Bachelor of Physiotherapy (CBCS)
First Year Semester-II September 2023 Examination

Time: 3.00 Hrs.   **[Max. Marks: 100]**

BIOMECHANICS
Q.P Code: B2030

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY (Answer any Two)   **2 X 10 = 20 Marks**

1. Explain kinematics of shoulder joint with a note on scapula humeral rhythm

2. Illustrate closed and open kinematics of hip joint. Explain Kinetics of flexors and extensors of the hip joint

3. Describe the types and mechanism of power grip.

SHORT ESSAY(Answer any Ten)   **10X 5 = 50 Marks**

4. Explain length- tension relationship of muscle.

5. Describe postural control and its elements

6. Explain the kinematics of joints of cervical region

7. Write about the kinematics of subtalar joint

8. Describe the phases of gait and joint movements in the phases.

9. List the joints of rib cage and its kinematics.

10. Describe the structure providing stability to vertebral column.

11. Describe the kinematics of subtalar joint

12. Describe the classification of joints with examples.

13. Discuss the kinematics & kinetics of tibio femoral joint

14. Write a note on kinematics of 1st carpo metacarpal & MCP joint

15. Explain the difference between open and closed kinematic chain movements with suitable examples.

SHORT ANSWER (Answer any Ten)   **10 X 3 = 30 Marks**

16. Define metatarsal break

17. Define ground reaction force and center of pressure

18. What are the factors responsible for pelvic stability?

19. What are the functions of Golgi tendon organ and muscle spindle.

20. What the primary and accessory muscles of respiration.

21. Define creep and hysteresis.

22. What are the features of muscle fiber type II?

23. Define trabeculae system in hip joint.

24. Give few indications of using parallel bars.

25. list the patellar motions

26. Explain kinematics of radioulnar joint

27. Define cadence & angle of toe out

* * *

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)
Bachelor of Physiotherapy (CBCS), First Year Semester-II
September 2023 Examination.

TIME -2.30 HRS   **MAX MARKS: 80**

BICHEMISTRY

Q.P. CODE: B2040

Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary

Long Essay (Answer any two)   **2x10=20 Marks**

1. Define beta oxidation. Explain the beta oxidation of Palmitic acid. Add a note on its energetics.   1+7+2

2. Define Enzymes. Describe the various factors affecting enzyme activity with suitable diagrams. Explain the significance of Vmax and Km.   1+7+2

3. Write the sources, daily requirement, biochemical functions and deficiency manifestations of Vitamin C.   1+1+6+2

Short Essay (Answer any six)   **6x5=30 Marks**

4. Define Carbohydrates. Classify them with suitable examples.   1+4

5. Write the Sources, biochemical functions and deficiency manifestations of Vitamin D   1+2+2

6. What is the normal blood pH? Explain various blood buffers by which acid-base balance is regulated in the body

7. Write the biological reference range of serum calcium. Describe the sources, RDA and any four functions of calcium.   1+1+1+2

8. Define Fatty Liver. Mention the causes of fatty liver. Add a note on lipotropic factors.   1+2+2

9. List 4 major functions of Carbohydrates. Explain the protein sparing action of carbohydrates in the body.   4+1

10. Enumerate five biologically important compounds derived from glycine with their biomedical importance.

11. Explain different types of classification of amino acids with suitable examples.

Short Answer (Answer any Ten)   **10 x 3 = 30 Marks**

12. What is osmosis? Mention its significance.   1+2

13. What are nucleosides and nucleotides? Give two examples   2+1

14. What is Respiratory Distress Syndrome (RDA)? Write the role of lecithin.   1+2

15. Write the sources, daily requirements and deficiency manifestations of Niacin.   1+1+1

16. Define Glycemic index. How is it calculated?   1.5+1.5

17. List any three enzymes having therapeutic and diagnostic use.

18. What is glucose- alanine cycle? What is its significance?   2+1

19. Mention any three functions of copper.

20. List any three hormones that regulate Blood glucose levels.

21. What is ketosis? Give two causes for ketoacidosis.

22. Define anion gap. Mention the normal anion gap

23. List the three sources of energy for muscle contraction.   1.5+1.5

* * * *

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)
Bachelor of Physiotherapy (CBCS)
First Year Semester-II,   September 2023 Examination.

Time: 2.30 Hrs.   [Max. Marks: 80]

Psychology and Sociology
Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

Section - A
Psychology (40 marks)
QP Code : B2055
(Use Separate answer booklet for Section A & B)

LONG ESSAY   *1X* **10 = 10 Marks**

1. Define motivation. Describe the theories of motivation. Draw the motivation cycle

SHORT ESSAY (Answer any Three)   **3X 5 = 15 Marks**

2. Write the psychological and psychological changes of old age?
3. What are the methods of psychology? Explain the observation method
4. Describe Maslow's theory of needs
5. Define stress. Describe the management of stress?

SHORT ANSWER (Answer any Five)   **5 X 3 = 15 Marks**

6. Define thinking and reasoning.
7. List the theories of learning
8. Write the qualities of leadership
9. Classify types of intelligence
10. Write the disorders of perception
11. Write 2 definitions of leadership?

Section – B
Sociology (40 Marks)
QP Code : B2056
(Use separate answer booklet for section B)

LONG ESSAY   **(1 X 10 = 10)**

1. Define Sociology describe importance of sociology with special reference to health care

SHORT ESSAY (ANSWER ANY THREE)   **(3 X 5 = 15)**

2. Distinguish between Society and community
3. Explain Joint family in India
4. Case study Method is very Important in Sociological investigations – Discuss
5. Explain Health programmes in India

SHORT ANSWER (ANSWER ANY FIVE)   **(5 X 3 = 15)**

6. Define Rehabilitation.
7. List Rural Health Problems
8. Define Health
9. List out the health services in village community
10. Define Primary Groups
11. Define Anticipatory socialization

* * * *

Time: 2.30 Hrs.   [Max. Marks: 80]

BIOMECHANICS
Q.P Code: B2280

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY   **2 X 10 = 20 Marks**

1. Define gait and gait cycle. Explain in detail the phases of gait. (3+6)

2. Illustrate kinematics of hip joint. Explain Kinetics of flexors and extensors of the hip joint.

SHORT ESSAY   **6 x 5 = 30 Marks**

3. Explain the kinematics of joints of cervical region

4. Write about the kinematics of patella femoral joint

5. Compare and contrast different types of muscle contraction with suitable examples

6. Describe precision and its types.

7. Explain scapulohumeral rhythm and the contribution of joints and muscles.

8. Define posture. Explain analysis of posture from posterior view.

SHORT ANSWER   **10 X 3 = 30 Marks**

9. What are the functions of Golgi tendon organ and muscle spindle.

10. List the functions of ligaments in subtalar joint

11. Define closed & open kinematic chain

12. Define active and passive insufficiency

13. Explain kinematics of radioulnar joint

14. Write 2 principles of goniometry

15. List the kinematics of joints of thumb

16. Define any 2 biomechanical properties of connective tissues

17. Define ground reaction force

18. Define carrying angle & give its importance.

＊ ＊ ＊

Sri Devaraj Urs ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)
Bachelor of Physiotherapy (CBCS), First Year Semester-II
September 2023 Examination.

TIME -2.30 HRS   MAX MARKS: 80

BICHEMISTRY

Q.P. CODE: B2290

Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary

Long Essay   **2x10 = 20 marks**

1) How thiamine pyrophosphate is formed? Mention the RDA and sources. Explain briefly its biochemical functions and deficiency manifestations of thiamine. (2+1+1+4+2)

2) What is Protein Energy Malnutrition (PEM)? Classify PEM. Explain the causes, clinical features and biochemical findings in PEM.   (1+2+2+2+3)

Short Essays   **6x5 = 30 marks**

3) What are steroids? Give the structure of cholesterol. Name the biologically important compounds derived from cholesterol. (1+2+2)

4) Write the differences between oxidative phosphorylation and substrate level phosphorylation. Give examples for substrate level phosphorylation. (3+2)

5) Name ketone bodies. Explain the pathophysiology of Ketoacidosis. (1+4)

6) List the hormones regulating plasma calcium & Describe their effects on regulation of calcium in the blood.(1+4)

7) Classify carbohydrates with suitable examples. Add a note on disaccharides. (2.5+2.5)

8) Explain the role of Thiamine as coenzyme in carbohydrate metabolism

Short Essays   **10 x3 = 30 marks**

9) What is Denaturation? List two factors causing Denaturation.

10) Write the biological reference interval for a) Serum Total Cholesterol   b) Serum Triglycerides   c) Serum HDL

11) What is Fischer's lock and key theory for enzyme activity?

12) What are provitamins? Give two examples

13) Name three biologically important nucleotides with one function.

14) What is SDA? Mention its significance.

15) What is Hemosiderosis and hemochromatosis?

16) What are buffers? Mention the buffer systems in plasma.

17) List the functions of Zinc

18) List three cardiac markers.

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)
Bachelor of Physiotherapy (CBCS)
First Year Semester-II September 2023 Examination.

Time: 2.30 Hrs.   [Max. Marks: 80]

Psychology and Sociology

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

Section - A
Psychology (40 marks)
QP Code : B2305
(Use Separate answer booklet for Section A & B)

LONG ESSAY   *1 X 10 =* **10 Marks**

1. Write the definition of psychology? Describe introspection and case study/clinical method?

SHORT ESSAY   **3X5=-15 Marks**

2. Describe in detail Maslow's   theory of needs
3. What are the types of intelligence tests? List any two intelligence tests?
4. What is emotion? Write theories of emotion?

SHORT ESSAY   **3X5=-15 Marks**

5. Draw the motivation cycle
6. List the stage of human development
7. Write the qualities of leadership?
8. List the theories of learning
9. Define hallucination, list different types of hallucination?

Section – B
Sociology (40 Marks)
QP Code : B2306
(Use separate answer booklet for section B)

LONG ESSAY   (1 X 10 = 10)

1. Discuss the role of Physiotherapist in the improvement of health and rehabilitation setting.

SHORT ESSAY   (3 X 5 = 15)

2. Explain the Role of primary and secondary groups in the hospital setting
3. Discuss the relationship between Psychology and Sociology.
4. Distinguish between joint and nuclear family

SHORT ANSWER   (5 X 3 = 15)

5. Distinguish health and Illness
6. List the Major Urban Problems
7. What is Monogamous family
8. What is Social change and deviance
9. List Geriatric problems

✳ ✳ ✳ ✳