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B.Sc./5th Sem (H)/NUT/23(CBCS)

2023

5th Semester Examination  
NUTRITION (Honours)

Paper : DSE 1-T

[CBCS]

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

[Chemical Safety of Foods]

Full Marks : 60

Time : Three Hours

**Group - A**

Answer any *ten* of the following questions :  $2 \times 10 = 20$

1. Name any two pesticides.
2. What is MSG?
3. Name any two thickening agents.
4. Name any two artificial colorants.
5. 'Are sweeteners better than sugar' — Justify.
6. Define 'Emulsifiers'.

P.T.O.

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7. Write full form of BHA.
8. What is neotame?
9. Where sunset yellow is used?
10. Define sterilization.
11. Name any two gelling agent.
12. What is cross contaminants?
13. Write adverse effect of radioactive isotopes.
14. Write the use of potassium bromate.
15. How will you detect allura red in food?

### Group - B

Answer any *four* of the following questions :  $5 \times 4 = 20$

16. Write the use of sodium benzoate and sodium nitrate.  
 $2\frac{1}{2} + 2\frac{1}{2}$
17. Write the adverse effect of hydrogenated oil on human health and non-certified colorants.  
 $2\frac{1}{2} + 2\frac{1}{2}$
18. All additives are not considered as preservatives — Explain?
19. How heavy metals cause human health hazard?

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20. Write short notes on —  $2\frac{1}{2}+2\frac{1}{2}$

(i) Preservatives

(ii) Equipment contaminates

21. How foods are contaminated during packaging, storage and transportation?  $2+2+1$

### Group - C

Answer any *two* of the following questions :  $10\times 2=20$

22. What is food additives? Why are food additives added to food? Are natural food additives better than artificial ones? — Explain. What is BHA?  $2+2+4+2$

23. What is food colorants? Describe the detection and health hazards of brilliant blue and fast green.  $2+(2+2)+(2+2)$

24. Describe in details about artificial sweetners. Differentiate between natural and artificial sweetners.  $7+3$

25. Write the detection and quantification of nitrites and organohalogens.  $5+5$

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OR

[Microbiological Safety of foods]

Full Marks : 60

Time : Three Hours

Group - A

Answer any *ten* of the following questions :  $2 \times 10 = 20$

1. Define highly perishable food.
2. Name any one toxin responsible for mushroom poisoning.
3. Define microbial rancidity.
4. State the denaturing agents used in DGGE.
5. Define Z-value.
6. Name the toxin produced by *Shigella dysenteriae*.
7. How do people get giardiasis?
8. Write the causes of toxoplasmosis.
9. What is food preservation?
10. State the mode of actions of fumonisins.
11. How does salt help in food preservation?
12. What is CFU?
13. Which microorganism does produce 'Hemolysin BL toxin'?
14. What is intermediate moisture containing food?

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15. What are the primary sources of pathogenic microorganisms in cheese?

**Group - B**

Answer any *four* of the following questions :  $5 \times 4 = 20$

16. Discuss different intrinsic and extrinsic factors affecting the microbial growth in food. 3+2
17. What is canning? Discuss different causes of spoilages in cans. 1+4
18. Describe the mechanism of LT toxin produced by *Escherichia coli*.
19. Mention the pathophysiology of Rota virus infection.
20. Write a note on sea food contamination.
21. How do you enumerate the bacterial numbers in packaged sealed water?

**Group - C**

Answer any *two* of the following questions :  $10 \times 2 = 20$

22. How does aflatoxin produce disease in human? Name the causative microorganism of typhoid. State the pathophysiology of that microorganism. How do you perform the Widal test? 2+1+4+3

P.T.O.

23. What should be the criteria of an ideal preservative? What are the important factors affecting the rate of drying? Write a note on kiln drier. 3+3+4
24. What is metagenome? What is the importance of metagenome in food quality control? Write a note on DGGE. 2+3+5
25. Discuss the principle of high pressure technology. What are the advantages and disadvantages of high pressure technology? What is blanching? 5+3+2
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OR

[Food Sanitation & Hygiene]

Full Marks : 40

Time : Two Hours

**Group - A**

Answer any *five* of the following questions :  $2 \times 5 = 10$

1. What is botulinism?
2. Name fungal sources of food contaminants.
3. Define codex standard.
4. Write two examples of metal contaminated food disease.
5. What is vector control infestation?
6. Differentiate between disinfection and sterilization.
7. How antibiotics can cause food hazard?
8. What do you mean by cross contamination?

**Group - B**

Answer any *four* of the following questions :  $5 \times 4 = 20$

9. Discuss about standard guideline of food sanitation for a commercial kitchen. 5
10. Write the importance of personal hygiene of food handler. 5

P.T.O.

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11. Write a short note on control of infestations. What is the importance of training programme for health personnel?  
2+3
12. Write the importance of safety during food procurement. Write about safety of control of left over foods. 2+3
13. What do you mean by GHP? Write about the hormonal hazard of food. 2+3
14. Write the relationship of micro-organism to sanitation.

### Group - C

Answer any *one* of the following questions :  $10 \times 1 = 10$

15. How air and soil act as a reservoir of infections? Discuss briefly the organophosphate pesticide toxicity of food.  
5+5
16. How microorganisms can degrade food quality? Write a short note on two tests to determine the sanitizer strength.  
4+3+3