

Q.P. Code: 302379

Reg. No:.....

**Third Year M.Sc Medical Physiology Degree Regular/Supplementary
Examinations August 2022**

**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 the neural regulation of respiration

Short Essays:

(8x10=80)

2. Ventilation perfusion ratio and its significance
3. Mechanisms for thermoregulation
4. Explain forces regulating glomerular filtration
5. Micturition reflex and its higher control
6. Special features of renal circulation
7. Diuretics
8. Mountain sickness and acclimatisation
9. Physical principles governing flow of air in air passages

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Essay:

(20)

1. Explain how Oxygen is transported in blood. With the help of a diagram explain the Oxyhemoglobin dissociation curve. Enumerate the factors causing shift to right of Oxyhemoglobin dissociation curve.

Short Essays:

(8x10=80)

2. Describe how water is handled by kidney
3. Explain the acclimatization changes in high altitude. Add a note on acute mountain sickness
4. Define compliance of lung. Write its normal value. Explain the factors affecting compliance of lung
5. With the help of a diagram, explain the innervation of urinary bladder. Describe the micturition reflex and the higher centres controlling it.
6. Explain the ventilation perfusion ratio in lung. Give its normal values. Explain its significance
7. Explain the thermoregulatory responses to cold
8. Describe the effects of voluntary hyperventilation. Add a note on periodic breathing
9. Explain the different pulmonary function tests
