2023/FYUG/ODD/SEM/
CHMIDC-101T/096

FYUG Odd Semester Exam., 2023

(Held in 2024)

CHEMISTRY

(1st Semester)

Course No. : CHMIDC-101T

(Fundamentals of Chemistry—I)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer *twenty* questions, selecting *four* from each Unit : 1×20=20

UNIT—I

1. What are vitamins?

2. What disease is caused by iodine deficiency?

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 2×5=10

UNIT—I

26. Write the need of vitamins in our body.

27. Write two examples each of *(a)* water-soluble and *(b)* fat-soluble vitamins.

UNIT—II

28. Explain the catalytic action of enzyme.

29. What is the role of prosthetic group in enzyme action?

UNIT—III

30. Discuss different methods of food preservation.

31. Discuss the changes occur in the porphyrin when O_2 binds with metal.

UNIT—IV

32. Why are artificial sweeteners better than sugar?

33. Discuss the side effects of adding excessive food colour in food.

UNIT—V

34. Discuss the preparation of biofuel.

35. Biodegradable polymers are better than plastics. Justify the above statement in reference to environmental safety.

SECTION—C

Answer *five* questions, selecting *one* from each Unit : 8×5=40

UNIT—I

36. Write down the characteristic sources and deficiency diseases caused by vitamin D, vitamin K, vitamin C and vitamin B complex.

37. Discuss the major role of minerals in human life essential for healthy living.

UNIT—II

38. *(a)* Discuss the lock and key mechanism of enzyme action. 5

(b) Write a note on enzyme cofactor. 3

39. *(a)* Explain specificity of enzyme action taking suitable examples. 5

(b) Discuss the effects of pH and temperature in enzyme action. 3

UNIT—III

40. Discuss the method of transportation of O_2 via blood to the tissues and removal of CO_2 from the body.

41. *(a)* Discuss the traditional method of food preservation and its utility in modern-day life style. 4

(b) What are the roles of ISI, MPO, PFA and FSSAI in monitoring food standards? 4

UNIT—IV

42. Discuss in brief the different food additives and their roles in the conservation of food quality.

43. Why is quality control an important factor in food industry? Why is quality check monitoring needed in terms of flavouring and colouring of foods?

UNIT—V

44. Discuss the mechanism of cleansing action of soap via micelle formation.

45. *(a)* What are homopolymers and copolymers? Describe the classification of polymers based on their structures. 2+3=5

(b) Differentiate between rubbers and plastics based on intermolecular forces. 3

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