

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.Tech. Dairy Technology 2019-20

Semester	: VII (New Syllabus)	Academic Year	: 2019-2020
Course No.	: DC-706	Course Title	: Food Chemistry
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Monday, 13.01.2020	Time	: 11.00 to 13.00 Hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
 - 2) Solve **Any Five** questions from **Section 'B'**.
 - 3) Draw neat and well labelled diagram wherever necessary.

SECTION - 'A'

- Q. 1 A) Choose the most appropriate answer from the options given below. (05)
- i) The following is an example of raising agents
 - a) Calcium chloride
 - b) Sodium bicarbonate
 - c) Sucrose
 - d) Monosodium glutamate
 - ii) The lowest concentration of a compound that is just enough for the recognition of its odour is called as
 - a) Chelating capacity
 - b) Flavour binding capacity
 - c) Odour activity value
 - d) Threshold value
 - iii) The characteristic protein of wheat
 - a) Zein
 - b) Casein
 - c) Gluten
 - d) Avenin
 - iv) Dry matter content of most fruits (except nuts) varies between
 - a) 10-20%.
 - b) 20-30%
 - c) 30-40%
 - d) 40-50%
 - v) Pepsin is an enzyme, which fall in the category of
 - a) Ligases
 - b) Hydrolases
 - c) Isomerase
 - d) Transferases
- B) Define the following. (05)
- i) Water activity
 - ii) Food additives
 - iii) Lipids
 - iv) Retrogradation
 - v) Enzymes
- Q. 2 A) Give two examples for the following. (05)
- i) Artificial sweeteners
 - ii) Climacteric fruits
 - iii) Class I preservatives
 - iv) Anti-nutritional factors
 - v) Phospholipids

- B) State whether True or False. If false, rewrite the statement after making necessary corrections to the underlined word. (05)
- i) Browning occurring in cut fruits is mainly due to papain.
 - ii) Optimum pH for pectin gels is 6.5.
 - iii) The linkage present in linear component of starch is α -1, 6 glycosidic linkage.
 - iv) Haemoglobin is an example of Nucleoprotein.
 - v) High intake of monosodium glutamate can trigger a "Chinese restaurant syndrome".

SECTION - 'B'

- Q. 3 Discuss the structure of water. Explain moisture sorption isotherm. (06)
- Q. 4 Classify food lipids based on composition and saponification. Write a note on unsaponifiable constituents of food lipids. (06)
- Q. 5 Give general classification of enzyme, Explain the role of hydrolases in food industry. (06)
- Q. 6 Write a short note on following.
- A) Functions of food additives. (02)
 - B) Protein texturization. (02)
 - C) Physico-chemical changes during bread making. (02)
- Q. 7.
- A) Discuss modified food starches. (03)
 - B) Describe the classification of food proteins based on composition. (03)
- Q. 8 Explain the following.
- A) Antioxidants. (02)
 - B) Food contaminants. (02)
 - C) Flavor enhancer. (02)
- Q. 9
- A) Give general composition of fruits. (02)
 - B) Briefly discuss the ripening related changes in fruits. (04)
