



PART B — (5 × 16 = 80 marks)

11. (a) Describe in detail about primary standard hydrogen electrode and calomel electrode. (8 + 8)

Or

- (b) Elaborate the determination of pH of a solution using glass and a common silver-silver chloride reference electrode.

12. (a) With example, explain the concept of differential aeration corrosion. (2 + 14)

Or

- (b) List out the methods of protecting metals from corrosion. Discuss on any two important suitable methods. (2 + 7 + 7)

13. (a) Explain the types of petrol cracking.

Or

- (b) (i) Write briefly about the techniques to prevent knocking. (8)  
(ii) Explain the methods of production of synthetic petrol. (8)

14. (a) Elaborate the application of phase rule to one component water system.

Or

- (b) Explain the single homogeneous phase containing two components lead and silver.

15. (a) Explain the working principle of infrared (IR) spectroscopy.

Or

- (b) Explain with the flow diagram about flame photometer.