

NEW STANDARD ACADEMY

Date : 13-10-25

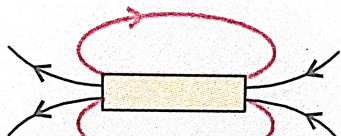
CLASS : 10TH

Marks: 80

Time: 3 hours

PHYSICS

1. What does the direction of thumb indicate in right hand thumb rule ?
2. Identify the poles of a magnet in the figure.



3. State the factors on which the strength of magnetic field at a point due to a current carrying conductor depends. State the rule which gives the direction of magnetic field.
4. Discuss rules for finding the direction of magnetic field.
5. Consider a circular loop of wire lying in the plane of a table. Let the current pass through the loop clockwise. Apply the right hand rule to find the direction of the magnetic field inside and outside the loop.
6. What are magnetic field lines? Justify the following statements.
 - (i) Two magnetic field lines never intersect each other.
 - (ii) Magnetic field lines are closed curves.
7. The space around a magnet in which the force of the magnet can be detected is called
8. Strength of the magnetic field is directly proportional to
9. The strength of an electromagnet can be easily changed by changing the
10. S.I. unit of strength of magnetic field is

CHEMISTRY

1. What is the decreasing order of bond strength between carbon atoms in C_2H_6 , C_2H_4 and C_2H_2 ?
2. How many unshared pairs of electrons are present in the molecules.
 - (a) CH_4
 - (b) NH_3
 - (c) H_2O
3. Why does carbon form covalent bonds only?
4. What are the differences between the structures of diamond and graphite?
5. Explain:
 - (i) Graphite is used as lubricant
 - (ii) Graphite conducts electricity.

6. What is buckminster fullerene? Explain with examples.
7. How and who rejected the vital force theory?
8. What do you understand by covalent bond? Explain with examples.
9. What would be the electron dot structure of a molecule of sulphur which is made up of eight atoms of sulphur?
10. What would be the electron dot structure of carbon dioxide which has the formula CO_2 ?

BIOLOGY

1. What is asexual reproduction how it is different from sexual reproduction?
2. Yeast shows which type of asexual reproduction? Give the structure.
3. What is fragmentation? Give the example.
4. How is regeneration different from fragmentation? Also give the example.
5. In Rhizopus, which type of asexual reproduction is present? Give the diagram.
6. What is binary fission? Give the example.
7. In Plasmodium, which type of asexual reproduction is present? Explain.
8. What is vegetative propagation? Give the example.
9. In plant cutting, which type of reproduction is present? Explain.
10. What are runners? Give the example.

MATHS

1. A right circular cylinder and a cone have equal bases and equal heights. If their curved surface areas are in the ratio 8:5, show that the ratio between their radii to their heights is 3:4.
2. Two cubes, each of volume 125 cm^3 , are joined end to end. Find the surface area of the resulting cuboid.
3. From a solid cylinder of height 30 cm and radius 7 cm, a conical cavity of height 24 cm and same radius is hollowed out. Find

the total surface area of the remaining solid

4. A toy is in the form of a cone of radius 3.5 cm mounted on a hemisphere of base diameter 7 cm. If the total height of the toy is 15.5 cm, find the total surface area of the toy
5. A military tent of height 8.25 m is in the form of a right circular cylinder of base diameter 30 m and height 5.5 m surmounted by a right circular cone of same base radius. Find the length of the canvas used in making the tent, if the breadth of the canvas is 1.5 m
6. A solid wooden toy is in the form of a hemisphere surmounted by a cone of same radius. The radius of the hemisphere is 3.5 cm and the total wood used in making the toy is 166 cm^3 . Find the height of the toy. Also, find the cost of painting the hemispherical part of the toy at the rate of 10 per cm^2
7. If the volume and the (curved) surface area of a hemisphere are numerically equal, then what is the length of diameter of hemisphere?
8. The largest possible sphere is carved out of wooden solid cube of side 7 cm. Find the volume of the wood left.
9. 16 glass spheres each of radius 2 cm are packed in a cuboidal box of internal dimensions 16 cm x 8 cm x 8 cm and then the box is filled with water. Find the volume of the water filled in the box.
10. An empty cone is of radius 3 cm and height 12 cm. Ice-cream is filled in it so that lower part of the cone which is $\frac{1}{6}$ th of the volume of the cone is unfilled but hemisphere is formed on the top. Find the volume of the ice-cream. (Take $\pi = 3.14$)