

(6)

(x) The blood cell that does not contain nucleus :

- (a) Leucocyte
- (b) Thrombocyte
- (c) Monocyte
- (d) Erythrocyte

(xi) A reliable indicator of cardiorespiratory fitness :

- (a) Maximal oxygen uptake
- (b) Cardiac output
- (c) Venous return
- (d) Oxygen uptake

(xii) Tick the correct statement :

- (a) Fast twitch muscle fibers are red muscle fibers
- (b) Fast twitch fibers are more resistant to fatigue
- (c) Slow twitch fibers fatigue quickly
- (d) Slow twitch muscle fibers have more concentration of mitochondria

★ ★ ★

EX/PG/PHE/MPCC-102/2024

MASTER OF PHYSICAL EDUCATION EXAMINATION, 2024

(1st Year, 1st Semester)

PAPER : MPCC-102

(Exercise Physiology)

Time : Three Hours

Full Marks : 70

Mention the Question Number clearly before writing the answer

GROUP—A

Answer *any three* questions :

15×3=45

1. Write a brief note on the history of exercise and sports physiology. Write the conceptual difference between exercise physiology and sports physiology. Write down the importance of exercise physiology in the field of physical education and sports science. 6+3+6=15
2. Define sarcomere. Draw and describe the step by step mechanism of muscle contraction through sliding filament theory. 1+14=15
3. Describe the macrostructure of skeletal muscle. Elaborate the ATP-PC system of energy production with example. 7+8=15

7+8=15

(2)

4. Discuss the effects of exercise on heart, blood and blood vessels. $5+5+5=15$
5. Differentiate between cardiovascular function and cardiorespiratory function. Write the effects of exercise on respiratory system. Write a note on diuretics. $4+8+3=15$

GROUP—B

Write short notes on *any two* of the following : $7.5 \times 2 = 15$

6. Aerobic and anaerobic system during rest and exercise with diagrams
7. Classification of anabolic steroids
8. VO_2 and VO_2 Max
9. Type of Metabolism

GROUP—C

10. Write the correct option (*any ten*) : $1 \times 10 = 10$

- (i) Water Pill is related to
- (a) anabolic steroid
- (b) psychoactive drug
- (c) diuretics
- (d) narcotic analgesics

(5)

(vii) Beta blockers inhibit the production of

- (a) acetylcholine
- (b) potassium
- (c) sodium
- (d) adrenaline

(viii) The _____ stimulus in muscle contraction follows the all or none law.

- (a) motor
- (b) subthreshold
- (c) sensory
- (d) threshold

(ix) Embden, Meyerhof and Parnas describe _____ of metabolism.

- (a) aerobic system
- (b) alactic system
- (c) anaerobic system
- (d) phosphagen system

(3)

(ii) In _____ phase of sliding filament theory, the ATP Crossbridge Complex gets charged.

- (a) contraction
- (b) recharging
- (c) excitation-coupling
- (d) resting

(iii) Cardiac output is expressed in two forms

- (a) tidal volume and heart rate
- (b) minute volume and heart rate
- (c) stroke volume and heart rate
- (d) venous return and heart rate

(iv) Sarcoplasmic reticulum stores

- (a) Na ions
- (b) Ca ions
- (c) H ions
- (d) K ions

(4)

(v) _____ plays a role in transferring force produced by the muscle fibers to the tendons.

- (a) Endomysium
- (b) Perimysium
- (c) Epimysium
- (d) Sarcoplasmic Reticulum

(vi) Match the following :

- | | |
|--------------|-------------------------|
| (A) Nebulin | (a) anchoring protein |
| (B) Titin | (b) regulating protein |
| (C) Troponin | (c) stabilizing protein |
| (D) Myomesin | (d) largest protein |
- (a) A-c B-d C-b D-a
 - (b) A-b B-c C-d D-a
 - (c) A-d B-d C-a D-c
 - (d) A-c B-a C-d D-b