Seat No. : _____

NE-125

November -2021

B.Sc., Sem.-V

BK-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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