SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

M.Sc. Molecular Biology & Human Genetics (Semester-I)

February-2018 Examination

Time : 3.00 Hrs. **Max. Marks : 100]**

ANATOMY

Q.P Code : MBHG -101

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

LONG ESSAY

2 X 10 = 20 Marks

1. A. Classify joints with examples for each type.
   B. Describe synovial joint in detail.
2. A. Names the parts of the Respiratory system.
   B. Describe the right lung under the following headings.
   a) Lobes and fissures
   b) Mediastinal surface
   c) Relations

SHORT ESSAY

10X 5 = 50 Marks

3. Microscopic structure of skeletal muscle.
4. Spermatogenesis.
5. Supports of uterus.
6. Palatine tonic – feature, relations, Applied Aspects.
7. Microscopic Picture of lymph node.
8. Femoral artery and its branches.
9. Posterior relations of Kidney.
10. Sulci and gyri of superolateral surface of cerebral hemisphere.
11. Describe in brief the circulation of cerebrospinal fluid.
12. Coronary sinus.

SHORT NOTES

10 X 3 = 30 Marks

13. Waldeyer's ring.
14. Differences between large and small intestine.
15. Anterior fontanelle.
16. Draw and label multipolar Neuron.
17. Arch of aorta.
18. Cartilages of Larynx.
19. Name the arteries supplying the stomach.
20. Systemic circulation.
21. Name the cells of bone and their functions.
22. Fertilization.

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BIOCHEMISTRY

Q.P Code : MBHG -105

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

LONG ESSAY **2 X 10 = 20 Marks**

1. Explain various types of enzyme inhibition with examples.
2. Write the sources, daily requirement, functions and deficiency manifestations of vitamin D.

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

3. Metabolic acidosis.
4. Basal metabolic rate and factors affecting it.
5. m RNA structure and functions.
6. Deficiency manifestations of vitamin A.
7. Give an account on digestion and absorption of lipids.
8. Principle, procedure and applications of gel electrophoresis.
9. Ion exchange chromatography.
10. Name any five polysaccharides and write their importance.
11. Classification of lipids with examples.
12. Nutritional classification of amino acids.

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

13. Name any three plasma proteins and write their functions.
14. Benedict's test.
15. Invert sugar.
16. Ultra centrifugation.
17. Radio isotopes.
18. Facilitated diffusion with examples.
19. Effect of temperature on enzyme activity.
20. Scurvy.
21. Marasmus.
22. Un-couplers of oxidative phosphorylation.

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MICROBIOLOGY

Q.P Code : MBHG -109

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

LONG ESSAY **2 X 10 = 20 Marks**

1. Define sterilization. Briefly explain about dry heat sterilization.
2. Classify viruses and describe various methods of isolation of viruses.

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

3. Electron microscope.
4. Type I hypersensitivity.
5. Anaerobic culture methods.
6. Radio immuno Assay (RIA).
7. Classification of fungi.
8. Interferons.
9. Differences between mutational drug resistance and transferable drug resistance.
10. Classical pathway of complement activation.
11. Bacterial cell wall.
12. Viral heamagglutination.

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

13. Enrichment media.
14. Endotoxins.
15. Di George' syndrome.
16. Name three DNA viruses.
17. Idiotype and Isotype.
18. T cell receptor complex.
19. Fumigation.
20. Give three examples of agglutination tests.
21. Draw a neat labeled diagram of Ig A.
22. Capsule.

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February-2018 Examination

Time : 3.00 Hrs. **[Max. Marks : 100]**

PHYSIOLOGY

Q.P Code : MBHG -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 phases and regulation of gastric secretion with experimental evidences?

2. Explain the structure and transmission across neuromuscular junction. Mention any two neuromuscular blockers.

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

3. Define and explain the ionic basis of action potential.
4. Define cardiac output. Describe the various factors regulating it. Name the methods of its measurement.
5. Explain the role of feedback mechanisms in homeostasis.
6. Explain the functions of pancreatic juice.
7. Mention the causes and correction of refractory errors of eye.
8. Explain the structure and functions of juxta glomerular apparatus.
9. Explain the physiological actions of growth hormone.
10. Describe the endometrial changes during menstrual cycle.
11. Classify white blood cells. Mention one function of each.
12. Explain active transport mechanism across cell membrane.

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

13. Name three anticoagulants. Write the mode of action of any one.
14. Draw and label ECG in lead II.
15. Listthe functions of plasma proteins.
16. Define hypoxia and classify hypoxia.
17. Listthe functions of cerebrospinal fluid.
18. Define glomerular filtration rate. Give its normal value.
19. Name the different tests for hearing.
20. Listthe differences between diabetes mellitus and diabetes insipidus.
21. Name body fluid compartments giving their normal value.
22. Name the mechanisms by which body tolerates hot environment.

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