

Roll No.....

2022
24 Dec

M.Tech Food Technology
Semester II Examination, 2022
Paper Title: Functional Food and Nutraceuticals
Paper Code: MFTC – 205

Time: 3 Hours
Time Allotted: 3 hours

Max Marks 75

Attempt all questions. Marks are mentioned against each question.

1. Answer the following (1 x 15)

A. Fill in the blanks:

- (a) Nutraceutical substance present in grapes is _____.
- (b) Capsaicinoids are present primarily in _____.
- (c) _____ and _____ are rich in allyl sulphur compounds.
- (d) _____ is the major active constituent present in turmeric.
- (e) Two potentially nutraceutical diterpenes in coffee beans are _____ and _____.

B. State true or false:

- (f) A probiotic is a “nondigestible food ingredient that beneficially affects the host by selectively stimulating the growth or activity of a limited number of bacteria in the colon”.
- (g) The predominant pathways that form phenolic compounds are the shikimic acid pathway and the malonic acid pathway.
- (h) Postbiotics are bioactive compounds made when the friendly bacteria in your gut (probiotic bacteria) digest and break down fibers (prebiotics).
- (i) Hesperidin is a common flavonoid especially in citrus fruit.
- (j) Chondroitin sulfate is a popular nutrition supplement being used by individuals recovering from joint injuries and suffering joint inflammatory disorders.

C. Briefly describe the following (one sentence):

- (k) Hyaluronic acid
- (l) Isoflavones
- (m) Carotenoids
- (n) Lycopene
- (o) Eicosanoid

2. Elucidate any three of the following (5 x 3)

- (a) Mechanism of action of probiotics
- (b) Amino acid based nutraceuticals
- (c) Criteria for probiotics
- (d) Sources of polyphenols
- (e) Sources of Dietary fibre

3. Write short notes on any three of the following (5 x 3)

- (a) Antioxidant effects of Tea polyphenols
- (b) PUFAs and Cardiovascular disease
- (c) Anti-diabetic effects of spices
- (d) Sources of Essential Fatty Acids
- (e) Anti-inflammatory effects of turmeric

4. Discuss any three of the following (5 x 3)

- (a) Mechanism of action of ω -3 fatty acids and GLA in countering the inflammatory effects of arachidonic acid
- (b) Anti-lithogenic effects of spices
- (c) Health benefits of honey
- (d) Digestive stimulant action of spices
- (e) Spirulina

5. Discuss in detail any one of the following (15 x 1)

- (a) Clinical testing of Nutraceuticals
- (b) Fortification and Health: Challenges and Opportunities