Class 11 Biology Sample Question Paper – Set 2

Time: 3 Hours Maximum Marks: 70

General Instructions:

1. All questions are compulsory, except internal choices.
2. The paper contains five sections: A, B, C, D and E.
3. Draw labelled diagrams wherever required.
4. Marks are indicated against each question.

Section A – Multiple Choice Questions 16 × 1 = 16 Marks

Q1. The scientific name of mango is written as:

(a) mangifera Indica (b) Mangifera indica (c) Mangifera Indica (d) mangifera indica

Q2. Which organism belongs to Kingdom Fungi?

(a) Chlamydomonas (b) Rhizopus (c) Nostoc (d) Euglena

Q3. Which group of plants produces seeds but does not produce fruits?

(a) Bryophytes (b) Pteridophytes (c) Gymnosperms (d) Angiosperms

Q4. Animals belonging to phylum Porifera possess:

(a) Jointed legs (b) Canal system (c) Notochord (d) Radula

Q5. The arrangement of leaves on a stem is called:

(a) Aestivation (b) Phyllotaxy (c) Venation (d) Placentation

Q6. Which tissue provides flexibility to young plant parts?

(a) Sclerenchyma (b) Collenchyma (c) Xylem (d) Cork

Q7. The epithelial tissue lining the alveoli is:

(a) Cuboidal (b) Columnar (c) Simple squamous (d) Stratified

Q8. Which cell organelle is responsible for intracellular digestion?

(a) Ribosome (b) Lysosome (c) Nucleus (d) Chloroplast

Q9. The linkage between two monosaccharides is:

(a) Peptide bond (b) Glycosidic bond (c) Ester bond (d) Phosphodiester bond

Q10. Crossing over occurs during which stage of meiosis?

(a) Leptotene (b) Zygotene (c) Pachytene (d) Diplotene

Q11. The oxygen released during photosynthesis comes from:

(a) Carbon dioxide (b) Glucose (c) Water (d) Chlorophyll

Q12. The respiratory quotient (RQ) for carbohydrates is generally:

(a) 0.7 (b) 1.0 (c) 1.5 (d) 0.5

Q13. Which hormone promotes fruit ripening?

(a) Auxin (b) Gibberellin (c) Ethylene (d) Cytokinin

Q14. The volume of air inspired or expired during normal breathing is called:

(a) Residual volume (b) Tidal volume (c) Vital capacity (d) Inspiratory reserve volume

Q15. Which blood group is considered the universal recipient for RBC transfusion in the ABO system?

(a) A (b) B (c) AB (d) O

Q16. Which part of the brain controls body temperature?

(a) Cerebellum (b) Hypothalamus (c) Medulla (d) Pons

Section B – Very Short Answer Questions 5 × 2 = 10 Marks

Q17. What is binomial nomenclature? Write any two rules of scientific naming.

Q18. Differentiate between algae and bryophytes on any two points.

Q19. What are plasmodesmata? State their function.

Q20. Define respiratory quotient (RQ). Write its value for fats.

Q21. What are endocrine glands? Give two examples.

Section C – Short Answer Questions 7 × 3 = 21 Marks

Q22. Explain the characteristic features of phylum Arthropoda with three examples.

Q23. Describe the structure of a typical dicotyledonous seed with a labelled diagram.

Q24. Differentiate between rough endoplasmic reticulum and smooth endoplasmic reticulum. Write their functions.

Q25. Explain the significance of meiosis in sexually reproducing organisms.

Q26. Describe the C4 pathway of photosynthesis and mention its importance.

Q27. Explain the role of the loop of Henle in urine concentration.

Q28. Describe the mechanism of hormone action through intracellular receptors.

Section D – Case-Based Questions 2 × 4 = 8 Marks

Q29. Read the passage and answer the questions.

During respiration, glucose is broken down to release energy. Glycolysis occurs in the cytoplasm and converts glucose into pyruvic acid. In the presence of oxygen, pyruvate enters mitochondria for further oxidation. In the absence of oxygen, fermentation may occur.

(a) Where does glycolysis take place? (1)

(b) What is the end product of glycolysis? (1)

(c) Name the organelle where aerobic respiration mainly occurs. (1)

(d) How many ATP molecules are directly produced during glycolysis per glucose molecule? (1)

Q30. Read the passage and answer the questions.

The nervous system controls and coordinates body activities. The neuron is its structural and functional unit. A neuron consists of a cell body, dendrites and an axon. Nerve impulses travel along the neuron and are transmitted to another neuron through a synapse.

(a) What is the structural and functional unit of the nervous system? (1)

(b) Which part of a neuron receives impulses? (1)

(c) What is the long extension of a neuron called? (1)

(d) Name the chemical substances that transmit impulses across chemical synapses. (1)

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Section E – Long Answer Questions 3 × 5 = 15 Marks

Q31. Explain the general characteristics of phylum Chordata. Differentiate between chordates and non-chordates.

OR

Describe the classification of Kingdom Animalia up to major phyla, mentioning one characteristic of each.

Q32. Explain the process of protein synthesis in a cell. Describe transcription and translation.

OR

Describe the structure of chloroplast with a neat labelled diagram. Explain the role of its major components in photosynthesis.

Q33. Explain the mechanism of breathing in humans with the role of the diaphragm and intercostal muscles.

OR

Describe the structure and functions of the human heart. Explain the pathway of blood circulation through its four chambers.