

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**

**(A DEEMED TO BE UNIVERSITY)**

**Bachelor of Physiotherapy (CBCS), First Year Semester-II,  
January-2019 Examination.**

**TIME - 3 HRS**

**MAX MARKS:100**

**BIOMECHANICS**

**Q.P Code: B2030**

*Your answers should be specific to questions asked.*

*Draw neat labelled diagrams wherever necessary*

**LONG ESSAY [Answer any two]**

**2X10=20MARKS**

1. Define gait & describe about phases of gait cycle?
2. What is muscle tension? Classify it & explain in detail length tension relationship & factors affecting muscle tension.
3. Write in detail about biomechanics of lumbar spine.

**SHORT ESSAY [Answer any ten]**

**10X5=50MARKS**

4. Describe joint lubrication model.
5. Describe trabeculae system of hip joint.
6. Describe about role of sternoclavicular disc during sternoclavicular motions.
7. Describe concurrent force system.
8. Describe the extensor mechanism of finger in detail.
9. Explain the arches of foot & its functions.
10. Describe dynamic stabilization of glenohumeral joint.
11. Analyze the muscle forces at hip during unilateral stance.
12. Write the types of walking aids & its advantages & disadvantages.
13. Write in detail about ground reaction force & centre of pressure.
14. Differentiate between claw toes & hammer toes.
15. Describe the functions of knee joint ligaments.

**SHORT ANSWERS [Answer any ten]**

**10X3=30 MARKS**

16. Pronation twist.
17. Carrying angle.
18. Intervertebral disc functions.
19. Define equilibrium.
20. Lumbo pelvic rhythm.
21. Write any three differences between prehension & precision.
22. What is Nutation.
23. Define Centre of gravity.
24. What is Patella alta.
25. Bucket handle movement.
26. Ulnar positive variance.
27. Mechanical & Anatomical axis.

\* \* \*

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

**Bachelor of Physiotherapy (CBCS), First Year Semester-II,**  
**January-2019 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 Glycogenolysis. Describe the reactions of Glycogenolysis. Add a note on its regulation. 2+4+4
2. Define Enzymes. Classify enzymes. Give one examples for each class. 1+4+5
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 examples. 1+4
5. Define Denaturation of protein .Write the factors that cause Denaturation. 2+3
6. Describe the Structure of B form of DNA with neat labeled diagram
7. Describe briefly the digestion and absorption of Lipids. 1+2+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 the biochemical functions of Thiamine.
11. Define BMR. Describe the factors affecting BMR. 1+4

**SHORT ANSWER (Answer any Ten)**

**10 x 3 = 30 Marks**

12. What are Glycosaminoglycans ? Give 2 examples.
13. What is Isoelectric pH?
14. What is respiratory acidosis? Name any 2 conditions which lead to respiratory acidosis.
15. What are Trans fatty acids? What is its significance?
16. List any 3 functions of Calcium.
17. List any three essential amino acids.
18. Write the Biological reference interval for Serum a) Uric acid b) Calcium c) Total Cholesterol.
19. Name the 3 biologically important compounds derived from Glycine.
20. List any three hormones that regulate Blood glucose levels.
21. Write any three factors affecting Enzyme activity.
22. Define anion gap. Mention the normal anion gap
23. List the three sources of energy for muscle contraction.

\* \* \*