

M. P. Ed 1st Semester Examination 2020
Physiology of Exercise

MPCC – 102

Full Marks – 70

Time – 3 Hours

The figures in the margin indicate full Marks.

The candidates are required to give their answers in their own words as far as practicable.

Illustrate the answer wherever necessary.

1. Describe with figures the Actin-Myosin orientation of human skeletal muscles. Describe the mechanical action of cross bridge. Explain in detail the characteristics of Type-II muscle fibers. **5+5+5=15**

OR

What is neural control of human movement? Explain that muscular fatigue is a complex phenomenon. Describe the structure and function of motor-end-plate. **5+5+5=15**

2. Describe the mechanism of blood flow at rest and during exercise in the light of hemodynamic principles. Describe the factors affecting heartrate. **9+6=15**

OR

Describe the relation between stroke volume and cardiac output at rest and during exercise with appropriate example from male and female athletes. What are the consequences of detraining on cardiovascular system? **10+5=15**

3. State the anatomical structures involve in Ventilation. Explain the alteration of ventilation from rest to exercise with example. Does ventilation limit aerobic power and endurance – Explain. **4+6+5=15**

OR

Explain why $V_{O_{2max}}$ is an important measure of cardiorespiratory functional capacity. Discuss about factors that affect maximal oxygen consumption. **7+8=15**

4. Give an overview of energy transport capacity during exercise. State about anaerobic energy transfer during immediate and short term physical exercise. **8+7=15**

OR

Explain individual differences in anaerobic energy-transfer capacity. Briefly state the tests to measure the Maximal Oxygen Consumption. **8+7=15.**

5. Write short notes on any two of the following: **2 X 5=10**

- a) Performance in Cool Climate
- b) Cardiac Hypertrophy
- c) Functional adaptation to resistance exercise
- d) Glycogen Depletion