

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

**(A DEEMED TO BE UNIVERSITY)**

**Post Graduate Degree Examination – April / May - 2015**

**Time : 3 Hrs.**

**[Max. Marks : 100]**

**M.D PHYSIOLOGY**

**PAPER - I**

**Q.P Code : RS1201**

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

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**10 X10 = 100 Marks**

1. Integral membrane proteins.
2. Post translational modification.
3. Aquaporins.
4. Law of laplace.
5. Von bekesy's contribution to auditory physiology.
6. Hormone receptors.
7. Local potentials.
8. Osmosis.
9. Reactive oxygen species.
10. Gap Junctions.

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**M.D PHYSIOLOGY**

**PAPER - II**

**Q.P Code : RS-1202**

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

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**10 X 10 =100 Marks**

1. Hazards of blood transfusion.
2. Special features of coronary circulation.
3. Asphyxia- definition and its stages.
4. Laplace law and its application in physiology.
5. Describe in detail the short term regulation of blood pressure.
6. Non respiratory functions of lung.
7. Counter current multiplier.
8. Pacemaker potential.
9. Differences between cortical and juxtamedullary nephrons.
10. Cardiovascular adjustments during isometric and isotonic exercise.

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**PAPER - III**

**Q.P Code : RS-1203**

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*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**10 X 10 = 100 Marks**

1. Different types of classification of nerve fibres.
2. Tonus and unstable resting membrane potential in smooth muscle.
3. Osteoblasts, osteoclasts and osteocytes and calcium homeostasis.
4. Glucocorticoids are used in the prevention of rejection of organ transplant
5. Types in classifying hormones.
6. Relationship between magnitude of sensation felt and intensity of stimulation in sensory physiology.
7. “learning of motor skills” and the neural structures involved in it.
8. Explain diseases of basal ganglia are characterized by both hyper and hypokinetic features.
9. Intercortical transfer of learning.
10. “Brain death” and organ harvesting and donation.

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**M.D PHYSIOLOGY**

**PAPER - IV**

**Q.P Code : RS-1204**

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

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**10 X 10 = 100 Marks**

1. Describe optic pathway mentioning effects of lesion at different sites.
2. Explain the mechanisms of localization of sound and perception of pitch and loudness of sound.
3. Describe the process of spermatogenesis and the mechanisms involved in its regulation.
4. Discuss the mechanisms of onset of parturition.
5. Explain the mechanisms of olfactory transduction and depict the pathway of olfaction with their physiological roles.
6. Discuss the physiological effects of Yogic practice with their limitations.
7. Discuss the control of circadian rhythm in the human with reference to 'biological clock', 'light-dark cycle', 'melatonin' and 'circadian gene'.
8. Describe the influence of affective qualities of sensory inputs on behavioral output.
9. Explain the physiological basis of pain management.
10. Discuss the uses of nanotechnology in medicine.

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