

# NE-125

November -2021

B.Sc., Sem.-V

304 : Biochemistry

(Introduction to Microbiology and Nutrition)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- (1) All Questions in Section – I carry equal marks.
  - (2) Attempt any **THREE** questions in Section – I.
  - (3) Question – 9 in Section – II is **COMPULSORY**.
  - (4) Illustrate your answers with neat diagrams wherever necessary.

## Section – I

Attempt any **three** :

1. (a) Draw and explain the Cell wall structure of a Gram negative Bacterial cell. 8  
(b) Write a note on Metachromatic granules. 6
2. (a) Explain with a diagram Sporulation in bacteria. 8  
(b) Write a note on Mycoplasma. 6
3. (a) Discuss principle, procedure and result of Capsule staining. 8  
(b) Write a note on Single cell protein. 6
4. (a) Discuss principle, procedure and result of Acid fast staining. 8  
(b) Write a note on : Sewage treatment. 6
5. (a) Discuss : 7  
(1) Supplementary value of Proteins  
(2) Lactose Intolerance  
(b) Write a note on Trans Fats. 7

6. (a) Write a detailed note on Nitrogen Balance. 8  
(b) Discuss the importance of Carbohydrates in our body. 6
7. (a) Discuss Basal metabolic rate, its method of measurement and factors affecting it. 8  
(b) Discuss the Nutritional value of Legumes. 6
8. (a) Explain the benefits of eating Vegetarian diet. 8  
(b) Write the principle of Direct and Indirect Calorimetry. Name two methods by which we can measure Energy value of Foods. 6

### Section – II

9. Attempt any 8 : (All questions are of 1 mark each) 8
- (1) Give any one example of cocci with its arrangement.
  - (2) What are L forms ?
  - (3) Name two important components of Gram positive bacterial cell wall.
  - (4) Give one function of Mesosomes.
  - (5) Define compound dye and give example.
  - (6) Give one example of bacteria having lophotrichous flagella.
  - (7) Define Mordant.
  - (8) What are Viruses ?
  - (9) Name any two PUFA.
  - (10) Name the transport forms of Lipids.
  - (11) What are Dietary Fibers ?
  - (12) What is Ketosis ?
  - (13) What are Balanced diets ?
  - (14) Define Kcal.
  - (15) Write the RDA for Proteins.
  - (16) How many Kcals does 100 g of Vegetables give ?
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