element M is in the first group of the periodic table. Write the formula of its oxide.
7. (a) What is an electromagnet? What does it consist of?
(b) Name one material in each case which is used to make
(i) a permanent magnet
(ii) a temporary magnet
8. Why does the filament of an electric lamp glow, whereas the wire through which the electric current flows doesn't?
9. What happens when:
(a) Carbon dioxide gas is passed through slaked lime?
(b) Chloride gas is passed through dry slaked lime?
10. Examine carefully the following diagram of an experimental set up of apparatus labeled, A and B. In which of the two cases corrosion occurs? Justify your answer.



11. (a) Show the formation of NaCl from sodium and chlorine atoms by transfer of electron(s).
(b) Why does sodium chloride have a high melting point?
(c) Name the anode and the cathode used in electrolytic refining of impure copper metal.
12. Table given below shows a part of the Periodic Table.

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	P	S	Cl	Ar

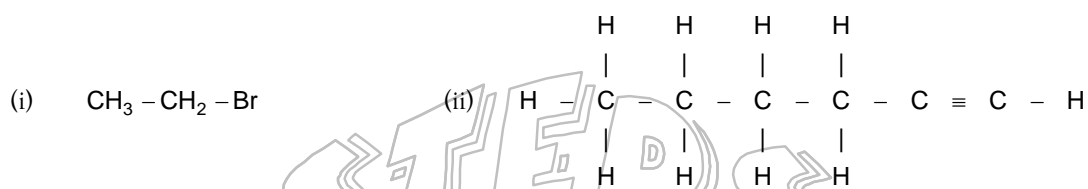
Using this table explain, why

- (a) Li and Na are considered as active metals
- (b) atomic size of Mg is less than that of Na
- (c) fluorine is more reactive than chlorine

13. Give any three applications of concave mirrors.
14. Explain using a ray diagram why a tank appears shallower than it actually is, after water is filled in it.
15. An organic compound 'A' is widely used as a preservative in pickles and has a molecular formula $C_2H_2O_2$. This compound reacts with ethanol to form a sweet smelling compound 'B'.
- Identify the compound 'A'
 - Write the chemical equation for its reaction with ethanol to form compound 'B'.
 - How can we get compound 'A' back from 'B'?
 - Name the process and write corresponding chemical equation.
 - Which gas is produced when compound 'A' reacts with washing soda? Write the chemical equation.

OR

- Why does carbon form the largest number of compounds?
- Why are some of these compounds called saturated and other unsaturated?
- Which among the saturated hydrocarbons & unsaturated hydro carbons are more reactive?
- Write the names of the compounds given below.

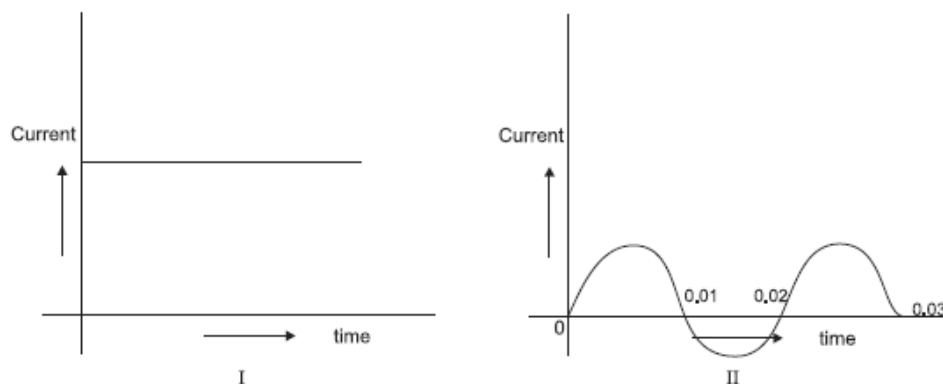


16. In a household electric circuit, different appliances are connected in parallel to one another. Give two reasons.

An electrician puts a fuse of rating 5A in that part of domestic electrical circuit in which an electrical heater of rating 1.5kW, 220V is operating. What is likely to happen in this case and why? What change, if any, needs to be made?

OR

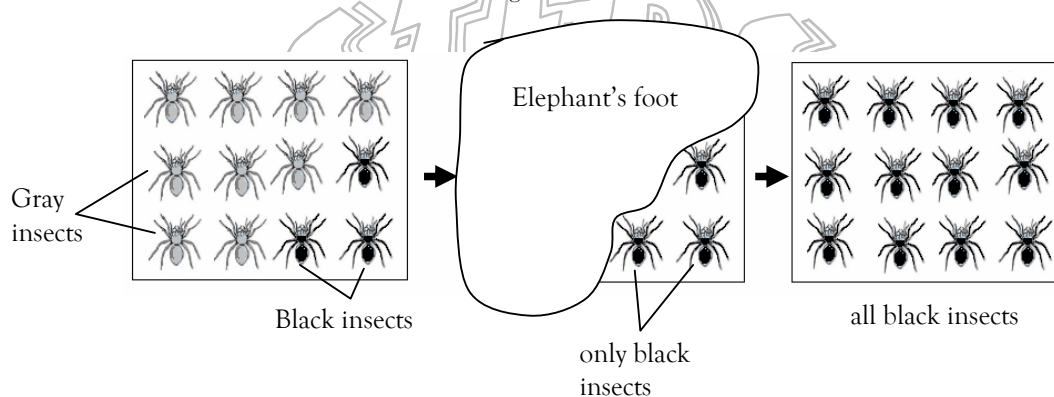
You are given the following current-time graphs from two different sources:



- (i) Name the type of current in the two cases.
- (ii) Identify any one source for each type of these currents.
- (iii) What is the frequency of current in case II in India?
- (iv) Use the above graphs to write two differences between the current in both cases.

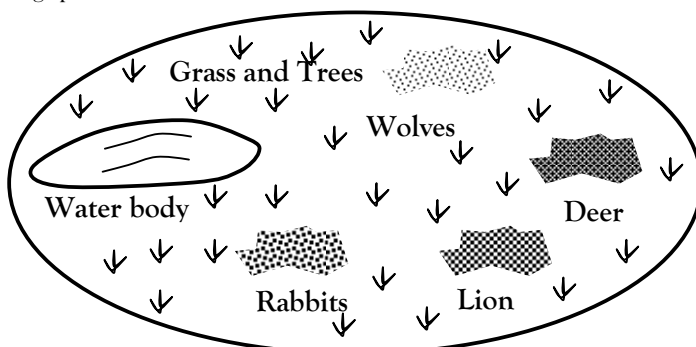
SECTION - B

17. Classify the following into exhaustible and inexhaustible sources of energy:
Geothermal energy, nuclear energy, thermal energy, biomass and tidal energy.
18. Deficiency of a hormone prevents seed germination and fruit formation in a plant. Name the hormone. Also, name a phytohormone that inhibits plant growth.
19. Women, over centuries, have been getting their ears pierced for wearing jewellery; but this trait is never passed on to the offspring. Why do you think it is so?
20. Name the mode of deriving nutrition from other plants or animals without killing them. Give two examples of plants which have this mode of nutrition.
21. Quote any four instances where human intervention saved the forests from destruction.
22. State the cause of evolution of the species of black insects in the given figure.
State the conditions under which this form of evolution occurs in nature.
What is the other cause of evolution occurring in nature?



23. Give two objectives of sustainable natural resource management.
24. Define 'hormones'. Name the hormone secreted by thyroid gland. Write its function. Why are we advised to use iodised salt?
25. In a corn field, corn plants having starchy (S) and white seeds (y), were crossed with corn plants having sugary (s) and yellow seeds (Y), assuming both have homozygous traits.
The plants obtained in F_1 were self crossed and in F_2 , 556 plants were obtained.
On the basis of above information, answer the following questions
- Suggest the phenotype for F_1 plants.
 - How many F_2 plants will have starchy but not yellow seeds?
 - How many F_2 plants will have sugary and yellow seeds?
 - How many F_2 plants will have white seeds which are not starchy?

- (e) Give the term Mendelian law for this type of cross.
- (f) What is the name given to such cross?
26. Suggest a suitable caption for the ecological figure given below, showing the components of a forest and answer the following questions.



- (a) In which category do deer and rabbit belong?
- (b) Name the producers in the given figure.
- (c) Name the abiotic component shown in the given figure.
- (d) Show a food chain with four tropic levels in the given figure.
27. What is photosynthesis? Write an overall equation of the reaction representing photosynthesis. Mention the three basic events that occur during photosynthesis, to explain the process.

OR

Give reasons for the following:

- (i) Why is the small intestine very long in our body?
- (ii) Why does an inactive person consumes energy even when asleep?
- (iii) Why is mucus needed during the process of digestion in stomach?
- (iv) Why is the small intestine richly supplied with blood vessels?
- (v) Why is there a need for absorption of digested food?