SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)
M.B.B.S. PHASE – I Degree Examination – July-2013

Time : 3 Hrs. **[Max. Marks : 100]**

PHYSIOLOGYPAPER 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. What are chemoreceptors? Explain their role in the regulation of respiration.
2. Define cardiac output. Describe the heterometric and homometric regulation of cardiac output.

SHORT ESSAY **10 X 5 = 50 Marks**

3. Breakdown products of hemoglobin.
4. Juxta- glomerular apparatus. (JGA)
5. Bile salts.
6. Effects of mismatched blood transfusion.
7. Define renal clearance value of a substance and describe its applications.
8. Ventilation perfusion ratio.
9. Innate immunity.
10. Peripheral resistance.
11. Plasminogen.
12. Second stage of deglutition.

SHORT ANSWERS **10 X 3 = 30 Marks**

13. PR interval
14. Timed vital capacity
15. Gastric mucosal barrier
16. Facilitated diffusion
17. Windkessel vessels
18. Surfactant
19. Pancreatic proteolytic enzymes.
20. Cushing's reflex.
21. Succus entericus
22. Mechanism of diuresis in diabetes mellitus and diabetes insipidus.

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PHYSIOLOGY - PAPER II

Q.P Code : SDUU -104

Your answers should be specific to the questions asked.
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LONG ESSAY **2 X 10 = 20 Marks**

1. Describe and discuss the pathways concerned with skilled movements. Differentiate UMN and LMN lesions.
2. Describe the neural pathway that transmits visual information from rods and cones to the visual cortex.

SHORT ESSAY **10 X 5 = 50 Marks**

3. Describe the functions of prefrontal lobes.
4. Explain referred pain. Give example.
5. Describe the features of cretinism.
6. What are the biological effects of insulin?
7. Explain the role of Renin-angiotensin system in blood volume regulation.
8. Describe the sequence of events that occur during neuromuscular transmission.
9. Explain auditory pathway with a diagram.
10. What are the different types of muscle fibers and explain its functional importance.
11. Describe hormonal regulation of ovulation.
12. What is neuroendocrine reflex.

SHORT ANSWERS **10 X 3 = 30 Marks**

13. What are the biological actions of parathormone?
14. Explain the mechanism of speech.
15. Distinguish between REM and non REM sleep?
16. Differentiate with example isotonic and isometric contraction of muscle.
17. What is tympanic reflex.
18. What are the functions of mechanoreceptors? Give examples.
19. Explain the physiological basis of Rinne's rest.
20. What are the functions of sertoli cells.
21. What are the hormones regulating spermatogenesis.
22. Explain Frank Starling's law and name the muscles which obey the law.

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PHYSIOLOGY– PAPER I

Q.P Code : RS -103

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

LONG ESSAY (Answer any 2 only) **2 X 10 = 20 Marks**

1. Define fick's principle. Using the principle, how is cardiac output determined. Mention the factors regulating cardiac output.
2. Define immunity. Types of immunity and write in detail about humoral immunity.
3. Define hypoxia. Write in detail about different types of hypoxia.

SHORT ESSAY (Answer any 10 only) **10 X 5 = 50 Marks**

4. Write briefly about protein synthesis.
5. Write about the movements of small intestine.
6. Name various types of haemoglobin. Write in detail about fetal haemoglobin.
7. Write about the short term regulation of blood pressure.
8. Describe the oxygen-haemoglobin dissociation curve.
9. Write about the disorders of large intestine motility.
10. Define renal clearance value. Explain how G.F.R. can be estimated using clearance value.
11. Write about the glucose reabsorption in different parts of nephron.
12. Write about RH factor? Add a note on erythroblastosis fetalis.
13. Blood – brain barrier.
14. Describe the hering – breur reflexes.
15. Write about the composition of bile and their functions.

SHORT ANSWERS **10 X 3 = 30 Marks**

16. Phagocytosis
17. Write about thalassemia.
18. What are the substances secreted by parietal cells.
19. Chylomicrons.
20. Nerve supply to the heart.
21. Labelled diagram of junctional tissue of the heart.
22. Respiratory distress syndrome.
23. Cheyne-strokes respiration.
24. Glomerular filtration membrane.
25. Micturition reflex.

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PHYSIOLOGY– PAPER I I

Q.P Code : RS -104

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

LONG ESSAY (Answer any 2 only) **2 X 10 = 20 Marks**

1. Describe the functions and regulation of glucocorticoids. Add a note on cushing's Syndrome.
2. List the ascending tracts in the spinal cord and trace the pathway for posterior column with a suitable diagram.
3. Describe the connections and functions of basal ganglia. Add note on parkinsonian syndrome.

SHORT ESSAY (Answer any 10 only) **10 X 5 = 50 Marks**

4. Describe brown sequard syndrome.
5. Explain effects of lesions in optic pathway.
6. Describe functions of thalamus.
7. Explain travelling wave theory of hearing.
8. Explain dark adaption.
9. Explain brain opiate system.
10. Tabulate three differences between skeletal, cardiac and smooth muscles.
11. Classify the nerve fibres according to Erlanger and Gasser.
12. Describe the "neuro-endocrine reflex".
13. Describe actions of thyroxine. Add a note on Grave's disease.
14. Actions of Testosterone. Explain briefly the regulation of testicular function.
15. What is Gigantism? Mention four features of Gigantism and explain their basis.

SHORT ANSWERS **10 X 3 = 30 Marks**

16. Write short note on macula densa.
17. Describe briefly myasthenia gravis.
18. Name the contractile proteins and inhibitory proteins in muscle.
19. Describe Feto-placental unit.
20. List the functions of corpus luteum.
21. Write importance of blood-testis barrier.
22. Three differences between cretinism and Dwarfism.
23. What is summation? Mention its type.
24. Draw the structure of rods and cones.
25. What is Bell – Magendie law? Mention exception to this law.

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