**Name:**

**Enrolment No:**

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2022**

**Course: Food and Nutraceuticals** **Semester : III**

**Program: Integrated B.Sc.-M.Sc.** **Duration: 3 Hours**

**Course Code: HSCC2008** **Max. Marks: 100**

**Instructions:**

| S. No. | Section A<br>Short answer questions/ MCQ/T&F<br>(20Qx1.5M= 30 Marks) | Marks | COs |
|---|---|---|---|
| Q 1 | | | |
| 1 | Categorize nutraceuticals with examples. | 1.5 | CO 1 |
| 2 | What are the health benefits of turmeric? | 1.5 | CO 1 |
| 3 | List the benefits of phytochemicals. | 1.5 | CO 1 |
| 4 | State the sources of limonoids and catechin. | 1.5 | CO 1 |
| 5 | How the active components can be enhanced in food? | 1.5 | CO 1 |
| 6 | Discuss the source and role of phytosterols. | 1.5 | CO 1 |
| 7 | Write down the structure and properties of octacosanol. | 1.5 | CO 2 |
| 8 | List any two glucosamine supplements. | 1.5 | CO 2 |
| 9 | Write down the sources of lycopene. | 1.5 | CO 2 |
| 10 | Report down the deficiency disorders of melatonin. | 1.5 | CO 2 |
| 11 | Recognize any two functions of L-carnitine. | 1.5 | CO 2 |
| 12 | Write down the full form of SDG and SECO. | 1.5 | CO 2 |
| 13 | Mention two types of proteins present in flax seed. | 1.5 | CO 2 |
| 14 | What is functional food? Discuss types of functional foods. | 1.5 | CO 3 |
| 15 | Lycopene is a natural red pigment. Is it true or false? | 1.5 | CO 3 |
| 16 | The typical dose of Ornithine α-ketoglutarate is 5-25 g daily. Is it true or false? | 1.5 | CO 3 |
| 17 | How the grape seeds are effective to human health? | 1.5 | CO 3 |
| 18 | Define extraction. Write down the factors that can affect the extraction process. | 1.5 | CO 3 |
| 19 | Give some examples of low-fat foods (at least 5). | 1.5 | CO 3 |
| 20 | Differentiate between neutraceuticals and pharmaceuticals. | 1.5 | CO 3 |

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| **Section B<br>(4Qx5M=20 Marks)** | | | |
| **Q 1** | | | |
| **1** | **Differentiate between maceration and Soxhhlet extraction process.** | **5** | **CO 1** |
| **2** | **Discuss the biological effect of omega 3-fatty acids.** | **5** | **CO 2** |
| **3** | **Classify the herbs and spices. Discuss its application in dairy products.** | **5** | **CO 3** |
| **4** | **Write about the functional properties and processing of herbs.** | **5** | **CO 3** |
| **Section C<br>(2Qx15M=30 Marks)** | | | |
| **Q 1** | | | |
| **1** | **Describe the types of flavonoids, their sources and biosynthesis of flavonoids.** | **15** | **CO 4** |
| **2** | **Discuss any two disorders in details. (a) Liver disorder (b) Nephrological disorder (c) Bronchitis (d) Osteoporosis** | **15** | **CO 5** |
| **Section D<br>(2Qx10M=20 Marks)** | | | |
| **Q 1** | | | |
| **1** | **classify isoprenoids. Discuss about the isolation and identification of isoprenoids.** | **10** | **CO 4** |
| **2** | **Differentiate between probiotics and prebiotics with examples.** | **10** | **CO 5** |