

June-2023

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Food & Nutrition

[Time: 3 Hours]

[Max. Marks: 80]

V SEMESTER

PAPER - I (Nutritional Biochemistry I)

QP CODE: 8580

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. What are enzymes? Give an account of their classification with suitable examples.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. List the functions of lipids.
3. What are the steps of enzyme catalysis? What is the active site?
4. Write a note on competitive and non-competitive inhibition in Enzymatic reactions
5. Define biological oxidation. Write its importance.
6. Explain Fischer's Lock-Key and induced fit model.
7. Explain Coenzymes and Cofactors with examples.
8. Describe the Electron transport chain.
9. Write a note on the Functions of carbohydrates.
10. Write a note on Monosaccharides.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. What are Lipids? How are they classified?
12. Describe the similarities and differences between sucrose and maltose.
13. Mention important properties of enzymes
14. Describe the functions of phospholipids.
15. What are lipoproteins? Name them with their normal ranges.
16. What is glycogen? State biomedical importance of it?
17. Describe the clinical utility of serum enzyme measurements with suitable examples
18. Which sugars are present in nucleic acids?
19. Write normal ranges for 1. CK-MB. 2. AST. 3. ALT
20. Explain why sucrose is called as invert sugar.
21. Functions of cholesterol.

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PAPER - II (Quality control I)

QP CODE: 8581

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. What is Packaging? Write the classification of Packaging and explain any four types of packaging material.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain Export Act, 1963.
3. Write a brief note on standard of weights and measures act?
4. Describe different types of packaging material.
5. Explain Incidental adulterants.
6. Define Nutraceuticals. Give its classification.
7. Explain AGMARK.
8. Explain the infant milk substitute, feeding bottles and infant food act.
9. Explain principles of HACCP.
10. Explain how to detect common adulterants in milk, coffee and chilli powder.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Mention the voluntary bases product certifications.
12. Define adulteration.
13. What is the work of EIC?
14. What is aim of FSSAI?
15. Define the term Food and GM food.
16. Which is the 3 tier system for administration of PFA Act?
17. What are the minimum requirements laid down by Fruit Product Order?
18. What is the punishment for offences of adulteration?
19. What are the benefits to consumers from HACCP?
20. What is reason for adulteration?
21. Name the food products packed in plastics.

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PAPER - III (Chemistry III)

QP CODE: 8582

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Define the carbonyl group and explain its reactivity and properties. Also, give the mechanism of Cannizzaro reaction.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. What is maleic acid? Explain its preparation and properties.
3. Give a general reaction of monohydric alcohols with a carboxylic acid and state the product formed.
4. Elaborate valence bond theory with example.
5. Describe the structure, preparation and properties of lactic acid.
6. Elaborate the chemical reaction of Phenols?
7. Explain the terms in detail
 - a. Elevation of boiling point
 - b. Depression in freezing point
8. Write a note on Crystal Field Theory?
9. State and explain the factors influencing stability of complex?
10. What is glycerol? State its synthesis, reactions and uses.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define transition metals and explain their properties.
12. Enlist the applications of metal complexes as therapeutic agents.
13. Differentiate between aldehydes and ketones with suitable examples
14. Define hydroxy acids and give an example of a hydroxy acid.
15. Write a note on Victor Meyer's method?
16. Define dilute solution and give two examples of a dilute solution
17. Describe the structure of lactic acid?
18. What is the importance of osmotic pressure on living cells? Give an example
19. Describe the synthesis of glycerol.
20. What is the difference between alkyls and aryls?
21. Define hypertonic, hypotonic, and isotonic solutions.

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PAPER – IV (Therapeutic Nutrition I)

QP CODE: 8583

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. What is liver cirrhosis? Explain in detail with its aetiology and symptoms and dietary treatment.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. What are the etiology for Type I and Type II diabetes mellitus?
3. What are the agent's responsible for liver damage?
4. Write a note on acute pancreatitis.
5. What is glomerulonephritis? Explain in detail.
6. Bring out the nutritional management in gall bladder stones.
7. Explain the nutritional requirement in dietary management of diabetes mellitus.
8. Write a note on dietary management in hepatitis.
9. Explain chronic liver failure.
10. What is Hepatic Encephalopathy? Give its dietary management.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Explain Cholecystitis and Cholelithiasis.
12. How environmental factors causing diabetes mellitus?
13. List out functions of kidney.
14. What is Wilson's disease? List out foods to be avoided in such condition.
15. What are the risk factors for gall bladder stones?
16. What are Glycosuria and Ketonuria?
17. What are the causes for acute renal failure?
18. What is pancreatitis?
19. What is peritoneal dialysis? List out its characteristic features.
20. What is urolithiasis? Explain.
21. What causes Chronic pancreatitis? What are its symptoms?

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PAPER – V (Food Microbiology I)

QP CODE: 8584

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Describe transformation, conjugation and transduction in detail with diagrams.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Contributions of Alexander Fleming and Robert Koch.
3. Fungi morphology and its importance.
4. Characteristics of viruses with different examples.
5. Describe physical methods of sterilization.
6. Chemical methods of sterilization.
7. Describe Lytic and Lysogenic cycle in viruses.
8. Explain the working principle of autoclave.
9. What is culture media? different types of media.
10. Importance of fungi in food along with examples.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Name three characteristics of Bacteria? Give examples.
12. Spectrophotometer.
13. Louis Pasteur.
14. Draw a neat labeled diagram of T4 Phage
15. What is sterilization? Give an example.
16. Write a note on the pH meter.
17. Write a short note on Penicillium.
18. What is food microbiology?
19. Write a note on the importance of bacteria in food.
20. Write a note on bacteria with examples.
21. Write a note on the hot air oven..

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V SEMESTER**PAPER – VI (Food Preservation I)****QP CODE: 8585**

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions**10X1 = 10 Marks**

1. Explain the principle and causes involved in food spoilage

Short Essays: (Any – 8)**5 X 8 = 40 Marks**

2. Write about technique of chemical preservation
3. Write difference between sun and artificial drying technique
4. Physical changes during food spoilage
5. Write the procedure for jam preparation
6. Traditional method of food preservation
7. How microorganism is removed using sterilization
8. Define blanching and its types
9. General principle of food preservation
10. Radioisotopes used in food preservation

Short Answers: (Any – 10)**3 X 10 = 30 Marks**

11. Pasteurization
12. Food spoilage by insect and rodents
13. Sauerkraut preparation
14. Food preservation using high salt concentration
15. Sources of radiation
16. Different types of dryers
17. Dehydration technique
18. Write the role of ingredients used in pickle preparation
19. Types of food preservation using high sugar content
20. Blanching method
21. Advantages of artificial dryer