
ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS

1. Explain the importance of energy and material balance in a process plant. Why they are computed?
2. (a) Mention the engineering problems involved in the crystallization process employed for the water conditioning.
(b) Explain the Reverse osmosis process employed for the separation of water from brine.
3. (a) What are the advantages of single pure oxide refractories over the mixed refractories?
(b) How Beryllia refractories are made? What are their applications?
4. (a) What are the various types of Portland cement?
(b) What are the functions of the ingredients of cement?
(c) Describe the various micro constituents and their functions in the Portland cement.
5. Write in detail the chemical reactions occur in the furnace of Glass manufacturing with temperatures.
6. (a) Describe the production of hydrogen by catalytic reforming of petroleum stocks.
(b) Describe the production of hydrogen from methanol and steam.
7. Explain the production of synthetic ammonia along with a neat flow diagram.
8. (a) What is Alum? What are its uses?
(b) Draw the flow sheet for the production of Alum?
