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Ex/Phy.EDN/PG/MPCC-102/195/2017

M. PED. EXAMINATION, 2017

(1st Year, 1st Semester)

PHYSIOLOGY OF EXERCISE

PAPER - MPCC - 102

Time : Three hours

Full Marks : 70

A. Answer *any three* questions :

1. Discuss different types of muscle fiber. What is muscle tone ? Describe the microscopic structure of skeletal muscle fiber. 4+2+9=15
2. Describe the sliding filament theory of muscle contraction. Describe in brief the effect of exercise on the muscular system. 10+5=15
3. What is stroke volume and cardiac output ? What are the factors that affect heart rate ? Describe in brief the effect of exercise on the cardio vascular system. 2+2+5+6=15
4. Discuss the mechanism of breathing. Describe the Exchange of gases in the lungs. Describe in very brief the effect of exercise on the respiratory system. 4+4+7=15
5. Discuss the process of energy supply during i) short duration high intensity exercise and ii) long duration low intensity exercise. 7.5+7.5=15

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xi) Which one of the following is not a banned agent ?

- a) narcotic, b) caffeine,
c) epherdrine, d) none of these

xi) 'Physiology' deals with the

- a) normal functioning of body,
b) abnormal functioning of the body,
c) elevated functioning of the body,
d) retarded functioning of the body.
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- B. Write short notes on (*any three*) : $7.5 \times 2 = 15$
- a) The protocol of measurement of energy cost of an activity
 - b) Respiratory Quotient
 - c) Ergogenic aid
 - d) Doping and drugs that are banned by IOC
- C. Tick (✓) in the right answer (*any ten*) : $10 \times 1 = 10$
- i) The contractile unit of muscle fiber is known as
 - a) Sarcomere, b) Golgi tendon,
 - c) I-band, d) Z band
 - ii) Thick filament is composed of
 - a) actin, b) myosin,
 - c) titin, d) troponin
 - iii) Cardiac output is also known as
 - a) stroke volume, b) residual volume,
 - c) minute volume, d) heart volume
 - iv) Fresh blood spread over the body through the
 - a) Pulmonary vein, b) Pulmonary artery,
 - c) Aorta, d) Superior vena cava

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- v) 'Athletic heart' is due to
 - a) Cardiac hypotrophy, b) Cardiac hypertrophy,
 - c) pathology of heart, d) none of these
- vi) Oxygen from air enter into blood capillaries from
 - a) alveoli b) tracheid,
 - c) trachea d) pharynx
- vii) Fresh oxygen enters into blood capillaries through
 - a) osmosis, b) diffusion,
 - c) conduction, d) convection
- viii) The main end product of anaerobic metabolism is
 - a) carbondioxide, b) pyruvic acid,
 - c) lactic acid, d) all
- ix) After metabolism 1 gm. fat provide approximately
 - a) 4 kcal, b) 6 kcal,
 - c) 12 kcal, d) 9 kcal
- x) Doping is a process of taking drug
 - a) illegally, b) unethically,
 - c) enhance performance, d) all

[Turn over