TDC (CBCS) Even Semester Exam.,
September—2021

CHEMISTRY

(6th Semester)

Course No. : CHMDSE-601T

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer the following as directed (any *fifteen*) : 1×15=15

1. Define glass.

2. Major component of glass is _____ (silica/alumina).
(Choose the correct option)

3. Glass is (vitrified/non-vitrified) product.
(Choose the correct option)

4. Give one example of heavy clay product.

5. What is terracotta?

6. Portland cement originated from which country?

7. What is the highest component present in cement?

8. Write the molecular formula of urea.

9. Triple superphosphate is made by reacting phosphate rock with _____ acid. (phosphoric/ nitric)

(Choose the correct option)

10. What are NPK fertilizers?

11. What is CAN?

12. What is Mussoorie Phos?

13. Give two characteristics of pigment.

14. What are paints?

15. What is toner?

16. What is thinner?

17. Give one example of paint remover.

18. Give one example of spirit varnishes.

19. Give one example of ecofriendly paint.

20. What is photovoltaic cell?

21. Give one advantage of fuel cell.

22. What is primary battery?

23. What is Li ion battery?

24. Lead storage battery is an example of which cell—primary cell or secondary cell?

25. What is an alloy?

26. What are light alloys?

27. Which element has highest percentage in stainless steel?

28. What is the major component of element in ferrochrome alloy?

29. What is the function of coke in the manufacture of steel?

30. Give one example of non-ferrous alloy.

SECTION—B

Answer any *five* questions : 2×5=10

31. What are the raw materials of glass during manufacturing?

32. Discuss basic raw materials used in the manufacturing of ceramics.

33. Write the reactions involved in the manufacturing of ammonium nitrate fertilizer.

34. Discuss the manufacturing of triple superphosphate fertilizer.

35. Write two basic objectives of surface coating.

36. Discuss the important characteristics of zinc oxide pigment.

37. What are primary and secondary batteries?

38. What are solar cells and polymer cells?

(Continued)

39. What are the components of brass and bronze?

40. What are the advantages of stainless steel?

SECTION—C

Answer any *five* questions : 5×5=25

41. *(a)* Discuss general composition of glass. 3

(b) What is soda-lime glass? How are they manufactured? 2

42. *(a)* Discuss general composition of Portland cement. 3

(b) Discuss the process of hardening of cement. 2

43. *(a)* Discuss different types of fertilizers briefly. 3

(b) Chalk out the nutrient functions of nitrogen and phosphorous used in fertilizers. 2

44. *(a)* How is urea manufactured? Discuss any one method of urea manufacturing. 3

(b) How are CANs important for plant growth? 2

45. *(a)* Discuss the chemical constituents of paints. 3

(b) What is distemper? Give one example of distemper. 2

46. *(a)* What are the requirements of a good paint? 2

(b) What are the constituents of emulsion paint? What are the advantages of emulsion paint? 2+1=3

47. *(a)* Discuss the basic principles of functioning of primary and secondary batteries. 3

(b) What is fuel cell? How are they work to generate electrical energy? 2

48. Discuss the working principles of Pb-acid battery. 5

49. *(a)* Discuss how alloys are classified. 2

(b) Write the composition of the following alloys : 1½×2=3

(i) Solder

(ii) Nichrome

50. *(a)* How is silicon removed during manufacturing of steel? 2

(b) Discuss the composition and properties of different types of steel. 3

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