

Rajiv Gandhi University of Health Sciences, Karnataka
I Year B.P.T Degree Examination – 02-Mar-2021

Time: Three Hours

Max. Marks: 100 Marks

ANATOMY (RS3 & RS4)

Q.P. CODE: 2701

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

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Describe in detail Brachial Plexus.
2. Describe in detail anatomy of Temporal mandibular joint.

OR

Describe the boundaries, contents, relations and applied anatomy of Popliteal fossa.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Structure of cell.
- OR**
- Medulla Oblongata.
 4. Right atrium.
 5. Upper end of femur.
 6. Vertebral column.
 7. Wrist joint.
 8. Blood supply of heart.
 9. Intercostal muscles.
 10. Classification of cartilage.
 11. Structure of neuron.
 12. Biceps brachii muscle.
- OR**
- Rotatory cuff of shoulder.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Diagram of Liver.
14. Muscles of facial expression.
15. Nerve supply of tongue.
16. Oogenesis.
17. Median cubital vein.
18. Name the layers of skin.
19. Histology of cardiac muscle.
20. Name the parts of large intestine.
21. Name the carpals.
22. Name the parts of a long bone.



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I Year B.P.T. Degree Examination – 02-Mar-2021

Time: Three Hours

Max. Marks: 100 Marks

HUMAN ANATOMY (RS5)

Q.P. CODE: 2731

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

LONG ESSAYS (Second Question choice)

2 x 10 = 20 Marks

1. Describe the shoulder joint under the following headings. Articular surface, ligaments, movements and muscles causing movements and applied anatomy.
2. Describe the external features and connections of cerebellum. Add a note on its functions.
Or
Describe the blood supply of heart and applied anatomy.

SHORT ESSAYS (Question No.3 & 12 choice)

10 x 5 = 50 Marks

3. Orbicularis oculi (Origin, insertion, nerve supply and action)
Or
Supports of Uterus.
4. Common peroneal nerve.
5. Fertilization.
6. Vermiform appendix.
7. Corpus callosum.
8. Facial nerve.
9. Femoral triangle – boundaries and contents.
10. Rectus sheath.
11. Histology of T.S of Bone.
12. Lateral wall of nasal cavity.
Or
Cubital Fossa.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Name the branches of Adbominal aorta.
14. Name the Tarsal bones.
15. Histology of skeletal muscle.
16. Ischial tuberosity.
17. Name the skull bones.
18. Name the derivatives of Ectoderm.
19. Parotid duct.
20. Wrist drop.
21. Iliotibial tract.
22. Muscles of Mastication.



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I Year B.P.T. Degree Examination – 04-Mar-2021

Time: Three Hours

Max. Marks: 100 Marks

HUMAN PHYSIOLOGY (RS3 & RS4)

Q.P. CODE: 2702

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

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Draw a diagram showing the nerve supply to the heart and explain short term regulation of blood pressure.
2. Explain the molecular basis of skeletal muscle contraction.

OR

Explain the physiological actions of thyroid hormone and add a note on its disorders.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Brief note on surfactant.

OR

Factors affecting Glomerular Filtration Rate.

4. Composition and functions of gastric juice.
5. Functions of platelets.
6. Trace the taste pathway.
7. Functions of blood.
8. Stages of spermatogenesis.
9. Dark adaptation.
10. Functions of plasma proteins.
11. Two contraceptive methods in females.
12. Movements of small intestine.

OR

Describe any two types of hypoxia.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Define Mean corpuscular volume. Give its normal value.
14. Hormones secreted by adrenal cortex.
15. Packed cell volume.
16. Define shock and enumerate the types of shock.
17. Draw the diagram of normal Electro Cardiogram (ECG) and label the parts.
18. Renal threshold for glucose.
19. In vivo anticoagulants.
20. Name various lung volumes and capacities.
21. Name the components of reflex arc.
22. List the functions of white blood cells.



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I Year B.P.T. Degree Examination – 04-Mar-2021

Time: Three Hours

Max. Marks: 100 Marks

HUMAN PHYSIOLOGY (RS5)

Q.P. CODE: 2732

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Define arterial blood pressure. Give the normal value. Explain the mechanism of long-term regulation of blood pressure.
2. Define and draw a labelled diagram of sarcomere. Explain excitation-contraction coupling in detail.

OR

With the help of a neat diagram, describe oxygen-haemoglobin dissociation curve. Explain any four factors that shift the curve to right.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Name the types of Deafness and write the tests to differentiate them.

OR

Define and classify anemia. Explain the causes and symptoms of Megaloblastic anemia.

4. Describe the events in neuromuscular transmission.
5. With the help of flow chart, explain defecation reflex.
6. Draw a labelled diagram of normal Electrocardiogram and explain the basis of each wave.
7. Draw and explain normal spirogram.
8. Write the circulation and functions of cerebrospinal fluid.
9. What are the different phases of gastric juice secretion? Explain any one phase.
10. What is a negative feedback mechanism? Explain with an example.
11. Differentiate T-lymphocytes from B-lymphocytes
12. Outline the functions of cerebellum

OR

Trace the pain pathway. Define referred pain.

SHORT ANSWERS

10 x 3 = 30 Marks

13. List the plasma proteins with one function each.
14. What are anticoagulants? Write the mechanism of action of Heparin.
15. Write a note on Facilitated diffusion with example.
16. List the functions of Bile.
17. Define and state the cause of Tetany.
18. Draw and label Juxtaglomerular apparatus.
19. What is Haemophilia? How is it caused?
20. What is Presbyopia? How is it corrected?
21. What is Acromegaly? Write its symptoms.
22. What are the factors influencing GFR?



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I Year B.P.T. Degree Examination – 08-Mar-2021

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.

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Explain sources, daily requirement, functions and deficiency manifestations of vitamin D.
2. Define balanced diet. Mention the nutritional importance of carbohydrates, proteins and lipids.

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

3. Classify lipids with suitable example.
4. Explain the absorption, distribution and storage of calcium.
5. Define BMR. Explain the factors affecting it.
6. Define enzymes. Mention any two factors affecting enzyme activity.
7. Explain how lipids are absorbed in the Gastro intestinal tract.
8. Urea cycle
9. Mention important products formed by phenyl alanine and glycine.
10. Explain the structural organization of proteins with example.
11. Explain the regulation of blood glucose.
12. Explain the structure of plasma membrane with suitable diagram.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Write the levels calcium and urea in serum.
14. Enumerate any two causes of metabolic acidosis.
15. What is anion gap?
16. Enumerate any two functions of proteins.
17. Enumerate any two thyroid function tests.
18. Essential amino acids.
19. Enumerate any two biologically important compounds produced from cholesterol.
20. Invert sugar.
21. Name any two second messengers.
22. Functions of Lysosomes.



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I Year B.P.T. Degree Examination – 08-Mar-2021

Time: Three Hours

Max. Marks: 80 Marks

BIOCHEMISTRY (RS-5)

Q.P. CODE: 2733

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

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Describe the chemistry, RDA, sources, functions and deficiency symptoms of vitamin A.
2. Explain urea cycle. What is the significance of blood urea level?

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

3. Structure and functions of t RNA.
4. Biologically important peptides.
5. Respiratory and metabolic alkalosis.
6. Fatty liver.
7. Define BMR. Explain about the factors affecting it.
8. Explain creatinine test add note on its importance.
9. Watson and crick model of DNA.
10. Enzyme inhibition.
11. Dietary fibers.
12. Protein Energy Malnutrition.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Pellagra.
14. Normal levels of cholesterol and calcium.
15. Name special compounds derived from Glycine.
16. Myosin.
17. Phenyl Ketonuria.
18. Cyclic AMP.
19. Mitochondria.
20. Mucopolysaccharides.
21. Kwashiorkar.
22. Name the coenzymes of a) Thiamine b) Pyridoxine



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I Year B.P.T. Degree Examination - 10-Mar-2021

Time: Three Hours

Max. Marks: 100 Marks

BIO-MECHANICS (RS4)

Q.P. CODE: 2707

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Explain the articulation of shoulder joint and add note on static and dynamic stability of shoulder.
2. Explain the biomechanics of lumbar spine.
OR
What is posture? What is postural reflex? Explain the sagittal plane analysis of the posture.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Write a note on kinematic chains.
OR
What is the functional unit of a muscle? Explain various types of muscle fibers.
4. Movements of rib cage during breathing - Explain the role of inter costal muscles in breathing.
5. Explain the movements of temporomandibular joint.
6. Define levers. Explain the orders of levers and its use in physiotherapy.
7. Extensor mechanism of finger and its function
8. What is a joint? Explain the synovial joint and its classification with examples.
9. Describe the weight bearing of hip joint and add a note on muscle forces in unilateral stance.
10. Supination twist
11. Describe patella femoral articulation and PFJ reaction forces.
12. Describe the structure of elbow joint and explain the factors affecting the stability of the joint.
OR
Explain the motions of pelvis at hip joint.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Plantar aponeurosis and its functions.
14. Spurt and shunt muscle.
15. Running gait.
16. Function of anterior cruciate ligament.
17. Tipping of scapula.
18. Lateral prehension.
19. Coxa valga and its biomechanical effect in stability.
20. Flat foot : definition and types.
21. Young's modulus.
22. What is the normal physiological angulation of the knee joint and its significance.



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Time: Three Hours

Max. Marks: 100 Marks

BIO-MECHANICS (RS5)

Q.P. CODE: 2734

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

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Describe in detail about scapulo humeral rhythm.
2. Describe the structure of hip joint and add a note on use of a cane on Ipsilateral side.

OR

Define muscle contraction and enumerate the factors affecting muscle contraction, and add a note on different types of muscle contraction.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Explain locking and unlocking mechanism of knee joint.
4. Explain briefly Trendelenberg gait.
5. Define end feel and enumerate different types of end feel.
6. Explain in detail about functional position of wrist and hand.
7. Explain briefly plantar arches.
8. Describe length tension relationship of a muscle.
9. Describe structure and function of temporomandibular joint.
10. Explain in brief Kinematics of wrist joint.
11. Describe pes planus and pes cavus.
12. Explain briefly Lumbo pelvic rhythm.

OR

Explain the concept of stability in shoulder joint.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Define moment arm of force.
14. What are spurt and shunt muscle?
15. What is grasshopper eye patella?
16. Define axis and plane.
17. What is windlass mechanism?
18. What is kyphosis and lordosis?
19. Write in short stress strain curve.
20. Name the ligaments of hip joint.
21. What is central edge angle?
22. Define COG and LOG.



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I Year B.P.T. Degree Examination – 15-Mar-2021

Time: 3 Hours

Max. Marks: 40 Marks

GENERAL PSYCHOLOGY

Q.P. CODE: 2705

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

(Note : Both QP Codes 2705 and 2706 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Define personality. Explain Sigmund Freud's theory of personality.
2. Define learning. Explain the effective ways of learning.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Types of attention
4. Psychoanalytical school of psychology
5. Explain classical conditioning theory of learning
6. Types of leadership

SHORT ANSWERS

5 x 3 = 15 Marks

7. Types of reasoning
8. Types of twins.
9. Frustration
10. Motivational cycle.
11. Ego-defense mechanisms



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Time: 3 Hours

Max. Marks: 40 Marks

SOCIOLOGY Q.P. Code: 2706

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

(Note: Both QP Codes 2705 and 2706 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Explain any one social problem in relation to its cause, effect and solutions.
2. Discuss the social factors affecting health and disease.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Factors of Social Change
4. Family and Nutrition
5. Effects of Alcoholism
6. Major Urban Problems

SHORT ANSWERS

5 x 3 = 15 Marks

7. Relation between sociology and psychology
8. Problem of the under privileged
9. Monogamous Family
10. Anticipatory Socialization
11. Define 'Health'.



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Time: 3 Hours

Max. Marks: 40 Marks

PSYCHOLOGY (RS5)

Q.P. Code: 2735

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

(Note: Both QP Codes 2735 and 2736 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Define psychology? Explain the scope of psychology.
2. Define learning? Explain, classical and operant conditioning theories of learning.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Factors influencing on attention
4. Explain James - Lange theory of emotion.
5. Steps in creative thinking
6. Development of attitude

SHORT ANSWERS

5 x 3 = 15 Marks

7. Define Heredity
8. Illusion
9. Define mental age
10. Projection
11. Stress



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Time: 3 Hours

Max. Marks: 40 Marks

SOCIOLOGY (RS5)

Q.P. CODE: 2736

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary

(Note: Both OP Codes 2735 and 2736 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Explain the causes of Population explosion in India and suggest remedial measures for it.
2. Discuss the social factors affecting health.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Health hazards of village community.
4. Interview and Questionnaire method.
5. Significance of Medical Social Work.
6. Evil effects of Dowry System.

SHORT ANSWERS

5 x 3 = 15 Marks

7. Child trafficking.
8. Patrilineal family.
9. Approaches in Social Security.
10. Rural development Programmes in India.
11. Types of Unemployment.



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