



Part C

Use separate answer book to answer following questions

Answer two (02) questions

1. You have been given the task to design viable and eco-friendly methods to purify a silica sand deposit for glass industry. Study showed that the selected silica sand deposit for the project is characterized by 10 % of garnet, 5 % of feldspars, mica and calcite. Further, 45 % of quartz are coated with clay and iron oxide. Some amount of rose quartz and quartz with solid inclusion are also present. Describe the purification process which you are going to propose.
(60 mark)
2. Write a short notes on any three of the following.
 - a. Mild oxidation of graphite
 - b. Chemical purification of quartz
 - c. Thermal modification of clay minerals
 - d. Application of garnet as an abrasive
 - e. Application of minerals as excipients in pharmaceuticals
(60 mark)