

**Third Year M.Sc Medical Physiology Degree Regular/Supplementary
Examinations October 2025**

**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. Define Glomerular Filtration Rate. Write its normal value. Explain the factors determining Glomerular Filtration Rate. Add a note on the Tubuloglomerular feedback.

Short Essays:

(8x10=80)

2. Describe how carbondioxide is transported in blood
3. Describe the neural regulation of respiration
4. Explain how glucose is handled by kidney. Add a note on transport maximum of glucose
5. Describe the cause, mechanism, clinical features, treatment and prevention of decompression sickness
6. Describe the peculiarities of pulmonary circulation
7. Write the limiting pH of urine. Explain the renal tubular buffers and its mechanism
8. Describe the respiratory changes during exercise
9. With help of a spiogram, explain the static lung volumes and capacities and give its normal values
