

15. a) Draw the block diagram of an atomic absorption spectrophotometer and explain the function of each of the components. [4]
- b) Discuss the principle involved in TGA and explain thermogram of calcium oxalate. [4]
16. a) Construct a Zinc-alkaline Battery and discuss the electrochemical reaction at the anode, cathode and the overall cell reaction. Write the advantages of Zinc-alkaline Battery in comparison to Zinc-acidic Battery. [4]
- b) i) Define co-polymer and mention two examples. [2]
 ii) Differentiate between Homo chain and Hetero chain polymers with one suitable example for each. [2]
17. Answer any **two** of the following:
- a) i) Explain the trans-esterification of Biodiesel and mention its advantages over petro diesel. [4]
- b) Explain the preparation of lead azide and precautions needed during its storage. [4]
- c) Explain how Copper (II) in the given sample is estimated using visible spectrophotometer. [4]