

1. What is the cause of dispersion of white light on passing through a prism? (1)
2. State Snell's law of refraction of light. (1)
3. How will you convert ethene to ethane? (1)
4. Complete and balance the following reaction. (1)  
$$\text{CH}_3\text{CH}_2\text{OH} + \text{Na} \longrightarrow$$
5. When pea plants with yellow seeds were crossed with pea plants with green seed the progeny obtained in the F<sub>1</sub> had yellow seeds, however the progeny of the second generation were yellow and green. What conclusion can be drawn from the results obtained? (1)
6. Name the three common defects of vision. What are their causes? Name the type of lens used to correct each of them. (2)
7. What is esterification reaction? Explain with the help of an equation. (2)
8. The experiences of an individual during its life time cannot be passed on to its progeny, and cannot direct evolution. Justify giving an example. (2)
9. (i) Define power of a lens.  
(ii) For which position of the object does a convex lens form a virtual and erect image. Explain with the help of a ray diagram. (3)
10. (i) State the Modern periodic law . (3)  
(ii) An element X has atomic number 11  
(a) Write its electronic configuration.  
(b) To which group of the modern periodic table does it belong?  
(c) State the nature of the compound formed by element X with chlorine.  
(d) Write the valency of element X.
11. (a) List the changes that occur and its significance in the uterus of a female : (3)  
(i) to receive the zygote (ii) if an egg is not fertilized.  
(b) If a women is using a copper-T, will it help in protecting her from sexually transmitted diseases. Justify.