

1125

B. Voc. (Food Processing and Preservation) First Semester
PFP-103: Food Biochemistry

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) Define saponification and rancidity.
- b) What is polyunsaturated fatty acid?
- c) Enlist a monosaccharide, disaccharide, polysaccharide and oligosaccharide.
- d) What is moisture sorption isotherm?
- e) How is bound and free water important?
- f) A fat soluble vitamin is _____ and a water soluble vitamin is _____. (6x2)

UNIT- I

- II. a) How are carbohydrates classified into different classes? Give examples of each.
- b) Write notes on:-
i) dispersed systems
ii) Water (4,8)
- III. a) Highlight the role of bound and free water; ice and their implications in food science.
- b) Write notes on:-
i) Chemical reactions of carbohydrates
ii) Isotherms (4,8)

UNIT- II

- IV. a) What is Starch? Describe its hydrolytic products.
- b) Write notes on:-
i) Gums and pectins
ii) Cyclodextrins and maltodextrins (4,8)
- V. a) What are soluble and other types of fibers? Discuss their role.
- b) Write notes on:-
i) Starch
ii) Cellulose and gums (4,8)

P.T.O.

(2)

UNIT- III

- VI. a) Discuss the structure and classification of lipids. What are antioxidants?
b) Write notes on:-
i) Rancidity and its prevention
ii) Phospholipids (4,8)
- VII. a) Write notes on:
i) Phospholipids, confectionary fats
ii) Edible oils.
b) Write notes on:-
(i) Auto oxidation & hydrolysis of fats and oils
ii) manufacture of refined oil (4,8)

UNIT - IV

- VIII. a) Write notes on:-
i) Proteins
ii) Purification of proteins
iii) Denaturation of proteins
b) Write notes on:-
i) Amino acids and peptides
ii) Vitamins & minerals (4,8)
- IX. a) Explain enzymes and highlight their importance in food industry.
b) Write notes on:-
i) Macro and micro nutrients
ii) Importance of proteins (4,8)

x-x-x