

LIFELINE INSTITUTE OF PHYSIOTHERAPY

FIRST INTERNAL EXAMINATION

Subject- PHYSIOLOGY

Time: 25 min

Date:

INSTRUCTIONS: Read each statement carefully and ENCIRCLE the LETTER of the correct answer.

MULTIPLE CHOICE QUESTIONS

1×20=20 marks

1. Enzymes involved in digestion of carbohydrates
 - a) Amylase
 - b) Lipase
 - c) Carboxypeptidases
 - d) Aminopeptidase
2. Homeostasis imbalance is caused by all except
 - a) Stress
 - b) Hypoxia
 - c) Hypoglycemia
 - d) Aging
3. The protein that controls metabolic activities of the cell is
 - a) Neurotransmitter
 - b) Ligand
 - c) Hormone
 - d) Receptor
4. The first heart sound is produced by the
 - a) Closure of the aortic and pulmonary valves
 - b) Opening of the aortic and pulmonary valves
 - c) Closure of the mitral and tricuspid valves
 - d) Opening of the mitral and tricuspid valves
5. Steroid hormones are secreted by which gland?
 - a) Parathyroid
 - b) Pancreas
 - c) Adrenal cortex
 - d) Thyroid
6. The production of which hormone is reduced to retain water when the body is dehydrated?
 - a) Insulin
 - b) Antidiuretic hormone
 - c) Oxytocin
 - d) Thyroxin

7. Homeostasis
 - a) must always be restored using negative feedback mechanisms
 - b) provides for the tight regulation of all physiological variables
 - c) is the sum of all chemical reactions in the body
 - d) is a combination of positive and negative feedback mechanisms
8. Osmosis is
 - a) the active movement of water across a permeable membrane from a region of high solute concentration to that of a lower solute concentration
 - b) the passive movement of water across a semi-permeable membrane from a region of high solute concentration to that of a lower solute concentration
 - c) the active movement of water across a permeable membrane from a region of low solute concentration to that of a higher solute concentration
 - d) the passive movement of water across a semi-permeable membrane from a region of low solute concentration to that of a higher solute concentration
9. Which of the following is an endocrine and exocrine gland?
 - a) Pancreas
 - b) Pituitary
 - c) Parathyroid
 - d) Pineal
10. People with high blood pressure should avoid foods that are high in:
 - a) Salt
 - b) Fiber
 - c) Potassium
 - d) All of the above
11. A major function of lymphatic system is
 - a) Return of tissue fluid to the cardiovascular system
 - b) Circulation of blood
 - c) Gas distribution
 - d) Distribution of oxygen
12. The hormones most commonly associated with acute stress response are called
 - a) Steroids
 - b) Paracrine
 - c) Catecholamines
 - d) Autocrine
13. The velocity of flow in blood vessels is determined by:
 - a) Caliber of blood vessel
 - b) Viscosity of blood
 - c) Pressure difference between two ends of blood vessels
 - d) All of the above
14. Erythrocyte production
 - a) Occurs in the liver and spleen in neonates
 - b) Is impaired at high altitude
 - c) Is stimulated by hyperoxia
 - d) Is stimulated by erythropoietin released from the liver and spleen

15. The net movement of molecules remains in equilibrium when a cell is placed in:
- a) Hypotonic solution
 - b) Hypertonic solution
 - c) Isotonic solution
 - d) None of these
16. Normally cardiac cycle takes complete
- a) 0.1 second
 - b) 0.08 second
 - c) 0.01 second
 - d) 0.8 second
17. Adaptive immunity is
- a) acquired and results in immunological memory
 - b) specific and mediated by natural killer cells
 - c) mediated by cytokines
 - d) non-specific
18. The pacemaker of heart is:
- a) SA node
 - b) AV node
 - c) Bundle of His
 - d) Purkinje Fibers
19. Growth hormone secretion would most likely to be suppressed under which of the following conditions?
- a) Acromegaly
 - b) Gigantism
 - c) Acute hyperglycemia
 - d) Exercise
20. Name the major storage form of carbohydrates in animals
- a) Starch
 - b) Chitin
 - c) Glycogen
 - d) Cellulose

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FIRST INTERNAL EXAMINATION

Subject- PHYSIOLOGY

Time: 2 hour 35 min

SECTION-B

SHORT ANSWER QUESTIONS (any 5)

5×3=15 Marks

1. Define homeostasis, describe various feedback mechanisms with examples.
2. Primary active transport.
3. Define immunity. Discuss cell mediated immunity.
4. Rh incompatibility.
5. Cushing's syndrome.
6. Exocrine functions of pancreas.

SHORT ANSWER QUESTIONS (any 3)

3×5=15 Marks

1. ECG as seen in lead II. Write in short about various types of heart block.
2. Antidiuretic hormone.
3. Left ventricular pressure and volume changes during cardiac cycle.
4. Ionic basis of action potential.

SECTION-C

LONG ANSWER QUESTIONS

2×15=30 Marks

1. Discuss in detail about the various properties of skeletal and cardiac muscles. Add a note on sarcoplasmic triad.
2. Define cardiac output, stroke volume, cardiac index and ejection fraction with their normal volumes. (6 marks)
Discuss the determinants and factors affecting cardiac output. (6 marks)
Name 2 methods of measuring cardiac output. (3 marks)

OR

3. Define blood pressure. (3 marks)
Describe the determinants of blood pressure. (5 marks)
Describe the long term regulation of blood pressure. (7 marks)