

M.D. DEGREE EXAMINATION
BRANCH XIII – BIOCHEMISTRY
PAPER II – CELL PHYSIOLOGY, MOLECULAR BIOLOGY AND
HUMAN GENETICS

Q.P.Code: 202044

Time: Three Hours

Maximum: 100 Marks

I. Essay Questions:

(2 x 10 = 20)

1. Discuss the structure and function of sub-cellular organelles and particles.
Add a note on the mitochondrial myopathies.
2. Discuss briefly the human genome project.

II. Short Questions:

(8 x 5 = 40)

1. Glucose transporters.
2. Apoptosis.
3. Regulation of protein synthesis.
4. Histones and its modifications.
5. Cosmid.
6. Micro array.
7. Oncogenes.
8. RNA Splicing and modifications.

III. Reasoning Out:

(4 x 5 = 20)

1. Triplet genetic code should have degeneracy.
2. Poly adenylate tail at 3' end of mRNA.
3. Do the untranslated regions of mRNA play a crucial role as that of coding sequences?
4. Transcription factors play a crucial role in eukaryotic gene expression.

IV. Very Short Answers:

(10 x 2 = 20)

1. Gene amplification.
2. Lac operon.
3. Chaperones.
4. Polyribosomes.
5. Snurps.
6. Cell Cycle.
7. Nucleosomes.
8. Reverse transcriptase.
9. Ames's test.
10. Vectors.
