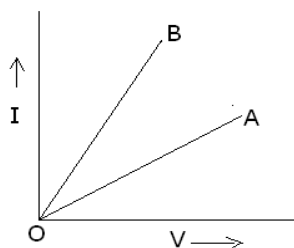


SECTION – A

1. Name the micro organisms responsible for the fermentation of the slurry in the digester. (1)
2. Why is the interior of solar cooker black? (1)
3. What is the basic difference between AC generator and DC generator? (1)
4. What are the conditions for observing a rainbow? (1)
5. Draw structure of propyne. (1)
6. Write the electron dot structure of CCl_4 (1)
7. write reaction occurring at cathode when metal is M and electrolyte is M^{2+} (aq) (1)
8. Refractive indices of kerosene, turpentine and water are 1.44, 1.47 and 1.333 respectively. Through which of these media, light travels fast? Explain (2)
9. Draw the lines of force of the magnetic field through and around a solenoid carrying current. (2)
10. What is meant by earthing of an electrical appliance? Give its main advantages (2)
11. Draw a schematic view of a hydro power plant. (2)
12. a) What do you mean by precipitation reaction. Explain giving an example. (3)
b) What happens when ferrous sulphate crystals are heated?
13. a) Write a balanced equation for the reaction between zinc and caustic soda. (3)
b) Briefly explain the principle of soda-acid fire extinguisher.
14. An element 'X' has same number of electrons in the first and in the third shell (3)
a) Write down the electronic configuration of the element
b) Will it form ionic or covalent compound with element Y (2, 8, 6)
c) What is the nature of oxide of 'X' and 'Y'?
15. a) A compound conducts electricity in molten state and has high melting point. (3)
What would be the nature of bonds present in the compound?
b) Complete the following reaction:
 $ZnS + O_2 \rightarrow$
 $MnO_2 + Al \rightarrow$

16. Give reasons for the following (3)
- Why do unsaturated hydrocarbons show addition reaction?
 - Why is the conversion of ethanol to acid an oxidation reaction.
 - Alcohol supplied for industrial purpose is mixed with copper sulphate.
17. a) Which mirror has wider field of view? (5)
b) Calculate the distance at which an object should be placed in front of a concave lens of focal length 30 cm to obtain an image of half the size of the object.
18. a) A piece of wire is redrawn by pulling it until its length is doubled. Compare the new resistance with the original value. (5)
b) Graph between electric current and potential difference across two conductors has more resistance? Give reason for your answer.



SECTION – B

1. What is glomerulus? What is its function? (1)
2. Name the hormone whose deficiency causes Diabetes and also name the gland that secretes this hormone. (1)
3. Name the award set up in the memory of Amrita Devi Bishnoi. (1)
4. How do auxins promote the growth of a tendril around a support? (2)
5. What are homologous organs? Give an example of homologous organs in Plants. (2)
6. a) Explain the role of environment in determining the sex in some species. Give an example. (2)
b) What factors could lead to the rise of a new species?
7. What products are obtained when glucose is broken down by various pathways? (3)
8. Explain the flow of energy in an ecosystem? (3)
9. a) What are ovaries? Where are they located in the body of a human female? (5)
b) What happens to the uterine wall if fertilization does not occur? What is this process called?
c) What is the sequence of steps that take place if fertilization occurs?