

B.Sc. (CBCS Pattern) Semester-V  
**USBCDST-11 - Biochemistry Paper-III - Nutritional Biochemistry**

P. Pages : 2

Time : Three Hours



**GUG/W/24/13113**

Max. Marks : 50

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- Notes : 1. All questions are compulsory.  
2. All questions carry equal marks.

- 1.** Discuss in detail the measurement of energy expenditure by direct and indirect colorimetric method. **10**

**OR**

- a) Describe in detail factor affecting energy input. **2½**
- b) Discuss basal metabolic rate. **2½**
- c) Discuss Biological oxidation of foodstuff. **2½**
- d) Discuss the role of nutrients on human health. **2½**

- 2.** Discuss in detail Functions and clinical significance of essential fatty acids. **10**

**OR**

- a) Discuss in detail dietary requirements of various nutrients. **2½**
- b) Write a note on dietary source of carbohydrates. **2½**
- c) write a note on dietary fiber. **2½**
- d) Write a note on Saturated Fatty Acids. **2½**

- 3.** Discuss the role of Calcium, Phosphorus in metabolism. **10**

**OR**

- a) Give the significance of iron in metabolism. **2½**
- b) Discuss the functions of proteins in the human body. **2½**
- c) Discuss amino acid pool and its significance in human body. **2½**
- d) What is importance of Mg and Cu in metabolism. **2½**

4. Discuss in detail fat soluble vitamin. 10

OR

- a) Write a note on Vitamin B12. 2½
- b) Give clinical significance of folate. 2½
- c) Write a note on clinical importance of niacin. 2½
- d) Explain the role of Vitamin B6 in metabolism. 2½

5. Solve **any ten** from following.

- a) Define nutrition. 1
- b) Define balance diet. 1
- c) What is resting metabolism? 1
- d) what is normal blood glucose level? 1
- e) Give one example of lipoprotein. 1
- f) Name one disorder which is due to deficiency of any essential fatty acid. 1
- g) Name one protein deficiency syndrome. 1
- h) Give cause of Kwashiorkor. 1
- i) Name the disorder occurs due to Iodine deficiency. 1
- j) Give chemical Name of Vitamin K. 1
- k) Give the precursor of Niacin. 1
- l) Give the dietary source of vitamin B6. 1

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