

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

**(A DEEMED TO BE UNIVERSITY)**

**M.B.B.S. PHASE – I Degree Examination – October 2017**

**Time : 3 Hrs.**

**[Max. Marks : 100]**

**PHYSIOLOGY- PAPER - I**

**Q.P Code : SDUU -103**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Describe the features of blood flow in coronary vessels and its application. Add a note on regulation of coronary circulation.
2. Describe Composition and functions of Pancreatic juice and how it is regulated.

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. Renal plasma clearance for insulin, PAH and urea and their significance.
4. Hormones produced in kidney and their actions.
5. Pace maker potential and action potential in cardiac tissues.
6. Draw a normal ECG from standard limb lead II and explain the waves and intervals.
7. Timed vital capacity and dead space.
8. Compliance of lungs and thorax.
9. Effects of voluntary hyperventilation until exhaustion.
10. Caisson disease-symptoms, causes and its remedy.
11. Role of Leukocytes in immune functions.
12. Digestion and absorption of Fats.

**SHORT ANSWERS**

**10 X 3 = 30 Marks**

13. Thermoregulatory mechanisms when exposed to hot environment.
14. Mechanism of filling and emptying in Gall bladder.
15. Draw, label and explain Cystometrogram.
16. Haldane's effect and Bohr's effect.
17. Peripheral Chemoreceptors.
18. Tests for bleeding disorders and their clinical significance.
19. Complications of mismatched blood transfusion.
20. Megaloblastic anemia.
21. Functions of lymph.
22. Cyanosis.

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**PHYSIOLOGY - PAPER - II**

**Q.P Code : SDUU -104**

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**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Describe the origin, course, termination of pyramidal tract. Mention its functions and effects of lesions at different levels.
2. What is normal blood glucose level? How is it regulated in humans?

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. Spermatogenesis.
4. Functions of placenta.
5. Neuroendocrine reflex.
6. Refractory period.
7. Saltatory conduction.
8. Visual pathway
9. Organ of corti.
10. Neuroglia.
11. Cretinism.
12. REM sleep.

**SHORT ANSWERS**

**10 X 3 = 30 Marks**

13. What is Aphasia? Name two types of aphasia.
14. Three properties of synapse.
15. Three actions of growth hormone.
16. Three differences between lower and upper motor neurone lesion.
17. Three actions of parathormone.
18. Argyll Robertson pupil.
19. Three functions of glucagon.
20. Pregnancy tests.
21. List three errors of refraction and their corrections.
22. What is OVLT? List four structures outside blood brain barrier.

**Time : 3 Hrs.**

**[Max. Marks : 100]**

**PHYSIOLOGY– PAPER - I**

**Q.P Code : RS -103**

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**LONG ESSAY (Answer any 2 only)**

**2 X 10 = 20 Marks**

1. Describe the structure and function of Platelets? Differentiate between thrombocytopenic purpura and thrombasthenic purpura.
2. List the muscles involved in respiration? Describe lung compliance? Describe the chemical composition and function of surfactant.
3. Describe in sequence the events that occur in the heart during the cardiac cycle. Describe the arterial pulse and jugular venous pulse.

**SHORT ESSAY (Answer any 10 only)**

**10 X 5 = 50 Marks**

4. Describe the mechanisms that regulate the gastric secretion.
5. Describe the afferent and efferent pathways of the defecation reflex.
6. Explain the function of Bile Salts in Fat Digestion and Absorption.
7. Describe how neutrophils act as First Line of defense against Infection.
8. Explain the transfusion Reactions Resulting from Mismatched Blood transfusion.
9. Explain the forms of Transport of Carbon Dioxide in the Blood.
10. Explain the Countercurrent multiplier system in the loop of Henle.
11. What role does the blood-brain barrier play in the regulation of respiration.
12. Compare the function of the carotid and aortic baroreceptors.
13. Describe the acclimatization to high altitude.
14. Explain the circulatory changes that occur during exercise.
15. Describe the types of junctions between the cells that make up tissues.

**SHORT ANSWERS (No Choices)**

**10 X 3 = 30 Marks**

16. What are the Hering-Breuer reflexes.
17. List the Vasodilator Agents.
18. Explain Physiological Dead Space.
19. Draw a cystometrogram.
20. Explain the role of calcium ions in the Intrinsic and Extrinsic Pathways of blood coagulation.
21. Describe secondary active transport and give examples.
22. Why is acidosis a common complication of chronic renal disease.
23. What is sinus arrhythmia.
24. What are Korotkoff's sounds.
25. Define glomerular filtration rate.



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**PHYSIOLOGY– PAPER -II**

**Q.P Code : RS -104**

*Your answers should be specific to the questions asked.  
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**LONG ESSAY (Answer any Two only)**

**2 X 10 = 20 Marks**

1. Describe the formation, transport and regulation of secretion of thyroid hormone. Mention features seen in hypothyroidism in children.
2. Name the major thalamic nuclei, connections and role of thalamus.
3. Define a synapse. Write in detail about properties of synapses.

**SHORT ESSAY (Answer any Ten only)**

**10 X 5 = 50 Marks**

4. Describe the stages of sleep and the EEG changes during sleep.
5. Neuromuscular junction.
6. Visual pathway.
7. Middle ear contents and functions.
8. Errors of refraction of eye.
9. Motor unit
10. Physiological significance of ovulation.
11. Various family planning methods in males.
12. What are various hormones secreted by anterior pituitary gland. Write the action of growth hormone.
13. What is Tetany? Causes and dangers of tetany.
14. Cushing's syndrome.
15. Connections of cerebellum.

**SHORT ANSWERS (No Choices)**

**10 X 3 = 30 Marks**

16. List the functions of middle ear.
17. Near point of the eye.
18. Adrenogenital syndrome.
19. Muscle fatigue.
20. Contractile proteins of smooth muscle.
21. Babinski's sign.
22. Muller's law of specific energies.
23. Disorders of caudate nucleus.
24. Conditioned reflex.
25. Spinal shock.

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**PHYSIOLOGY- PAPER - I**

**Q.P Code : RS -203**

*Your answers should be specific to the questions asked.*

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**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Define Hypoxia. Classify them. Describe the features found in different types. Name two types of periodic breathing.
2. Define cardiac cycle. Explain in detail the mechanical events during one cycle. Add a note on third heart sound.

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. RH incompatibility.
4. Artificial respiration.
5. Pressure volume relationship in urinary bladder.
6. Different phases of deglutition.
7. Humoral regulation of exocrine pancreatic secretion.
8. Classify body fluid compartments. Give their normal values.
9. Haemorrhagic shock.
10. Extrinsic pathway of coagulation.
11. Peculiarities of pulmonary circulation.
12. Maturation factors for erythropoiesis.

**SHORT ANSWERS (No Choices)**

**10 X 3 = 30 Marks**

13. Sodium handling in PCT.
14. Frank starling's law of heart.
15. Chloride shift.
16. Plasmapheresis.
17. Alkaline tide.
18. PR interval.
19. Prothrombin time.
20. Parasympathetic innervations of urinary bladder.
21. Surfactant.
22. Achalasia cardia.

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**PHYSIOLOGY - PAPER - II**

**Q.P Code : RS -204**

*Your answers should be specific to the questions asked.*

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**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Describe connections and functions of cerebellum. Explain clinical signs and symptoms associated with cerebellar dysfunction.
2. Enlist hormones secreted by adrenal cortex. Describe actions and regulation of aldosterone. Add a note on effects of excess secretion of aldosterone on body.

**SHORT ESSAY**

**10 X 5 = 50 Marks**

3. Enlist hormones secreted by pancreas. Explain action of insulin.
4. Describe structure and functions of middle ear.
5. Enlist hormones secreted by placenta. Add a note on human chorionic gonadotropic hormone.
6. What is aphasia? Classify aphasia with examples.
7. Describe process of skeletal muscle contraction along with energy sources for muscle contraction.
8. Enlist hormones secreted by pituitary gland. Explain role of hypothalamus in pituitary hormone secretion.
9. Describe tricolor mechanism of color detection of eye. Add a note on protanope.
10. Write steps of spermatogenesis along with hormonal factors that stimulate spermatogenesis.
11. Enlist disorders associated with basal ganglia lesion. Add a note on Parkinson's disease.
12. What is fast pain and slow pain? Explain pathway for fast pain sensation.

**SHORT ANSWERS**

**10 X 3 = 30 Marks**

13. What is acromegaly.
14. Draw and label taste pathways.
15. What is explicit memory.
16. What is myasthenia graves?
17. What is presbyopia.
18. Explain all or none law with examples.
19. What is corpus callosum? What are its functions.
20. What is rigomortis.
21. What is graves disease?
22. What is menarche?