

(LJ 149)

OCTOBER 2016

Sub. Code:2044

**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. Ame's test.
10. Vectors.

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