



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

Integrated B.Sc. – M.Sc. Clinical Nutrition and Dietetics (CND) First Year Semester-I, March/April-2025 Examination

Time: 2.00 Hrs.

[Max. Marks: 50]

NUTRITIONAL BIOCHEMISTRY

Q.P Code: N1020

Your answer should be specific to the questions asked

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2x6=12Marks

1. List the sources of ammonia. Describe in detail the steps of urea cycle (1+5).
2. Describe the various factors affecting enzyme activity with suitable diagrams.

SHORT ESSAY

6x4=24Marks

3. Mention the coenzyme form of Thiamine. Describe the deficiency manifestations of Thiamine.
4. Explain the primary structure of proteins? What is its significance?.
5. Define polysaccharides? Classify them and give examples
6. Write the differences between oxidative phosphorylation and substrate level phosphorylation with examples.
7. Write the sources, daily requirement and biochemical functions of Niacin. (1+1+2)
8. Classify proteins based on their function with one suitable example for each.

SHORT ANSWERS

7x2=14Marks

9. List any 2 Group II hormones using cAMP as the second messenger.
10. What are Macrominerals and Microminerals? Give examples for each.
11. Define anion gap. Mention the normal anion gap
12. What are nucleosides and nucleotides?
13. Define Transamination. Give two examples of Transaminases .
14. What are Chylomicrons? Mention its functions
15. Define Epimers. Give two examples for Epimers.

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INTEGRATED B.Sc. –M.Sc. CLINICAL NUTRITION AND DIETETICS (CND)

First Year Semester-I March/April 2025 Examination

TIME – 2.30 HRS

MAX MARKS: 80

Human Physiology

QP CODE: N1350

Your answers should be specific to questions asked.

Draw neat labelled diagrams wherever necessary

LONG ESSAY

2 X 10 = 20 Marks

1. Define Cardiac cycle what is the normal duration. List the various Atrial and ventricular events. (1+1+3+5).
2. Define erythropoiesis. Describe the stages of erythropoiesis. Explain the role of hypoxia in regulating erythropoiesis. (2+5+3)

SHORT ESSAY

6 X 5 = 30 Marks

3. List the differences between first and second heart sound
4. Define and classify immunity. Classify immunity with example
5. Describe a cystometrogram with the help of a neat, labelled diagram.
6. Name the ascending tracts and list the sensations carried by them.
7. Name the hormone responsible for diabetes mellitus. List three clinical features of diabetes mellitus.
8. List the lung volumes and capacities. Name the instrument used to measure them.

SHORT ANSWERS

10 X 3 = 30 Marks

9. List the functions of testosterone
10. List the plasma proteins
11. Mention is the normal Calcium ion concentration in blood. List two functions of Ca.
12. Define Landsteiner's law
13. Name the bile salts and bile pigments
14. List the functions of cerebellum
15. List the steps of urine formation
16. Define and classify active transport with an example.
17. Mention two differences between skeletal and cardiac muscle in a tabular column
18. Define contraception. List two male contraceptive methods.

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Integrated BSc. MSc Clinical Nutrition and Dietetics

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Time: 2.30 Hrs.

[Max. Marks: 80]

NUTRITIONAL BIOCHEMISTRY

QP CODE: N1360

Your answers should be specific to questions asked.

Draw neat labelled diagrams wherever necessary

Long Essay

2x10=20marks

1. Define β -oxidation. Explain the β - oxidation of palmitic acid and add a note on its energetics. 1+7+2
2. Write the chemistry, sources, daily requirement, biochemical functions and deficiency manifestations of Vitamin C. 1+1+1+4+3

Short Essay

6x5=30 marks

3. Explain the effect of following factors on enzyme activity 1+2+2
a) Enzyme concentration b) Temperature and c) pH.
4. What are Glycosaminoglycans? List any four Glycosaminoglycans with their biological significance. 1+4
5. Define Lipids. Classify Lipids with suitable examples. 1+4
6. Define pH. What is normal blood pH? List the various mechanisms in our body to regulate blood pH. 3+2
7. Define the oxidative phosphorylation & explain the Chemiosmotic theory 1+4
8. Write the biological reference range of serum calcium. List any four functions of calcium. 1+4

Short answers

10x3=30 marks

9. What are conjugated proteins? Give two examples. 2+1
10. What are essential fatty acids? Name them. 1.5+1.5
11. Write the deficiency manifestations of the following Vitamins a)Niacin b)Riboflavin and c)Folic acid
12. What is competitive inhibition? Give two examples. 1+2
13. Mention the sources & write any two functions of Zinc. 1+2
14. Define Replication, Transcription and Translation? 1+1+1
15. Why LDL cholesterol is designated as bad cholesterol & HDL cholesterol as good cholesterol? 1.5+1.5
16. What is the role of PTH in calcium homeostasis?
17. Define genetic code. Mention two characteristic features of genetic code. 1+2
18. What is substrate level phosphorylation? Give two examples. 1+2



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First Year Semester – I March/April 2025 Examination

TIME – 2.30 HRS

MAX MARKS: 80

Functional Human Anatomy

QP CODE: N1370

Your answers should be specific to questions asked.

Draw neat labelled diagrams wherever necessary

Long Essays

2 X 10 = 20 marks

1. Define neuron. Classify neurons based on structure, no of synapses. Mention the functional characteristics of neuron.
(1+3+3+3)
2. Describe the liver under following under the following headings a) location b) Gross features c) relations d) porta hepatis e) Functions (1+3+3+2+1)

Short Essays

6 X 5 = 30 marks

3. Describe the gross features and relations of spleen
4. Name the parts of small intestine , blood supply and functions
5. Describe the external features & relations of Pancreas.
6. Describe the microscopic structure of Bone
7. Mention the layers of Pericardium and its importance
8. Describe sulci, gyri and functional areas of brain on supero lateral surface.

Short answers

10 X 3 = 30 marks

9. Define Morula
10. Name the three cartilages
11. Name the endocrine glands in Human body
12. List the layers of meninges
13. Name bones present in middle ear
14. Name the parts of GIT
15. List the hormones secreted by Pituitary gland
16. List the differences between Small and Large intestine
17. List the Parts and constriction of esophagus
18. Name the arteries supplying heart.

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TIME – 2.30 HRS

MAX MARKS: 80

Food Facts and Principles -I

QP CODE: N1381

Your answers should be specific to questions asked.

Draw neat labelled diagrams wherever necessary

Long Essay

2 x10 = 20 marks

1. Explain in detail the steps involved in process of oxidative rancidity
2. Discuss the colligative properties of solutions

Short Essay

6 x 5 = 30 marks

3. Describe gelatinization and gelatinization temperature
4. Enumerate proteins present in pulses
5. Describe effect of cooking on nutrients in food
6. Briefly write the various secondary processing techniques of legumes
7. Classify fruits based on climacteric and non-climacteric condition
8. Describe non-enzymatic browning reaction

Short Answer

10 x 3 = 30 marks

9. List the properties of sols
10. Write a note on fat substitutes
11. Define syneresis
12. Define non polar molecules with examples
13. Define chemical bond and mention the different types of chemical bonds
14. List changes that occur during dextrinization process
15. Write the nutritive value of millet grains
16. Write a note on boiling and freezing point.
17. What are legume protein isolates?
18. Write the process of gluten formation.

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