

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMEISTER END THEORY EXAMINATION, B. TECH. (D.T.) DEGREE COURSE 2018-19

Semester : **VII (New Syllabus)**
Course No. : **DC-706**
Credits : **2+1 3**
Day & Date : **Saturday, 12/01/2019**

Academic Year : **2018-2019**
Course Title : **Food Chemistry**
Total Marks : **50**
Time : **15.00 to 17.00 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) Carrageenan acts as
 - a) Flavor enhancer
 - b) Bulking agent
 - c) Stabilizer
 - d) Color enhancer
- ii) Potassium sorbet is used in food as
 - a) Sweetener
 - b) Antimicrobial agent
 - c) Free flowing agent
 - d) Antioxidant
- iii) Maillard browning reaches maximum at water activity level of
 - a) 0.4-0.8
 - b) 0.7-0.9
 - c) 0.2 -0.3
 - d) 0.9-1.00
- iv) The bitter taste in roasted cocoa bean is derived from
 - a) Pyrimidines
 - b) Alkanals
 - c) Purines
 - d) Pyrazone
- v) Irradiation of food is done by
 - a) Gamma ray
 - b) Oven heating
 - c) Microwave heating
 - d) UHT treatment

B) Define the terms.

- i) Beverage
- ii) Food additives
- iii) Gelatinization
- iv) Odour threshold
- v) Peptide bond

Q. 2 A) Give one example of following. (05)

- i) Essential fatty acid
- ii) Oligosaccharides
- iii) Natural antioxidant
- iv) Regulatory protein
- v) Chemical preservatives

(P.T.O.)

- B) State "True or False". If False, rewrite the statement after making necessary corrections. (05)
- i) Melanoidin pigment is formed by auto oxidation.
 - ii) The protein used for texturization process must have 5-10KD molecular weight.
 - iii) Feed causes flavor defect in milk.
 - iv) Pyrolysis of fat leads to the formation of acrolein.
 - v) Vanillin is the chief aromatic substance in vanilla flavor.

SECTION – 'B'

- Q. 3 Define and explain the term water activity. Write an explanatory note on types of water. (06)
- Q. 4 Define food preservatives. Discuss the general principles of food preservation by physical and chemical means. (06)
- Q. 5 Classify food lipids. Discuss in brief the chemistry of frying. (06)
- Q. 6
- a) Write an explanatory note on aroma compounds in foods. (02)
 - b) Write short note on flavor enhancer. (02)
 - c) Write a short note on anti nutritional factors in foods. (02)
- Q. 7
- a) Discuss in brief the physicochemical changes during bread making. (03)
 - b) Discuss in brief physicochemical changes during processing of coffee. (03)
- Q. 8
- a) Classify enzymes required in food processing. (02)
 - b) Describe the physico-chemical properties of food proteins. (02)
 - c) Discuss in brief the uses of polysaccharides in food industry. (02)
- Q. 9
- a) Write an explanatory note on types of water. (02)
 - b) Give the detail the classification of fruits and vegetables. Explain the major physico-chemical changes taking place during ripening of fruits. (04)
