

Zoology MCQ Practice

+2 1st Year (Class XI)

55 questions · 8 chapters · answers with explanations

How to use: attempt each chapter's questions without looking, then check the Answer Key at the end. Read the one-line explanation for every question you got wrong, and revise that topic in your notes.

Animal Kingdom

1. Sponges belong to the phylum
(a) Coelenterata (b) Porifera
(c) Annelida (d) Mollusca
2. Cnidoblasts (stinging cells) are found in
(a) sponges (b) coelenterates
(c) flatworms (d) roundworms
3. Flame cells are excretory structures of
(a) Annelida (b) Platyhelminthes
(c) Arthropoda (d) Mollusca
4. The largest phylum of the animal kingdom is
(a) Mollusca (b) Arthropoda
(c) Chordata (d) Annelida
5. Water vascular system is characteristic of
(a) Echinodermata (b) Mollusca
(c) Coelenterata (d) Porifera
6. Which animal has a pseudocoelom?
(a) earthworm (b) Ascaris
(c) frog (d) starfish
7. Which is NOT a feature of all chordates at some stage?
(a) notochord (b) dorsal hollow nerve cord
(c) pharyngeal gill slits (d) vertebral column
8. A cold-blooded vertebrate is
(a) pigeon (b) frog
(c) whale (d) bat
9. The egg-laying mammal is
(a) kangaroo (b) platypus
(c) bat (d) whale

Structural Organisation in Animals

10. The lining of blood vessels and air sacs is made of
(a) columnar epithelium (b) squamous epithelium
(c) cuboidal epithelium (d) compound epithelium
11. Tendons join
(a) bone to bone (b) muscle to bone
(c) muscle to muscle (d) skin to muscle
12. Intercalated discs are found in
(a) skeletal muscle (b) cardiac muscle
(c) smooth muscle (d) bone
13. The fluid connective tissue is
(a) cartilage (b) blood
(c) bone (d) areolar tissue
14. Which muscles are involuntary and unstriated?
(a) skeletal (b) smooth
(c) cardiac (d) all
15. Frogs can breathe through their
(a) skin and lungs (b) gills only (as adults)
(c) skin only (d) trachea

Breathing and Exchange of Gases

16. The normal tidal volume of a healthy adult is about
(a) 500 mL (b) 1200 mL
(c) 2500 mL (d) 5000 mL
17. Vital capacity equals
(a) TV + IRV (b) TV + ERV
(c) ERV + TV + IRV (d) TV + RV
18. During inspiration, the diaphragm
(a) relaxes and becomes dome-shaped (b) contracts and flattens
(c) does not move (d) moves up
19. Most CO_2 is carried in blood as
(a) carbaminohaemoglobin (b) bicarbonate ions
(c) dissolved gas (d) carbonic acid only
20. The enzyme carbonic anhydrase is found mainly in
(a) plasma (b) RBCs
(c) WBCs (d) platelets
21. The respiratory rhythm centre is located in the
(a) cerebrum (b) medulla oblongata
(c) cerebellum (d) hypothalamus
22. Emphysema is a disorder in which
(a) bronchioles are inflamed (b) alveolar walls are damaged
(c) lungs fill with fluid (d) trachea collapses

Body Fluids and Circulation

- 23.** The most numerous WBCs are
 (a) lymphocytes (b) neutrophils
 (c) monocytes (d) basophils
- 24.** The universal blood donor group is
 (a) A (b) B
 (c) AB (d) O
- 25.** The pacemaker of the human heart is the
 (a) AV node (b) SA node
 (c) bundle of His (d) Purkinje fibres
- 26.** The bicuspid (mitral) valve is between the
 (a) right atrium and right ventricle
 (b) left atrium and left ventricle
 (c) left ventricle and aorta
 (d) right ventricle and pulmonary artery
- 27.** In an ECG, the QRS complex shows
 (a) atrial depolarisation (b) ventricular depolarisation
 (c) ventricular repolarisation (d) atrial repolarisation
- 28.** Fibrinogen is converted into fibrin by
 (a) prothrombin (b) thrombin
 (c) calcium (d) heparin
- 29.** Normal blood pressure of an adult is about
 (a) 120/80 mm Hg (b) 140/90 mm Hg
 (c) 100/60 mm Hg (d) 160/100 mm Hg

Excretory Products and their Elimination

- 30.** Humans are
 (a) ammonotelic (b) ureotelic
 (c) uricotelic (d) aminotelic
- 31.** Birds and reptiles are
 (a) ammonotelic (b) ureotelic
 (c) uricotelic (d) none
- 32.** The functional unit of the kidney is the
 (a) neuron (b) nephron
 (c) alveolus (d) villus
- 33.** The normal GFR in a healthy adult is about
 (a) 125 mL/min (b) 500 mL/min
 (c) 1 L/min (d) 25 mL/min
- 34.** ADH increases water reabsorption in the
 (a) Bowman's capsule (b) DCT and collecting duct
 (c) PCT only (d) urinary bladder
- 35.** Renin is secreted by the
 (a) glomerulus (b) juxtaglomerular apparatus (JGA)
 (c) loop of Henle (d) adrenal cortex

36. Haemodialysis is used in the treatment of
- | | |
|--------------|------------------------------|
| (a) anaemia | (b) uraemia (kidney failure) |
| (c) diabetes | (d) asthma |

Locomotion and Movement

37. The functional unit of a myofibril is the
- | | |
|----------------|---------------|
| (a) sarcolemma | (b) sarcomere |
| (c) myosin | (d) Z-line |
38. Which ion is needed to start muscle contraction?
- | | |
|-------------------|----------------------|
| (a) Na^+ | (b) Ca^{2+} |
| (c) K^+ | (d) Cl^- |
39. During muscle contraction, which band stays the same length?
- | | |
|------------|-----------------|
| (a) I-band | (b) A-band |
| (c) H-zone | (d) all shorten |
40. The total number of bones in the adult human body is
- | | |
|---------|---------|
| (a) 206 | (b) 212 |
| (c) 300 | (d) 180 |
41. The joint between the atlas and axis vertebrae is a
- | | |
|---------------------------|-------------------|
| (a) hinge joint | (b) pivot joint |
| (c) ball and socket joint | (d) gliding joint |
42. Myasthenia gravis affects the
- | | |
|------------|----------------------------|
| (a) joints | (b) neuromuscular junction |
| (c) bones | (d) ligaments |

Neural Control and Coordination

43. The resting membrane potential of a neuron is about
- | | |
|------------|------------|
| (a) +70 mV | (b) -70 mV |
| (c) 0 mV | (d) -7 mV |
44. During an action potential, the membrane becomes permeable first to
- | | |
|-------------------|----------------------|
| (a) K^+ | (b) Na^+ |
| (c) Cl^- | (d) Ca^{2+} |
45. Balance and coordination of movements are controlled by the
- | | |
|--------------|----------------|
| (a) cerebrum | (b) cerebellum |
| (c) medulla | (d) thalamus |
46. The smallest bone in the human body is the
- | | |
|-------------|-----------|
| (a) malleus | (b) incus |
| (c) stapes | (d) femur |
47. Colour vision is due to
- | | |
|----------------|-----------|
| (a) rods | (b) cones |
| (c) blind spot | (d) iris |
48. The organ of Corti is concerned with
- | | |
|-------------|-------------|
| (a) balance | (b) hearing |
| (c) vision | (d) smell |

Chemical Coordination and Integration

49. The master gland of the body is the

- (a) thyroid
- (b) pituitary
- (c) adrenal
- (d) pineal

50. Insulin is secreted by

- (a) α -cells of islets
- (b) β -cells of islets
- (c) adrenal medulla
- (d) thyroid

51. Goitre is caused by lack of

- (a) calcium
- (b) iodine
- (c) iron
- (d) vitamin D

52. The "fight or flight" hormone is

- (a) insulin
- (b) adrenaline
- (c) thyroxine
- (d) melatonin

53. Too much growth hormone in adults causes

- (a) gigantism
- (b) acromegaly
- (c) dwarfism
- (d) cretinism

54. Melatonin is secreted by the

- (a) pituitary
- (b) pineal gland
- (c) thymus
- (d) pancreas

55. Parathormone

- (a) lowers blood calcium
- (b) raises blood calcium
- (c) lowers blood sugar
- (d) raises blood sugar

Answer Key with Explanations

Animal Kingdom

1. (b) Porifera — They have pores (ostia) and a canal system.
2. (b) coelenterates — Example: Hydra, jellyfish.
3. (b) Platyhelminthes — Example: tapeworm, liver fluke.
4. (b) Arthropoda — About two-thirds of named animal species.
5. (a) Echinodermata — Tube feet help in movement and feeding.
6. (b) Ascaris — Roundworms (Aschelminthes) are pseudocoelomates.
7. (d) vertebral column — Only vertebrates have a vertebral column.
8. (b) frog — Fish, amphibians and reptiles are poikilothermous.
9. (b) platypus — Ornithorhynchus lays eggs.

Structural Organisation in Animals

10. (b) squamous epithelium — A thin single layer of flat cells.
11. (b) muscle to bone — Ligaments join bone to bone.
12. (b) cardiac muscle — They help heart cells contract together.
13. (b) blood — Plasma with blood cells.
14. (b) smooth — Found in walls of the intestine and blood vessels.
15. (a) skin and lungs — Cutaneous respiration in water and on land.

Breathing and Exchange of Gases

16. (a) 500 mL — Air breathed in or out in a normal breath.
17. (c) ERV + TV + IRV — Maximum air breathed out after a forced inspiration.
18. (b) contracts and flattens — Chest volume increases.
19. (b) bicarbonate ions — About 70% as bicarbonate.
20. (b) RBCs — It speeds up $\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{H}_2\text{CO}_3$.
21. (b) medulla oblongata — The pons has the pneumotaxic centre.
22. (b) alveolar walls are damaged — Often caused by smoking.

Body Fluids and Circulation

23. (b) neutrophils — About 60–65% of WBCs.
24. (d) O — O has no A or B antigens on RBCs.
25. (b) SA node — It starts each heartbeat.
26. (b) left atrium and left ventricle — The tricuspid is on the right side.
27. (b) ventricular depolarisation — P = atrial depolarisation; T = ventricular repolarisation.
28. (b) thrombin — Fibrin threads form the clot.
29. (a) 120/80 mm Hg — Repeated readings of 140/90 or above mean hypertension.

Excretory Products and their Elimination

30. (b) ureotelic — They mainly excrete urea.
31. (c) uricotelic — Uric acid saves water.
32. (b) nephron — About a million per kidney.
33. (a) 125 mL/min — About 180 litres per day.
34. (b) DCT and collecting duct — It makes urine concentrated.
35. (b) juxtaglomerular apparatus (JGA) — It starts the renin–angiotensin system.
36. (b) uraemia (kidney failure) — An artificial kidney removes urea from blood.

Locomotion and Movement

37. (b) sarcomere — The part between two Z-lines.
38. (b) Ca^{2+} — It binds troponin and exposes sites on actin.
39. (b) A-band — Actin slides over myosin.
40. (a) 206 — 80 axial + 126 appendicular.
41. (b) pivot joint — It lets the head turn sideways.
42. (b) neuromuscular junction — An autoimmune disorder causing muscle weakness.

Neural Control and Coordination

- 43. (b) -70 mV — The inside is negative.
- 44. (b) Na^+ — Na^+ rushes in, causing depolarisation.
- 45. (b) cerebellum — The "little brain".
- 46. (c) stapes — It is in the middle ear.
- 47. (b) cones — Rods work in dim light.
- 48. (b) hearing — It is in the cochlea.

Chemical Coordination and Integration

- 49. (b) pituitary — It controls many other endocrine glands.
- 50. (b) β -cells of islets — It lowers blood glucose.
- 51. (b) iodine — Iodine is needed to make thyroxine.
- 52. (b) adrenaline — From the adrenal medulla.
- 53. (b) acromegaly — Gigantism results if it happens in childhood.
- 54. (b) pineal gland — It regulates the day–night (sleep) rhythm.
- 55. (b) raises blood calcium — Calcitonin from the thyroid lowers blood calcium.