

**Q.P. Code: 302379**

**Reg. No:.....**

**Third Year M.Sc Medical Physiology Degree Regular/Supplementary  
Examinations October 2024**

**Physiology of Respiration, Renal Physiology, Skin & Temperature Regulation,  
Principles of Biophysics as Applied to Physiology**

**Time: 3 hrs**

**Max. Marks: 100**

- *Answer all questions to the point neatly and legibly*
- *Do not leave any blank pages between answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together*
- *Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

**Essay:**

**(20)**

1. Describe chemoreceptors and their role in regulation of normal breathing. Add a note on abnormal breathing patterns.

**Short Essays:**

**(8x10=80)**

2. Laplace's law and its application in physiological processes
3. Role of heat loss and heat gain centers in thermoregulation. Add a note on hypothermia
4. Define renal clearance and explain its significance with reference to renal functions
5. Caisson disease - its manifestations and remedy.
6. Respiratory changes during severe muscular exercise
7. Mechanisms of reabsorption of glucose and water in renal tubules
8. Laminar and turbulent blood flow in blood vessels
9. Respiratory membrane and gaseous diffusion across it.

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