

**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 15 = 30)**

1. Write in detail the regulation of Eukaryotic gene expression.
2. Define Polymerase Chain Reaction. Discuss in detail procedure, types and applications of it.

**II. Short notes:**

**(10 x 5 = 50)**

1. Active transport across the plasma membrane.
2. Eukaryotic DNA Polymerase.
3. Fluorescent in situ hybridization.
4. Apoptosis.
5. Transgenic animals.
6. Cyclin and Cyclin dependent kinases.
7. Effects of Mutation.
8. Glucose Transporters.
9. Cytoskeleton and its significance.
10. Cell adhesion molecules.

**III. Reasoning Out:**

**(4 x 5 = 20)**

1. P<sub>53</sub> The guardian of Genome.
2. Machinery of Protein synthesis can respond to Environmental Threats.
3. Endoplasmic Reticulum functions as quality control compartment of the cell.
4. mi RNAs play an important role in carcinogenesis and tumor metastasis.

\*\*\*\*\*