(3)

2151_2009_1_S11

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.Sc. (Physiotherapy) Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

ANATOMY ✓
(OS, RS & RS2)

Q.P. CODE: 2151

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

LONG ESSAYS (Answer any Four) **4 x 10 = 40 Marks**

1. Draw a neatly labeled diagram of transverse section through spinal cord showing import tracts
2. Define and classify connective tissue giving suitable examples. Describe microscopic structure of compact bone
3. Describe the origin course and distribution of obturator nerver
4. Name the muscles of respiration. Describer diaphragm in detail
5. Name the parts of large intestine. Describe Caecum in detail

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

6. Cutaneous innervation of face
7. Ossification
8. Trachea
9. Pericardium
10. Portal vein
11. Rotator cuff muscles
12. Adrenal gland
13. Adductor magnus muscle
14. Axilla
15. Fertilization

SHORT ANSWERS **10 x 2 = 20 Marks**

16. Name the contents of femoral sheath
17. Name the muscles inserted into Ilio-Tibial tract
18. Name the muscles attached to coracoid process of scapula
19. Blood supply of stomach
20. Coverings of testis
21. Erb's paralysis
22. Name the arteries forming circle of Willis
23. Structure in Hilum of kidney
24. Formation and termination of thoracic duct
25. Hyaline cartilage

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(4)

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.Sc. (Physiotherapy) Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

PHYSIOLOGY, THERAPEUTIC PHYSIOLOGY AND BIOCHEMISTRY
(OS, RS & RS2)

Q.P. CODE: 2152 & 2153

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

Use separate answer books for section A and section B

Q.P. Code: 2152 – Section 'A' (50 Marks)

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define arterial blood pressure. Explain the factors determining blood pressure
2. Describe the transport of O_2 in the blood
3. Explain the actions of parathormone. Add a note on tetany

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

4. Describe the functions of thyroid hormones
5. Explain the steps of haemostasis
6. Give an account of composition and functions of saliva
7. Define hypoxia. Classify hypoxia mentioning the underlying cause. Enumerate the effects of hypoxic hypoxia on the body
8. Define menstrual cycle. Explain the ovarian changes that occur during one menstrual cycle

SHORT ANSWERS **5 x 2 = 10 Marks**

9. Define clotting time and bleeding time
10. Name the functions of rods and cones
11. What is the normal rate of renal blood flow? Enumerate any two peculiarities of renal blood flow
12. What is stereognosis?
13. Define fatigue. List the causes of fatigue

Q.P. Code: 2153 – Section 'B' (50 Marks)

Use separate answer book

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Draw an animal cell diagram and label different cell organelle. Write functions of mitochondria, golgi and lysosomes
2. Describe chemistry, functions, deficiency symptoms, sources and daily requirements of vitamin A
3. Define enzymes. Write the effect of substrate concentration, temperature and pH on enzyme activity

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

4. Classify proteins based on composition. Give examples for each class
5. What are compound lipids? Give examples along with their functions
6. Name carbohydrates of foodstuffs. Write the actions of enzymes of the small intestine involved in carbohydrate digestion
7. Write about the role of Glutathione and acetyl-CoA in detoxification
8. Explain the role of the kidney in acid base balance

SHORT ANSWERS **5 x 2 = 10 Marks**

9. Define specific dynamic action of food. Write SDA values of protein, carbohydrate, fat and mixed diet. Write its significance in energy requirement
10. Respiratory quotient for carbohydrates and fat

(5)

2152_2009_1_S43

Rajiv Gandhi University of Health Sciences, Karnataka

11 Hormonal disorders (any four)
12 Clinical significance of Van Den Bergh reaction
13. What is electrophoresis? Write the use

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(1)

2054_2009_1_S121

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.Sc. (Physiotherapy) Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

MEDICAL ELECTRONICS AND COMPUTER APPLICATIONS
(Old Scheme)

Q.P. CODE: 2054

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

LONG ESSAYS (Answer any Four) **4 x 10 = 40 Marks**

1. Explain the principles of operation of SWD with neat diagram
2. Define electric shock. Describe the effects, treatment and prevention of shock
3. What are Low frequency currents? Describe their uses
4. Draw the architecture of a CPU and explain
5. Write a brief notes on classification of computer

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

6. Write a note on ultrasonic
7. Write a note on Nebulizer
8. Write a note on infrared
9. Write a note on Ohm's Law, resistance in series & parallel
10. Write a note on ionization
11. Write a note on computer network
12. Write a note on data processing
13. Explain the term operating system and application softwares
14. Write a note on viruses
15. What are the characteristics of information?

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SHORT ANSWERS **10 x 2 = 20 Marks**

16. Define capacitance
17. Define latent HEAT
18. Define the term frequency
19. Mention any two input devices
20. Define multimeter
21. Write a note on RAM
22. What is secondary memory?
23. What is flow chart?
24. Define floppy
25. Types of storage devices

FR. MULLER

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(6)

2154 2009 1 S43

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination - Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

MEDICAL ELECTRONICS AND COMPUTER APPLICATIONS (OS, RS & RS2)

Q.P. CODE: 2154

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

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define transformer. State its functions
2. Define electric shock. Describe the effects, treatment, prevention of shock
3. Classify different types of computers

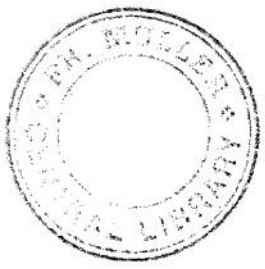
SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. What are the uses of lasers in physiotherapy?
5. Explain the usage of computers in Museum and library
6. Explain the terms frequency, amplitude and phase of sine wave
7. What is memory? What are different types of memory?
8. Testing of an electric simulator
9. Write a note on magnetron
10. List the uses of infra red and ultraviolet therapy in physiotherapy
11. Write a note on date processing
12. Write a note on ultrasonic
13. What are the functions of CPU?

SHORT ANSWERS **10 x 2 = 20 Marks**

14. Define the term frequency
15. What are the advantages of using computer network?
16. Mention two types of registers
17. State Lenz's law
18. Define latent heat
19. Explain the term conductors
20. What is RMS value of sine wave?
21. State Kirchoff's current law
22. What is bio feed back?
23. Explain the principles of ultrasound therapy

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(2)

2055_2009_1_S104

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

GENERAL PSYCHOLOGY & SOCIOLOGY (Old Scheme)

Q.P. CODE: 2055 & 2056

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

Use separate answer books for section A and section B

Q.P. Code: 2055 – Section 'A' – General Psychology (50 Marks)

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define intelligence. Explain the types of intelligence tests
2. Define attention. Explain the factors that deterimine attention
3. Explain the principles of perception

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

4. Define mechanism
5. Introspection method
6. Behaviourism
7. Characteristics of learning
8. Explain the importance of psychology in physiotherapy

SHORT ANSWERS **5 x 2 = 10 Marks**

9. Heredity
10. Clinical psychology
11. Paraesthesia
12. Reinforcement
13. Attitude

Q.P. Code: 2056 – Section 'B' – Sociology (50 Marks)

Use separate answer book

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define social change. Explain any two theories of social change
2. Explain the problems faced by over population
3. Explain the role of family on individuals in health and illness

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

4. Types of family
5. Explain the health effects of industrialization
6. Difference between sociology and psychology
7. Socialization
8. Explain the meaning and definition of family



SHORT ANSWERS **5 x 2 = 10 Marks**

9. Formal and informal group
10. In group
11. Patriarchal family
12. Social institution
13. Sociology

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(7)

2155_2009_1_S02

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

PSYCHOLOGY AND SOCIOLOGY
(OS, RS & RS2)

Q.P. CODE: 2155 & 2156

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

Use separate answer books for section A and section B

Q.P. Code: 2155 – Section 'A' Psychology (40 Marks)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Explain the scope of psychology in relation to different schools of thought
2. Define personality and explain the methods of assessing personality

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Difference between emotions and feelings
4. Define sensation, perception and attention
5. Authoritarian leader
6. What is illusion? Differentiate illusion with hallucination
7. Conflicts and defense mechanism

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Reinforcement
9. Social psychology
10. Old age
11. Observation
12. Primary Needs

Q.P. Code: 2156 – Section 'B' Sociology (40 Marks)

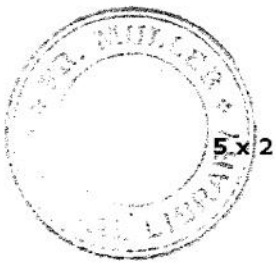
Use separate answer book

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Define sociology & Explain its importance to health care professionals
2. Write an essay on the functions of family

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Social factors & health illness
4. Agencies of socialization
5. Social survey method
6. Characteristics of Rural community
7. Culture and health



SHORT ANSWERS **5 x 2 = 10 Marks**

8. Define population explosion
9. Mention the factors of social change
10. Demerits of Joint family system
11. Tribal community
12. Cultural lag

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(8)

2157_2009_1_S13

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

BIO-MECHANICS OF HUMAN MOTION
(0S, RS & RS2)

Q.P. CODE: 2157

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

LONG ESSAYS (Answer any Four) **4 x 10 = 40 Marks**

1. Define pulley. Describe its types and their uses in physiotherapy. Explain about anatomical pulleys and their mechanical importance with suitable example
2. Define active and passive tension of the muscles. Explain about length – tension and force – velocity relationships during active tension
3. Explain in detail about the kinematics including ligamentous mechanics of hip complex. Add a note on role of hip in lumbar pelvic rhythm
4. Explain in detail about various prehension activities of hand and their functional importance
5. Explain the bio-mechanics of sacroiliac and symphysis pubis articulations

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

6. Define kinematics. Describe about types of motion with suitable examples
7. Discuss the mechanics of biarticular muscles
8. Define gravity. Discuss about the role of gravity on movement
9. Describe the mechanics of intervertebral disc during bending activity of spine
10. Discuss the procedure of goniometry for inversion and eversion at foot
11. Shoulder joint is inherently unstable – Discuss
12. Describe the movements corresponding to axes and planes
13. Analyse the lower limb contribution in frontal plane during GAIT
14. Discuss about the motions of patella in patello-femoral joint
15. Describe the structure and functions of collateral ligaments of ankle joint



SHORT ANSWERS **10 x 2 = 20 Marks**

16. Diagrammatic representation of force
17. State Hook's law and its mechanical application
18. Principle and uses of parallel bar
19. Write about cadence
20. Define hysteresis
21. What is neutral zone in stress and strain curve? Give its mechanical significance
22. Write about scaption
23. Mechanical importance of coraco clavicular ligament
24. Relate the capsular tension and synovial fluid movement in different knee joint positions

(9)

2157_2009_1_S13

Rajiv Gandhi University of Health Sciences, Karnataka

25. Define iso-inertial and iso-kinetic muscle contraction

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(10)

2701_2009_1_S101

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T Degree Examination - Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

ANATOMY (RS-3 & RS-4)

Q.P. CODE: 2701

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Discuss in detail the Thoraco-abdominal Diaphragm
2. Name the ventricles of brain. Describe in detail about production, circulation, absorption of cerebrospinal fluid with a note on applied anatomy
3. Describe the Hip joint under the following headings a) Type and articulation b) Ligaments c) Arterial and nerve supply d) Movements and muscles

SHORT ESSAYS (Answer any Twelve) **12 x 5 = 60 Marks**

4. Distribution of femoral nerve
5. Describe the upper end of humerus
6. Great Saphenous vein
7. Describe gross anatomy of stomach
8. Intervertebral disc
9. Abductor mechanism of hip
10. Deltoid muscle
11. Discuss the right ventricle
12. Cerebellum
13. Hamstring muscles
14. Bronchopulmonary segments
15. Extensor retinaculam of foot
16. Posterior cord of brachial plexus
17. Branches of popliteal artery



SHORT ANSWERS **10 x 2 = 20 Marks**

18. Attachments of peroneus longus
19. Ovum
20. Parts of fallopian tube
21. Bicipital groove
22. Extra ocular muscles
23. Pleural effusion
24. Functions of greater omentum
25. External carotid artery branches
26. Sesamoid bone
27. Contents of cubital fossa

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(11)

2702_2009_1_S104

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 100 Marks**

HUMAN PHYSIOLOGY (RS-3 & RS-4)

Q.P. CODE: 2702

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define cardiac cycle. Describe the mechanical and pressure changes that occur during cardiac cycle
2. Explain the chemical regulation of respiration
3. Describe the origin, course and termination of the pyramidal tract. Add a note on hemiplegia

SHORT ESSAYS (Answer any Twelve) **12 x 5 = 60 Marks**

4. Describe the composition and functions of succus entericus
5. Explain the structure and function of respiratory membrane
6. What is refractory period? Explain how it differs in cardiac and skeletal muscle
7. Describe the structure and functions of platelets
8. Explain the intermediate regulation of blood pressure
9. Describe the renal handling of glucose
10. Describe the rhodopsin cycle
11. Describe the properties of synapse
12. Enumerate the action of insulin
13. Describe the functions of placenta
14. Discuss the functions of growth hormone. Add a note on Acromegaly
15. Explain the extrinsic mechanism of blood clotting
16. Explain the renal function tests.
17. Describe the pharyngeal stage of deglutition



SHORT ANSWERS **10 x 2 = 20 Marks**

18. Define inspiratory capacity with its normal value
19. What is Brown Sequard syndrome?
20. Name one anticoagulant with its action
21. List three properties of skeletal muscle
22. List two neuromuscular blocking agents
23. Enumerate two tests for colour vision
24. List four functions of stomach
25. Define menarche
26. What are the different heart sounds?
27. Define filtration fraction and give its normal value

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2703_2009_1_S106

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

BIO-CHEMISTRY (RS-3 & RS-4)

Q.P. CODE: 2703

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Describe the chemistry, sources, requirement, metabolic functions and deficiency manifestations of Vitamin D
2. Describe the metabolism of glycogen and its regulation
3. Describe the β – oxidation of Palmitic acid with its energetics

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. Metabolic acidosis
5. Reactions of urea cycle
6. Homeostasis of calcium
7. Metabolism of ketone bodies
8. Classification of enzymes
9. Describe the important compounds derived from glycine
10. Mucopolysaccharides
11. Structural organization of proteins
12. Isoenzymes
13. Phospholipids



SHORT ANSWERS **10 x 2 = 20 Marks**

14. Essential fatty acids
15. Dietary fibers
16. Name the Co-enzymes of a) Thiamine b) Riboflavin
17. Muscle proteins
18. Nucleotides of biological importance
19. Hormones affecting blood sugar levels
20. Van den Bergh Test
21. Mention the important electrolytes in serum and their normal values
22. Collagen
23. Fatty liver

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(13)

2704_2009_1_S106

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

BIOMECHANICS (RS-3)

Q.P. CODE: 2704

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Explain the movement analysis of sit to stand
2. Define gait. Explain various phases of gait cycle
3. Describe the mechanics of normal breathing

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. What are pulleys? Discuss the different types of pulleys
5. Explain the determinants of gait
6. Explain the various grips of the hand
7. Discuss the lumbo pelvic rhythm
8. Name the pathological gaits. Explain any two
9. Define posture and discuss the various types of posture
10. Enumerate the differences between fast twitch and slow twitch muscle fibers
11. Role of patella in knee joint
12. Define Axis and plane and give the axis and planes for all hip joint movements
13. Explain stress and strain with respect to Hooke's law

SHORT ANSWERS **10 x 2 = 20 Marks**

14. Intrinsic plus position of hand
15. Shunt and spurt muscles
16. Active insufficiency
17. Cadence
18. Centre of gravity
19. Isokinetic exercise
20. Movements of subtalar joint
21. Concave – convex rule
22. Any two effects of aging on posture
23. Name the ligaments of the spine

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(14)

2705_2009_1_S107

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

GENERAL PSYCHOLOGY & SOCIOLOGY
(RS-3 & RS-4)

Q.P. CODE: 2705 & 2706

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

Use separate answer books for section A and section B

Q.P. Code: 2705 – Section 'A' - General Psychology (40 Marks)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Define personality. Explain the Freud's concept of personality
2. Explain the effective factors of learning

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Characteristics of attitudes
4. Abraham maslows theory of motivation
5. Adulthood
6. Experiment method
7. Write a note on counseling

SHORT ANSWERS **5 x 2 = 10Marks**

8. Intelligence
9. Emotion
10. Industrial psychology
11. Hyperesthesia
12. Self esteem

Q.P. Code: 2706 – Section 'B' - Sociology (40 Marks)

Use separate answer book

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Mention any five social problems of society and explain any one of it with cause, effect and solution
2. Define family. Explain the merits and demerits of joint family

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Agenesis of socialization
4. Explain the characteristics of society
5. Characteristics of family
6. Characteristics of rural community
7. Explain the characteristics of tribal community

SHORT ANSWERS **5 x 2 = 10Marks**

8. Matriarchal family
9. Meaning of culture
10. Socialization
11. Social science
12. State

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(15)

2707_2009_1_S156

Rajiv Gandhi University of Health Sciences, Karnataka

First year B.P.T. Degree Examination – Feb 2010

Time: Three Hours **Max. Marks: 100 Marks**

BIO-MECHANICS

(Revised Scheme – 4)

Q.P. CODE: 2707

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

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define lever. Explain different orders of levers with examples. Add a note on mechanical disadvantage.
2. What is Posture? Explain various factors affecting posture and describe the abnormal postures of spine.
3. Describe the Scapulohumeral rhythm and force couple in detail.

SHORT ESSAYS (Answer any Twelve) **12 x 5 = 60 Marks**

4. Describe in detail the circumduction gait.
5. Explain arches of the foot and various deformities.
6. Describe the biomechanics of respiration.
7. Explain extensor hood mechanism of the hand.
8. What are the effects of immobilization on the muscle structure?
9. Explain the structures, functions and movements of the temporomandibular joint.
10. Static and dynamic stabilizers of the ankle mortise and its role in the ankle stability.
11. Explain the determinants of gait.
12. Describe spurt and shunt muscles with examples.
13. Explain in detail the bipedal locomotion.
14. Types of friction with examples.
15. Explain the biomechanics of thoracic spine.
16. Various types of grips with examples.
17. Muscle work for the activity of sitting to standing.

SHORT ANSWERS **10 x 2 = 20 Marks**

18. Gomphosis joiont with example.
19. Composition of forces.
20. What is Genu recurvatum?
21. Angle of pull.
22. Q- Angle.
23. Femoral torsion.
24. Instantaneous axis of rotation.
25. Contents of Hyaluronic acid.
26. What is Mamillary process?
27. Define eccentric contraction.

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