

QP Code:104114

Reg. No.:.....

**PG Degree Regular/Supplementary Examinations in Physiology
(MD) May 2022**

Paper IV - Applied Physiology Including Recent Advances

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. Explain the physiological changes in exercise in untrained and trained individuals

Short essays:

(8x10=80)

2. Discuss the role of volume and low pressure sensing receptors in regulating normal blood pressure.
3. Explain physiology of emotions with context to fear, anxiety, rage and emotions. Also discuss the role of yoga in controlling these emotions.
4. Explain the role of circadian rhythm, pineal gland, thalamocortical loop and neurochemicals in maintaining sleep-wake cycles. Also briefly explain the mechanism by which blue light affects sleep.
5. Explain the physiological basis of treating diabetes mellitus with i) DDP4 analogues ii) SGLT2 inhibitors and iii) GLP1 receptor agonist
6. Explain the role of zinc in maintaining normal male reproductive functions.
7. Explain the effect of smoking on respiratory health.
8. Explain the pathophysiological basis of orthostatic hypotension in autonomic failure and the methods to diagnose it.
9. Explain the cause, pathophysiology of signs and symptoms and physiological basis of treatment of peptic ulcer disease.
