



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

M.Sc. Molecular Biology & Human Genetics (MB&HG)

Semester-II November 2024 Examination

Time: 3 Hrs.

[Max. Marks: 100]

Molecular Biology of Human Diseases I

Q.P Code: M2551

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay

2X20=40 Marks

1. Describe the molecular disorders associated with eye.
2. Describe various epigenetic alterations associated with cancer.

Short Essay

6X10=60 Marks

3. Describe the molecular basis of Galactosemia and Hereditary Fructose Intolerance.
4. Describe the molecular basis of Maple Syrup Urine Disease and Oculocutaneous Albinism Type 1.
5. Describe the molecular basis of Orotic aciduria and Xanthinuria.
6. Describe the molecular basis of Mucopolysaccharidosis.
7. Describe the molecular basis of Hereditary Hemochromatosis and Wilson disease.
8. Describe the neoangiogenesis, anchorage independent growth, and alteration in glucose metabolism in cancer cells with clear diagrams.

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M.Sc. Molecular Biology & Human Genetics (MB&HG)

First Year (Semester-II)

November 2024 Examination

Time: 3 Hrs.

[Max. Marks: 100]

Physiology
Q.P Code: M2560

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 20 = 40 Marks

1. Define respiration what is the normal rate, Explain the Mechanism of respiration in a flow chart and list the muscles involved in respiration. Add a note on the pressure volume changes.

(2+1+8+ 4+5=20)

2. Describe the origin course termination and function of the corticospinal tract and list the function of the same. Add a note on the upper and lower motor neuron (15+3+2=20)

SHORT ESSAY

6X 10 = 60 Marks

3. List the types of refractory errors of the eye explain the cause and correction for the same with the diagram
4. Draw a neat, labelled diagram of ECG in the lead II system Give the causes of each wave and list the clinical importance of ECG
5. What is spermatogenesis explain with the help of flow chart. List the factors influencing spermatogenesis. Briefly explain the regulation of testosterone hormone
6. List the functions of cortisol. What is Cushing's syndrome? Give the cause signs and symptoms of the same.
7. List the peculiarities of renal circulation add note on renin angiotensin mechanism in Blood pressure maintenance.
8. Define Resting membrane potential give the normal value and list the causes for the generation of the RMP add a note on the refractory period

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M.Sc. Molecular Biology & Human Genetics First Year (Semester-II)

November 2024 Examination

Time: 3 Hrs.

[Max. Marks: 100]

Microbiology
Q.P Code: M2570

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 20 = 40 Marks

1. Describe different types of immunity. What is innate immunity? Describe the mechanisms of innate immunity.
2. Define and classify sterilization. Describe the methods of sterilization by moist heat

SHORT ESSAY

6X 10 = 60 Marks

3. Describe the Bacterial capsule in relation to its chemical nature, role in pathogenicity and methods of demonstration.
4. Describe the principle and applications of Immunofluorescence
5. Enumerate DNA and RNA viruses. Describe the general properties and morphology of viruses
6. Describe the Standard precautions followed in the Hospital settings.
7. Describe the microscopic morphology and clinical manifestations of the three Aspergillus species.
8. Describe the morphology, modes of transmission and laboratory diagnosis of Tuberculosis.

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