

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (2 marks each)
 3. Answer any ONE question from each unit in PART-C (12 marks each)
 4. The question paper contains TWO Pages

PART-A (1 x 5 = 5)

1. Define Molecular mass.
2. What is electrophoresis?
3. Define optical fibre.
4. Write a method of expressing hardness of water.
5. What is sintering?

PART-B (2 x 5 = 10)

UNIT-I

6. State modern periodic law.
7. Define buffer solution.

UNIT-II

8. What is positive catalyst?
9. Define nano particles.

UNIT-III

10. What is setting of cement?
11. Define white potters.

UNIT-IV

12. What is priming?
13. Give any two methods to soften the hard water.

UNIT-V

14. What is hardening of steel?
15. Define powder metallurgy.

UNIT-I

16. a) Explain the formation of electrovalent bond taking sodium chloride as example.
b) Give the applications of pH in industries.
17. a) Write note on proton, neutron and electron.
b) What are the advantages of lewis concept of acids and bases?

UNIT-II

18. a) Give the differences between lyophilic and lyophobic colloids.
b) Write the applications of new technology in the field of medicine.
19. a) Write note on homogeneous and heterogeneous catalysis.
b) Give the applications of nano technology in the field of engineering.

UNIT-III

20. a) Give the differences between nuclear reaction and ordinary chemical reaction.
b) Explain the manufacture of port land cement.
21. a) Explain the manufacture of white potters.
b) What are advantages of optical fibres?

UNIT-IV

22. a) How will you estimate the total hardness of a given sample of hard water using EDTA method?
b) How will you soften the hard water by reversible osmosis method?
23. a) Explain the process of purification of drinking water.
b) How is glass manufactured?

UNIT-V

24. a) How is iron extracted from its ore?
b) Explain the atomization process.
25. a) How is titanium extracted from its ore?
b) How metal powder is manufactured using chemical reduction method?
