

B.E (FTBE) SECOND YEAR, 1<sup>ST</sup> SEMESTER SUPPLEMENTARY EXAM-2017

## BIOCHEMISTRY AND NUTRITION-II

## PART - I (50 MARKS)

Answer Q1 and Any Two from the rest

- Q1. a. Name and write the structures of carotenoids that exhibit pro-vitamin A activity. 6  
 b. What is RDA? State RDA values for any two vitamins and two minerals. 6  
 c. Diagrammatically show sources of minerals in foods. 5  
 d. How is availability of biotin linked to egg consumption? 3
- Q2. a. What is sunlight off-flavor? How can this off-flavor generation be averted? 2+1  
 b. In which form is thiamine present in the human body? What factors influence stability of thiamine? 2+4  
 c. Write the reactions showing sequential one-electron transfer in L-ascorbic acid? Indicate the forms that show vitamin C activity. 4+2
- Q3. a. Diagrammatically show how essential minerals can be grouped by chemical form, bioavailability, occurrence and nutritional deficiency. 5  
 b. Which is the major naturally occurring form of folate in foods? What form of Fe is most preferred in food fortification and why? 1+4  
 c. What properties of Ca render it as one of the most important mineral in our diet? 5
- Q4. a. What are micronutrients? Mention dietary sources of two micronutrients of your choice. 2+3  
 b. What are the bioavailability issues related to Fe in the human body? Why is vitamin C supplement not recommended with a Fe-rich diet? 3+2  
 c. What is the importance of vitamin B<sub>12</sub>? What are its dietary sources? 3+2

**B. FTBE 2<sup>nd</sup> YEAR 1<sup>st</sup> SEM SUPPLEMENTARY EXAM – 2017**

**BIOCHEMISTRY & NUTRITION II**

**Time: Three hours**

**Full Marks: 100**

**Part II (Marks- 50)**

**Use Separate Answer scripts for each group**

**Answer any five questions**

- Q1.** a. What are the characteristics of a "Reference woman"? 3  
b. What is BMI? 3  
c. Write the full form of: ACU, RDA: 2  
d. Draw the food pyramid. 2
- Q2.** a. Give the definition of health. 3  
b. What are the dimensions of health? 5  
c. What is junk food? 2
- Q3.** a. What do you mean by nutraceutical? 2.5  
b. What is antioxidant? 2.5  
c. Write the name of antioxidant compounds in coffee beans and rice bran oil. 2  
d. Why fish oil consumption is good for cardiac patients? 3
- Q4.** Calculate the carbohydrate, protein and fat requirements of the following subject: 10  
Age- 21 years, Gender- male, Height- 5'5", Weight- 67kg, Type of activity- Sedentary.
- Q5.** a. What is protein sparing action? 2  
b. What is the difference between nutrient and nutrition? 3  
c. Write about physiological functions of fat. 5
- Q6.** a. What are the complications related to under nutrition? 6

- b. What do you mean by geriatric food? 2
- c. Write the role of protein in transport of nutrients in human body. 2
- Q7. a. Define the term glycemic load? 3
- b. Write the role of dietary fibre to control constipation and obesity. 7
- Q8. a. What are the differences between fortification and enrichment? 4
- b. What do you mean by LBW baby? 3
- c. 'Baking- the best method of cooking'- explain. 3