

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

**[MD 0524]**

**MAY 2024**

**Sub. Code: 4016**

**M.D. DEGREE EXAMINATION**

**BRANCH V – PHYSIOLOGY**

**PAPER IV – APPLIED PHYSIOLOGY INCLUDING RECENT ADVANCES**

***Q.P. Code: 204016***

**Time : Three Hours**

**Maximum : 100 Marks**

**I. Essay Questions: (2 x 15 = 30)**

1. Explain the significance of liver function tests in the diagnosis and monitoring of liver disease. What are the key enzymes and biomarkers measured in LFTs and how do their levels change in conditions such as Hepatitis, Cirrhosis and Liver cancer?
2. What is acute mountain sickness? Describe the cardiovascular and respiratory changes during high altitude pulmonary disease.

**II. Short notes: (10 x 5 = 50)**

1. Application of recombinant DNA technology.
2. Changes in respiration on inhaling irritant fumes.
3. Abnormal sounds in Cardiovascular system.
4. Respiratory changes during exercise.
5. Thermal changes during muscle contraction.
6. Tests for haemostatic function.
7. Isotopes and their uses in Physiology.
8. Explain mechanism of action of Bevacizumab, Cetuximab in colorectal cancer.
9. Pharmacomechanical coupling in smooth muscle contraction.
10. Physiology of vomiting.

**III. Reasoning Out: (4 x 5 = 20)**

1. Explain how middle ear infections interfere with hearing.
2. Explain the physiological basis for dissociated anaesthesia in Syringomyelia.
3. Sildenafil causes blue vision.
4. Carcinoid syndrome and octreotide.

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