

February 2010

[KW 927]

Sub. Code: 5317

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION
Fourth Semester
(Modified / New Modified Regulations)

Paper III - BIOMECHANICS

Q.P. Code : 745317

Time : Three hours

Maximum : 100 marks

Answer All questions

Draw suitable diagrams wherever necessary

I. Essays: **(2 x 15 = 30)**

1. Describe the structure of the vertebral column and identify the structure and function of intervertebral disc.
2. Describe the structure of the Hip joint and identify the forces and muscle function in Stance.

II. Short Notes: **(10 x 5 = 50)**

1. Modes of prehension.
2. Force of gravity.
3. Power grip.
4. Screw home movement.
5. Paralysis of deltoid.
6. High steppage gait.
7. Pes cavus.
8. Functions of menisci.
9. Scoliosis.
10. Sway envelope.

III. Short Answer: **(10 x 2 = 20)**

1. Define joint distraction force.
2. What is friction? How it is calculated?
3. Define carrying angle. Mention its range for male and female.
4. What is the function of deep erector spinae muscle?
5. Define coracoacromial arch.
6. What is the nursemaid's elbow?
7. What is the pes anserins?
8. State newton's law of inertia and law of acceleration.
9. What is the house maid's knee?
10. What is the plantar fasciitis?

August 2010

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ANSWER ALL QUESTIONS

Draw suitable diagrams wherever necessary

I. Essays:

(2X15=30)

1. What is Muscle Tension? Classify it and explain in detail length, tension relationship and factors affecting Muscle Tension.
1. Describe the mobility and stability of the Elbow complex and its relationship to Hand and Wrist.

II. Short Notes :

(10X5=50)

1. Unilateral stance.
2. Power grip.
3. Functions of the Arches.
4. Lumbo Pelvic Rhythm.
5. Ligaments of Vertebral Column.
6. Stress strain curve.
7. Postural changes in Pregnancy.
8. Physiological action of Ligamentum teres.
9. Concurrence force system.
10. Active and Passive Insufficiency.

III. Short Answers:

(10X2=20)

1. What is counter Nutation?
2. What is Friction? How it is calculated?
3. What is Oblique?
4. Retinacular ligament.
5. First order lever.
6. Inter vertebral disc.
7. Arcuate ligament.
8. What is Camper's Chiasma?
9. What is Young's modulus?
10. Three point bending.
