

M.TECH/BT/2ND SEM/BIOT 5242/2017
ADVANCED FOOD BIOTECHNOLOGY
(BIOT 5242)

Time Allotted: 3 hrs

Full Marks: 70

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
Any 5 (five) from Group B to E, taking at least one from each group.
Candidates are required to give answer in their own words as far as
practicable.*

Group – A
(Multiple Choice Type Questions)

1. Choose the correct alternative for the following: **10 × 1 = 10**

- (i) Phenolic phytochemicals have antioxidant property due to
(a) phenolic ring (b) hydroxyl ring
(c) both (a) and (b) (d) none of these.
- (ii) Soyabean is
(a) 7s globulin (b) 19s globulin
(c) 10s globulin (d) none of these.
- (iii) Carotenoids are
(a) isoprenoids (b) alkaloids
(c) flavonoids (d) none of these.
- (iv) Neurotoxins are produced by
(a) *A. flavus* (b) *A. oryzae*
(c) *A. niger* (d) *C. botulinum*.
- (v) Food source rich in dietary fibre is
(a) rice (b) potato
(c) oats (d) tomato.
- (vi) Vitamin C is a/an
(a) antioxidant (b) fat replacer
(c) preservative (d) artificial sweetener.
- (vii) Aspartame is a/an
(a) antioxidant (b) fat replacer
(c) preservative (d) artificial sweetener.

- (viii) Mustard powder is added in food as
 (a) antioxidant (b) emulsifier
 (c) preservative (d) fat replacer.
- (ix) DHA is obtained by
 (a) solvent extraction of turmeric
 (b) distillation of ground nut oil
 (c) concentrating fish oil
 (d) none of these.
- (x) Glutathione acts as antioxidant due to the presence of
 (a) sulphhydryl group (b) carbonyl group
 (c) hydroxyl group (d) none of these.

Group - B

2. (a) Why dietary fibre is added in different food preparation?
 (b) What are different sources of dietary fibre?
 (c) Name two natural antioxidant.
- 5 + 4 + 3 = 12**
3. (a) Why preservatives are added in food?
 (b) What factors are responsible for deterioration of food during preparation quality?
 (c) Shortly describe each classes of food preservatives.
- 2 + 3 + 7 = 12**

Group - C

4. (a) Discuss different food pathogens.
 (b) Write short note about rancidity.
 (c) Write notes on mycotoxin.
- 5 + 3 + 4 = 12**
5. (a) Write notes on Mycobacterium And Salmonella contamination of different foods.
 (b) Describe different methods for detection of food pathogens.
- 6 + 6 = 12**

Group - D

6. (a) Write notes on soyabean protein.
 (b) Name any two flavouring agents and discuss their mode of action.
- 6 + 6 = 12**
7. (a) Write any two methods for genetic modification of vegetable oil.
 (b) Name three different antioxidants and discuss the mechanisms how these antioxidants eliminate ROS.
- 5 + 7 = 12**

Group - E

8. (a) Compare functional food and nutraceutical.
 (b) Classify them according to their availability.
- 6 + 6 = 12**
9. (a) What are antioxidants? Compare the beneficial effects of natural and artificial antioxidants.
 (b) What is an emulsion food? Give three examples.
- (3 + 3) + (3 + 3) = 12**