

Roll No.

**B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APR / MAY 2014**

**AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH**

**Fourth Semester**

**AI 8401 – FOOD SCIENCE AND NUTRITION**

**(Regulation 2012)**

**Time: 3 hours**

**Answer ALL Questions**

**Max Marks: 100**

**Part – A (10 x 2 = 20 Marks)**

- 1) Write a note on space foods and its requirements.
- 2) Classify adulterants with suitable examples.
- 3) State reasons for the following:-
  - a. Milk when added to acidic fruits curdles
  - b. A person loses weight when he/she suffers from fever
- 4) How do BMI and BVI differ when used to find the healthiness of a person?
- 5) Differentiate HDL and LDL with their prescribed limits.
- 6) With few examples, write a note on pre cursors and co enzymes.
- 7) How will you determine the total sugar concentration in a fruit juice?
- 8) What is the role of HTST process in extrusion of foods?
- 9) Define packaging according to PII.
- 10) Why is fermentation of foods necessary?

**Part – B (5 x 16 = 80 Marks)**

- 11) i) The 10 hour schedule of a non-vegetarian adult man 25 years old, height 5' 5" and weighing 132 lbs, doing sedentary work is given in the following table.

<b>Activity</b>	<b>Time (hrs / minutes)</b>	<b>Energy cost of activity (kcal/hr)</b>
Walking	30 min	160
Gym – aerobic exercises	45 min	500
Bathing & dressing	30 min	160
Driving a bike	15 min	160
Attending class lectures	4 hrs 30 min	100
Attending practicals	3 hrs	160
Having meals	30 min	100

Note that these values do not include BMR and SDA. Calculate (i) BMI (ii) the total energy required for this period of 10 hrs. (8)

- ii) Explain the methods of assessing the quality of proteins. (8)

- 12) a) i) How according to PFA, a food is deemed to be adulterated? (8)  
ii) Discuss the food attributes in detail with suitable examples. (8)  
(or)
- b) i) Explain the various International Food standards. (10)  
ii) What are the different types of tests used in the sensory evaluation of foods? (6)
- 13) a) i) Write short notes on the importance of Iron and Copper to our body. (10)  
ii) Briefly discuss Child foods with suitable examples. (6)  
(or)
- b) i) How are fats classified? (8)  
ii) What are the general functions of minerals and list out the various forms in which they are present in the body? (8)
- 14) a) i) What are the steps involved in the development of extruded products? (8)  
ii) Write short notes on baking. Explain the method of preparing bread. (8)  
(or)
- b) i) Explain the process of preparation of pasta, noodles and macroni. (8)  
ii) Explain the method of preparing a single fruit jam and a squash. (8)
- 15) a) i) What is food fermentation and explain the advantages of the same? (8)  
ii) What are the various packaging environments and explain the 12 grid system of representation? (8)  
(or)
- b) i) What are the types of packaging? Discuss the various materials used for the same and their properties. (8)  
ii) Write short notes on any two ready to serve beverages. (8)