



B.E. / B.Tech. (Full Time) END SEMESTER EXAMINATIONS, APRIL / MAY 2011

AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH

FOURTH SEMESTER – (REGULATIONS 2008)

AI 9253 FOOD SCIENCE AND NUTRITION TECHNOLOGY

Time: 3 hrs

Max Marks: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

- 1) What are superfoods?
- 2) Write a note on the relation of nutrition to good health.
- 3) State reasons for the following:-
  - a) Ripe mangoes are sweeter than raw mangoes whereas tender green peas are sweeter than matured peas.
  - b) Jam, jelly and pickles can be stored for a long time.
- 4) What are the types of rancidity?
- 5) Differentiate xerophthalmia and keratinisation.
- 6) How are minerals classified?
- 7) List out some of the applications of extrusion technology in food industry.
- 8) The percentage composition of 250 ml of a fruit juice is as follows – undissolved fruit solids – 48, sugar content of fruits – 2, added sucrose – 15, pectin – 2, water – 30, preservatives and others - 3. Calculate the total sugar concentration in fruit juice.
- 9) Define packaging according to PII.
- 10) State the reasons for taking beverages. Give examples.

Part – B (5 x 16 = 80 Marks)

11) a) i) The 10 hour schedule of a non-vegetarian adult man 23 years old, height 155 cms and weighing 53 kg, doing sedentary work is given in the following table.

Activity	Time (hrs / minutes)	Energy cost of activity (kcal/hr)
Walking	35 min	160
Gym – aerobic exercises	45 min	500
Bathing & dressing	30 min	160
Driving a bike	10 min	160
Attending class lectures	4 hrs	100
Attending practicals	3 hrs	160
Having meals	1 hr	100

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

- ii) How are proteins classified? Give examples. (8)
- 12) a) i) Discuss the food attributes in detail with suitable examples. (8)
- ii) How according to PFA, a food is deemed to be adulterated? (8)
- (or)
- b) i) Explain the various International Food standards. (10)
- ii) Write short notes on 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 weaning foods. (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) Discuss a jelly in detail. (8)
- (or)
- b) i) Explain the process of preparation of pasta, noodles and macroni. (8)
- ii) Explain the method of preparing a mixed fruit jam and a squash. (8)
- 15) a) i) Define packaging and its functions according to PII. (8)
- ii) Write short notes on coffee processing. (8)
- (or)
- b) i) Explain the fermentation of carbohydrates, proteins and lipids. (8)
- ii) What are the various packaging environment and explain the 12 grid system of representation? (8)