

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 2024 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. Name the ketone bodies. Describe the formation and breakdown of ketone bodies.
(1+2.5+2.5)
2. Describe the steps of urea cycle. Name the disorders of urea cycle. (4+2)

SHORT ESSAY

6x4=24Marks

3. Enumerate the different components of Electron Transport Chain (ETC) with a neat labeled diagram.
4. Define active site of an enzyme. Describe any 3 characteristic features of an active site.
(1+3)
5. Define Polysaccharides. Classify them with suitable examples and biomedical importance
(1+3)
6. What are Phospholipids? Classify them with suitable examples and important functions.
(1+3)
7. Describe the sources, Recommended Daily Allowance and Biochemical functions of Vitamin A.
(1+1+2)
8. Define Replication. List the enzymes and proteins of replication with their functions.
(1+3)

SHORT ANSWERS

7x2=14Marks

9. Define essential amino acids and Name them.
10. Define Isoelectric pH. Mention its significance.
11. Mention any four functions of copper.
12. Name thyroid Hormones
13. What is active transport? Give two examples.
14. Name two predominant biological buffer systems
15. Name two biologically important nucleotides with biological function.

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Time: 2.00 Hrs.

[Max. Marks: 50]

FUNCTIONAL HUMAN ANATOMY

Q.P Code: N1030

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

LONG ESSAY:

6X2=12Marks

1. Describe the blood supply of the Heart
2. Describe the Thyroid gland under following Headings: Gross features & Blood Supply

SHORT ESSAY:

6X4=24 Marks

3. Describe the microscopic structure of retina
4. Describe the steps of oogenesis
5. Tympanic membrane
6. Classification of Muscles with examples
7. Draw a labelled diagram of spinal cord TS at thoracic level.
8. Describe the structure of cut section of kidney

SHORT ANSWER:

7X2=14 Marks

9. Name the parts of Corpus callosum
10. List the Ligaments of Urinary bladder
11. Mention the cardinal features of Large intestine
12. Transitional epithelium
13. Draw a labelled diagram of Microscopic structure of Hyaline Cartilage
14. List any two tributaries of coronary sinus
15. Name the cells of bone.

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First Year Semester-I March 2024 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 erythropoiesis. Describe the stages of erythropoiesis. Explain the role of hypoxia in regulating erythropoiesis. (2+5+3)
2. Define Cardiac cycle what is the normal duration. List the various Atrial and ventricular events (1+1+3+5).

SHORT ESSAY

6 X 5 = 30 Marks

3. Define spermatogenesis. List factors influencing spermatogenesis
4. Define homeostasis. Explain positive and negative feedback mechanisms with example
5. Define GFR. Mention its normal value. List two factors which affect GFR.
6. List the glial cells and their functions
7. Name the hormones that maintain the normal serum calcium level. Mention two functions of calcium
8. Define Landsteiner's Law and give its application. Name the universal donor and acceptor

SHORT ANSWERS

10 X 3 = 30 Marks

9. Draw a neat labelled diagram of the conducting system of the heart
10. List the functions of basal ganglia
11. List the movements of the small intestine
12. Define Tidal volume. Mention its normal value.
13. Name the bile salts and bile pigments
14. Mention three differences between cretinism and dwarfism
15. List the steps of urine formation
16. List the functions of cell membrane
17. Mention the functions of Aldosterone
18. Name the hormone of the posterior Pituitary and mention its function.



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Integrated BSc. MSc Clinical Nutrition and Dietetics

First Year I Semester March 2024 Examination

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. List the sources of ammonia. Describe in detail the steps of urea cycle. Write the biological reference range for Blood urea levels. 3+6+1
2. Describe the various factors affecting enzyme activity with suitable diagrams. Explain the significance of V_{max} and K_m . 7+3

Short Essay

6x5=30 marks

3. Define Carbohydrates. Classify them with examples. 1+4
4. What are Phospholipids? Classify them with suitable examples and enumerate the important function of any two of them. 1+2+2
5. Explain the primary structure of proteins? What is its significance? 4+1
6. List the Transport mechanisms across cell membrane and give one suitable example for each 3+2
7. What is oxidative phosphorylation and substrate level phosphorylation? Give one example for each. 2.5+2.5
8. What are Lipoproteins? List the different types of lipoproteins. 1+4

Short answers

10x3=30 marks

9. Compare and contrast Lactose and Maltose with reference to source, composition and osazone crystals. 1+1+1
10. What are essential amino acids? Name them. 1+2
11. What are Trans fatty acids? What is its significance? 1+2
12. What are Isoenzymes? Give two example. 1+2
13. What are lipotropic factors? Give 2 examples. 1+2
14. Define Transamination. Give two examples of Transaminases. 1+2
15. Write the biological reference range of Serum Magnesium. List any two functions of Magnesium. 1+2
16. Name the thyroid Hormones. Mention any two functions of thyroid hormones. 1+2
17. Compare and contrast DNA and RNA with reference to a)Composition and structure b)Location c)Function 1+1+1
18. What are buffers? List the buffer systems in plasma. 1.5+1.5



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TIME – 2.30 HRS

MAX MARKS: 80

Functional Human Anatomy

QP CODE: N1370

Your answers should be specific to questions asked.

Draw neat labeled diagrams wherever necessary

Long Essays

2 X 10 = 20 marks

1. Mention the parts of Eye ball. Mention the extra ocular muscles with attachments, nerve supply and action with applied aspect.
2. Describe the extent, location and external features of kidney and Mention the anterior relations of right and left kidney

Short Essays

6 X 5 = 30 marks

3. Describe the external features of liver-surfaces and borders
4. Describe the functional areas on supero-lateral surface of Cerebrum
5. Describe the features of lateral wall of nose
6. List differences between small & large intestine
7. Describe the structure of a Sperm
8. Describe the internal features of Right atrium

Short answers

10 X 3 = 30 marks

9. Name the bone cells
10. Describe microscopic structure of hyaline cartilage
11. List the parts of Lateral ventricle
12. List the components of Nasal septum
13. List the contents of Porta hepatis
14. List the types of skeletal muscle with examples
15. List the parts of ureter
16. Mention the importance of Pyloric sphincter
17. Name the structures in the hilum of Lung
18. Name the parts and illustrate the neuron

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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 changes in fat on heating along with decomposition mechanism in triglycerides
2. Describe the post- harvest losses in vegetables

Short Essay

6 x 5 = 30 marks

3. Discuss the classification of nutrients in foods and their function
4. Describe the factors affecting the stability of foam
5. Explain the methods on eliminating anti nutritional factors in legumes
6. Define rancidity, explain in detail the process of hydrolytic rancidity
7. Explain the chemical composition of wheat
8. Explain process of fruits ripening

Short Answer

10 x 3 = 30 marks

9. Write a note on molecular structure of water
10. Classify food based on their perishability with examples
11. Differentiate between legumes and dahls
12. Write a note on the process of gelatinization
13. Write a note on lewis diagram
14. Define pectic substances and their role in ripening of fruit
15. Define fat substitutes and mention any four available in markets
16. List the uses of gluten
17. List the factors affecting the surface tension.
18. List the pigments commonly found in fruits and Vegetables.

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