

**2025 / FYUG / ODD / SEM /
CHMIDC-101T / 458**

FYUG Odd Semester Exam., 2025

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 any four of the following questions :

1×4=4

- (a) What are vitamins?
- (b) Name the vitamins whose deficiency cause night blindness.
- (c) Write one function of vitamin C in our body.
- (d) Write one example of water-soluble vitamin.
- (e) Name the disease which is caused by iodine deficiency.

2. Answer any one of the following questions :

- (a) Name the disease which is caused by deficiency of vitamin K and vitamin A.
- (b) Name any two sources of vitamin B₁ and vitamin E.

3. Answer any one of the following questions :

- (a) (i) Name any five minerals and discuss their roles in our body.
- (ii) Name the disease caused by iodine deficiency and discuss its remedies.
- (b) Give the classification of vitamins, their scientific names and one source each.

UNIT—II

4. Answer any four of the following questions :

- (a) What are cofactors?
- (b) What are enzymes?
- (c) What is denaturation of protein?
- (d) What is prosthetic group in enzymes?
- (e) Write one example of cofactor in enzymes.

26J/618

5. Answer any one of the following questions : 2

- (a) What is turnover number? If an enzyme converts 5×10^6 substrate molecules per minute, what is its turnover number?
- (b) What are the properties of enzymes as a catalyst?

6. Answer any one of the following questions : 8

- (a) (i) Discuss the lock-and-key mechanism of enzyme action. 5
- (ii) Discuss the effects of pH and temperature in enzyme action. 3
- (b) Explain the classification and nomenclature of enzymes with suitable examples.

UNIT—III

7. Answer any four of the following questions :

- (a) What is malnutrition? 1 × 4 = 4
- (b) What does FSSAI stand for?
- (c) What is food preservation?
- (d) What are preservatives?
- (e) Give two examples of food preservatives.

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(Turn Over)

8. Answer any one of the following questions:

- (a) Give any two methods of food preservation.
- (b) What are the full forms of FPO and MPO?

9. Answer any one of the following questions:

- (a) (i) Explain the preservation of food with an example.
- (ii) Discuss the composition and manufacture of jam, jelly and sauces.
- (b) Discuss the classification of food and nutrients with a suitable example.

UNIT—IV

10. Answer any four of the following questions:

- (a) What are food additives?
- (b) What are artificial sweeteners?
- (c) Give one example of food additives.

1×4

11. Answer any one of the following questions: 2

- (d) Give one example of artificial food colorants.
- (e) Give one example of artificial sweeteners.
- (a) What are the principles of food additives?
- (b) What are the advantages and disadvantages of food additives?

12. Answer any one of the following questions: 8

- (a) Write four different types of food additives and discuss each one of them in detail.
- (b) (i) What are the advantages and disadvantages of artificial sweeteners?
- (ii) Write a short note on flavours and give suitable examples.

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UNIT—V

13. Answer any four of the following questions:

- (a) Give one natural source of fiber.
- (b) What is fiber?

1×4=4

- (c) What is artificial fiber?
- (d) Give one example of biodegradable polymer.
- (e) What are biofuels?

14. Answer any one of the following questions :

- (a) Write any two differences between soaps and detergents.
- (b) What are the advantages of biofuels over the conventional source of energy?

15. Answer any one of the following questions :

- (a) What are biodegradable polymers? Discuss their benefits.
- (b) (i) Discuss the mechanism of cleansing action of soap via micelle formation.
- (ii) Discuss the classification of fibers.
