

# **Human Physiology – Phase 1A: 2 Marks Questions (Q1–Q30 Solved)**

## **Q1. Define blood pressure and write its normal value. (Feb 2017)**

Ans 1. Blood pressure is the lateral pressure exerted by circulating blood on the walls of arteries. The normal arterial blood pressure in an adult is about 120/80 mmHg.

## **Q2. Define Motor Unit. (Feb 2017)**

Ans 2. A motor unit consists of a single motor neuron and all the muscle fibers supplied by that neuron.

## **Q3. Define GFR. (Feb 2017)**

Ans 3. Glomerular filtration rate is the volume of filtrate formed by both kidneys per minute. Normal GFR is approximately 125 ml/min.

## **Q4. Surfactant. (Feb 2017)**

Ans 4. Surfactant is a phospholipid substance secreted by type II alveolar cells that reduces surface tension and prevents alveolar collapse.

## **Q5. Content of gastric juice. (Feb 2017)**

Ans 5. Gastric juice contains hydrochloric acid, pepsinogen, mucus, intrinsic factor, and water.

## **Q6. Name the two excitable tissues. (Feb 2017)**

Ans 6. The two excitable tissues are nerve tissue and muscle tissue.

## **Q7. Enumerate properties of skeletal muscle. (Feb 2017)**

Ans 7. Properties of skeletal muscle include excitability, conductivity, contractility, extensibility, and elasticity.

## **Q8. ADH. (Feb 2017)**

Ans 8. Antidiuretic hormone is secreted by posterior pituitary and regulates water reabsorption in kidneys.

## **Q9. Enumerate hormones of Anterior Pituitary. (Feb 2017)**

Ans 9. Anterior pituitary hormones include GH, TSH, ACTH, FSH, LH, and prolactin.

## **Q10. Define Renal clearance. (Feb 2017)**

Ans 10. Renal clearance is the volume of plasma completely cleared of a substance by kidneys per minute.

## **Q11. Define sarcomere. Write normal length of sarcomere. (Jan 2018)**

Ans 11. Sarcomere is the structural and functional unit of myofibril. Normal length is about 2–2.2 micrometers.

## **Q12. Define homeostasis. Give two examples. (Jan 2018)**

Ans 12. Homeostasis is maintenance of constant internal environment. Examples include regulation of body temperature and blood glucose level.

## **Q13. Name different organelles of a cell. (Jan 2018)**

Ans 13. Cell organelles include nucleus, mitochondria, endoplasmic reticulum, Golgi apparatus, lysosomes, and ribosomes.

## **Q14. Write composition of blood. (Jan 2018)**

Ans 14. Blood consists of plasma and formed elements including RBCs, WBCs, and platelets.

## **Q15. Define synapse. Write types of synapses. (Jan 2018)**

Ans 15. Synapse is a junction between two neurons. Types are chemical synapse and electrical synapse.

**Q16. Define receptors. Give examples. (Jan 2018)**

Ans 16. Receptors are specialized sensory structures that receive stimuli. Examples are pain receptors and touch receptors.

**Q17. Write functions of liver. (Jan 2018)**

Ans 17. Liver functions include metabolism, bile secretion, detoxification, and storage of glycogen.

**Q18. Define cardiac output. Write its normal value. (Jan 2018)**

Ans 18. Cardiac output is the volume of blood pumped by heart per minute. Normal value is about 5 L/min.

**Q19. What is Tidal Volume? Write its normal range. (Jan 2018)**

Ans 19. Tidal volume is the amount of air inspired or expired during normal breathing. Normal value is about 500 ml.

**Q20. Hormones of Adrenal Gland. (Jan 2018)**

Ans 20. Adrenal gland secretes cortisol, aldosterone, adrenaline, and noradrenaline.

**Q21. Define active transport. Give examples. (Apr 2018)**

Ans 21. Active transport is movement of substances against concentration gradient using energy. Example: Sodium-potassium pump.

**Q22. Functions of blood. (Apr 2018)**

Ans 22. Blood transports gases, nutrients, hormones, and helps in regulation and protection.

**Q23. Enumerate blood clotting factors. (Apr 2018)**

Ans 23. Clotting factors include fibrinogen, prothrombin, thromboplastin, and calcium.

**Q24. Myopia & Hypermetropia. (Apr 2018)**

Ans 24. Myopia is near-sightedness while hypermetropia is far-sightedness.

**Q25. Enzymes present in pancreatic juice. (Apr 2018)**

Ans 25. Pancreatic juice contains trypsin, amylase, lipase, and nucleases.

**Q26. Define EDEMA. (Apr 2018)**

Ans 26. Edema is abnormal accumulation of fluid in interstitial spaces.

**Q27. Define Apnoea and Hypoxia. (Apr 2018)**

Ans 27. Apnoea is cessation of breathing while hypoxia is reduced oxygen supply to tissues.

**Q28. Oxygen debt. (Apr 2018)**

Ans 28. Oxygen debt is extra oxygen required after exercise to restore normal metabolic state.

**Q29. Surfactant. (Apr 2018)**

Ans 29. Surfactant reduces surface tension in alveoli and prevents lung collapse.

**Q30. Define Contraception. Give examples. (Apr 2018)**

Ans 30. Contraception refers to prevention of pregnancy. Examples include condoms and oral pills.