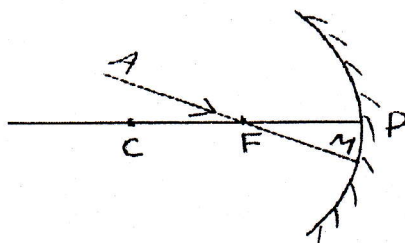
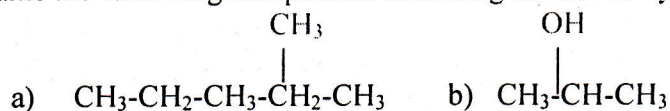


1. Why is variation beneficial to the species but not necessarily for the individual? (1)
2. Define catenation. (1)
3. List any two properties of the image formed by a concave mirror, when the object is placed between principal focus and pole. (1)
4. A ray of light AM is incident on a spherical mirror as shown in the diagram. Redraw the diagram and show the path of reflected ray. (1)



5. There are many plants in which new plants develop from root, stem and leaf, under appropriate conditions. List any two advantages of vegetative propagation. (2)
6. How is the process of binary fission different from multiple fission? (two points) (2)
7. Draw the electron dot structure of i) Ethene ii) Cyclopentane (2)
8. Name the following compounds according to IUPAC system. (2)



9. Define principal focus of a convex mirror. If the radius of curvature of a spherical mirror is 40 cm, what would be its focal length? (2)
10. Draw a ray diagram and state the position, relative size and nature of the image formed by a concave mirror when the object is placed between centre of curvature and principal focus. (2)
11. Write any three uses of concave mirrors, support your answer with reason. (3)
12. a) Draw a neat diagram to show germination of pollen on the stigma. Label the part that (i) contains the male germ cell (ii) develops into the fruit. (3)
- b) How do the following organisms (i) *Planaria* (ii) *Rhizopus* reproduce?
13. Give the general formula of alkene. Identify the alkenes from the following: (3)

