

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH**  
**(A DEEMED TO BE UNIVERSITY)**

Integrated B.Sc.-M.Sc. Clinical Nutrition and Dietetics (CND)  
Fourth Year Semester- VII, March-2021 Examination.

Time- 2 Hrs

[Max Marks: 60]

**FOOD TOXICOLOGY**  
**QP Code:N7200**

*Your answer should be specific to the question asked*  
*Draw neat labeled diagrams wherever necessary*

**LONG ESSAY**

**2x10= 20 Marks**

1. Describe how biotransformation facilitates elimination of toxicants
2. Explain the formation of polycyclic aromatic hydrocarbons in cooking.

**SHORT ESSAY**

**5x5=25 Marks**

3. Discuss the general principles behind food processing and preparation
4. Discuss the relationship between route of absorption and pathway of distribution of toxicants
5. Discuss the different types of toxic responses
6. Explore goiter, lathyrism and their linkage to foodborne toxicants.
7. Describe the formation mechanisms of N-Nitrosamines in foods

**SHORT ANSWER**

**5x3=15 Marks**

8. What are food additives?
9. Define Potency Versus Toxicity
10. Mention the dietary guidelines for cancer prevention
11. What is Simple distillation
12. Define target organ toxicity

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**Time: 2 Hrs**

**Max Marks: 60**

**FUNCTIONAL FOODS AND NUTRACEUTICALS**  
**QP Code: N7220**

*Your answers should be specific to the question asked*  
*Draw neat labelled diagrams wherever necessary*

**LONG ESSAY**

**2×10=20 Marks**

1. Describe in detail the role of various fruits and vegetables as functional foods along with their bioactive compounds. Give suitable examples.
2. What are probiotics? Discuss their essential features. Also write in detail the health benefits of probiotics foods along with suitable examples.

**SHORT ESSAY**

**5×5=25 Marks**

3. Discuss in the role of phytochemicals for the treatment of cancer and diabetes.
4. Discuss the role of omega-3-fatty acids on lipoprotein metabolism and their role in heart disease
5. Discuss the effects of bioactive compounds as anti-inflammatory activity.
6. Discuss the phytochemical class which provides the predominant source of coloring for fruits or vegetables
7. Write a short note on nutraceuticals from cereal product.

**SHORT ANSWER**

**5×3=15 Marks**

8. Which antioxidants are present in coffee
9. Enlist any four sea foods which act as functional foods
10. What are the beneficial effects of oats
11. Which beneficial compounds are present in turmeric
12. What are the different market forms of nutraceuticals?



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**[Max Marks: 50]**

**NUTRITIONAL GENOMICS**

**QP Code: N7230**

*Your answer should be specific to the question asked*  
*Draw neat labeled diagrams wherever necessary*

**LONG ESSAY**

**2 x 6 = 12 Marks**

1. Enumerate Transformation and Conjugation processes
2. Define Endoplasmic reticulum and explain the role of Endoplasmic reticulum stress in metabolic disorders

**SHORT ESSAY**

**6 x 4 = 24 Marks**

3. List fat soluble vitamins and a note on their importance
4. Role of gene-gene interaction in obesity and diabetes
5. Role of polyphenols in cancer prevention
6. Explain dietary effects on LDL subclasses
7. Draw the structures of DNA, purines and pyrimidines
8. List the types of lipids and add a note on genetic predisposition

**SHORT ANSWERS**

**7 x 2 = 14 Marks**

9. Define allele and variant
10. Name two neurodegenerative disorders
11. What is DNA methylation
12. What are SREBP's and CHREBP's
13. Define Genetic Buffering
14. Key points in maternal diet
15. Define Angiogenesis and Imprinting

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**Time: 2 Hrs**

**Max Marks: 50**

**FOOD MICROBIOLOGY**

**QP Code: N 7240**

*Your answers should be specific to the question asked*  
*Draw neat labelled diagrams wherever necessary*

**LONG ESSAY**

**2×6=12 Marks**

1. Elaborate on the ionizing radiation used for food irradiation
- 2 Explain the role of fermentation in food processing

**SHORT ESSAY**

**6×4=24 Marks**

3. Explain 12 D concept
4. Write a note on the concept of hurdle technology
5. Give a detailed account on chemical spoilage
6. Discuss the role of psychrotrophic bacteria in milk
7. Discuss the morphological characteristic of molds
8. Explain the rapid methods used for the detection of specific organisms

**SHORT ANSWER**

**7×2=14 Marks**

9. Differentiate between oxidative and fermentative yeasts.
10. List a few anti microbial additives
11. List the factors affecting heat penetration
12. What is cryoinjury
13. Case hardening
14. Define water activity
15. Enzymatic browning

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