

**THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY**

**[MD 1223]**

**DECEMBER 2023**

**Sub. Code: 2044**

**(OCTOBER 2023 EXAM SESSION)**

**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. What is Polymerase Chain Reaction? Write an essay on steps, different types and its role in diagnosis of COVID 19 infection, add a note on LAMP.
2. In which disease sweat chloride assessment is done. Write an essay on different types of Transport Channels with suitable example.

**II. Short notes:**

**(10 x 5 = 50)**

1. Peroxisomes.
2. RNA Polymerase.
3. Membrane Proteins of Erythrocytes.
4. Gene amplification.
5. Cell cycle.
6. GLA Proteins.
7. Oncogenes.
8. Nucleotide analogues.
9. Orotic aciduria.
10. Apoptosis.

**III. Reasoning Out:**

**(4 x 5 = 20)**

1. Light induced Hyperpolarisation in vision. Explain.
2. miRNA plays key role in carcinogenesis.
3. Only traces of Methemoglobin is present normally in RBC's.
4. Histone code.

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