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

(Semester-II)   September 2023 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 basis of Lesch-Nyhan syndrome, Orotic aciduria, and Xanthinuria.

2. Describe the role of oncogenes and tumor suppressor genes in cancer.

Short Essay   **6X10=60 Marks**

3. Describe the molecular basis of Pyruvate Dehydrogenase Deficiency and Galactosemia.

4. List the molecular disorders in amino acid metabolism and describe the molecular basis of Phenylketonuria.

5. Describe the molecular basis of Hereditary Hemochromatosis and Wilson disease.

6. Describe the molecular basis of Congenital Adrenal Hyperplasia and Congenital Hypothyroidism.

7. Describe the molecular basis of genetic instability syndromes.

8. Describe the molecular basis of Retinitis Pigmentosa and Retinoblastoma.

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M.Sc. Molecular Biology & Human Genetics (MB&HG)
(Semester-II)
September 2023 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. .Draw a neat, labelled diagram of the juxta glomerular apparatus explain the function and add note on renin angiotensin mechanism in Blood pressure maintenance

   Add a note on the diuretics (5+5+5 +5=20)

2. Name the hormones secreted by thyroid gland and explain the synthesis .List the function of the thyroid hormone on metabolism and various system add a note on the regulation (3+5+8+4=20)

SHORT ESSAY   **6X 10 = 60 Marks**

3. In the form of the tabular column name the different fluid compartment its normal value and the substance used to measure the volume.

4. Define homeostasis and list the different mechanisms in which homeostasis is brought about

5. Define Landsteiners law and give its application add a note on the erythroblastosis foetalis

6. Classify the nerve fibers

   Based on the poles , the myelination on function on diameter on the neurotransmitter

7. Name the conducting system of the heart and give the normal values of the normal conduction time in each component .Name the terms for increased and decreased heart rate

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8. List the functions of Basal ganglia add a note on the Parkinson's disease by adding the features

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M.Sc. MB&HG (Semester-II)

September 2023   Examination   **[Max. Marks: 100]**

Time : 3 Hrs.

Subject: 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. Define and classify Immunity. Describe innate immunity and its different types with examples.

2. Enumerate DNA viruses. Describe the morphology, modes of transmission and laboratory diagnosis of Hepatitis B virus.

SHORT ESSAY   **6X 10 = 60 Marks**

3. Enumerate three genera of Dermatophytes. Describe the source, modes of transmission and clinical features of Dermatophytes.

4. Describe the Classical pathway of complement activation

5. Describe the mode of production and uses of Monoclonal antibodies

6. Describe the differences between primary and secondary Immune response with a labelled diagram

7. Describe the clinical features and lab diagnosis of Dengue fever.

8. Describe the Bacterial capsule in relation to its chemical nature, role in pathogenicity and methods of demonstration.

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