

**2024/FYUG/ODD/SEM/
CHMIDC-101T/188**

FYUG Odd Semester Exam., 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*

UNIT—I

1. Answer/Fill in the blanks of the following
(any four) : 1×4=4
- (a) What is enzyme?
 - (b) What disease is caused by vitamin K deficiency?
 - (c) Write one example of water-soluble vitamin.
 - (d) Vitamin C is known as _____ acid.
 - (e) Tocopherol is vitamin _____ and calciferol is vitamin _____.
2. Explain the term 'prosthetic group' with a suitable example. 2

(2)

OR

3. Which vitamin is essential for blood clotting and what is its deficiency disease? 2
4. Give the classification, nomenclature of enzyme with examples. 8

OR

5. Give the classification of vitamins, their scientific name and one source. 8

UNIT—II

6. Answer any four from the following : 1×4=4
- (a) What is respiration?
- (b) What is the full form of ATP?
- (c) What is denaturation of protein?
- (d) Name the metal present in hemoglobin.
- (e) What is myoglobin?

7. Write the enzymes responsible for food digestion. 2

OR

8. Mention few salient features about the structure of hemoglobin molecule. 2
9. Explain in brief the mechanism of food digestion in human body. 8

OR

10. Discuss in detail the oxygen transport mechanism in human body. 8

(3)

UNIT—III

11. Answer any four from the following : 1×4=4

- (a) What do you mean by physiological process?
- (b) What is the full form of FSSAI?
- (c) What is class-I preservative?
- (d) Write two main objectives of food preservatives.
- (e) Write two functions of Gallbladder.

12. Discuss the different methods of food preservation. 2

OR

13. Write the classification of nutrients with suitable example. 2

14. Discuss the classification of food and nutrients in detail with suitable examples. 8

OR

15. (a) What is the principle of food preservation? 2
- (b) Explain in detail some methods of food preservation. 4
- (c) Write a short note on the term 'food standard'. 2

UNIT—IV

16. Answer any four from the following : 1×4=4

- (a) What is the purpose of adding benzoate to foodstuff?
- (b) What do you mean by contaminants?
- (c) Explain the term 'pesticide'.
- (d) In what type of food, monosodium glutamate is used?
- (e) What do you mean by food additives?

17. What are the basic principles of food additives? 2

OR

18. Write the structure of sodium cyclamate. 2

19. (a) Discuss in detail the analysis of pesticide residue in food. 4

(b) Explain the role of food additives in the context of conservation of food. 4

OR

20. (a) Give example of some coal tar dyes and non-permitted colours. 3

(b) What is the difference between adulterants and contaminants? 2

(c) Mention three artificial sweeteners and their specific use. 3

UNIT—V

21. Answer any four from the following : 1×4=4

- (a) What do you mean by bio-fuel?
- (b) Give two examples of natural biodegradable polymers.
- (c) Explain the term 'polyamide'.
- (d) Name one polymeric material and its use in daily life.
- (e) Give one example each of soap and detergent.

22. Draw the structure of cellulose. 2

OR

23. What is the difference between soap and detergent? 2

24. (a) Write a brief note on 'synthetic biodegradable polymer'. 4

(b) Write a brief note on 'production of bio-fuel'. 4

OR

25. Write the structure and IUPAC names of monomer for the following : 2×4=8

- (a) PVC
- (b) Cellophane
- (c) Rayon
- (d) Cotton
