

Biological Classification — CBSE Pattern Test 1

Class 11 Biology · 90 minutes · 40 marks · Sections A–D with answer key · Narayan Gurukul Academy

Test 1 — CBSE Pattern (90 minutes, 40 marks)

Class 11 Biology · Biological Classification · Narayan Gurukul Academy (ClassApna)

General Instructions: (1) This paper has four sections — Section A (1×10), Section B (2×4), Section C (3×4) and Section D (5×2) — total 40 marks. Time allowed: 90 minutes.

(2) All questions are compulsory. No overall choice is given; internal choice, where allowed, is clearly marked.

(3) For MCQ questions choose the single correct option; for VSA answers write a single line.

(4) Take $g = 10 \text{ m/s}^2$. All symbols carry their usual meaning. Use of a calculator is not permitted.

Section A — MCQ & VSA ($10 \times 1 = 10$ marks)

- The five-kingdom system was proposed by
 - R. H. Whittaker
 - Linnaeus
 - Aristotle
 - Copeland
- Kingdom Monera includes
 - prokaryotes
 - eukaryotes
 - only fungi
 - only algae
- Bacteria are classified by shape as
 - cocci, bacilli and spirilla
 - only cocci
 - only bacilli
 - only spirilla
- The cell wall of fungi is made of
 - chitin
 - cellulose
 - peptidoglycan
 - lignin
- Lichens are a symbiotic association between
 - algae and fungi
 - two fungi
 - two algae
 - bacteria and fungi
- Plants have a cell wall made of
 - cellulose
 - chitin
 - peptidoglycan
 - lignin
- Viruses are
 - obligate intracellular parasites

- (B) free-living
 - (C) autotrophic
 - (D) prokaryotic
8. Viroids contain
- (A) free RNA without a protein coat
 - (B) DNA with a capsid
 - (C) only proteins
 - (D) both DNA and RNA
9. Who proposed the two-kingdom system of classification?
10. Name the three shapes of bacteria.

Section B — Short Answer I ($4 \times 2 = 8$ marks)

11. Which organisms are placed in Kingdom Monera?
12. What are hyphae?
13. What is mycorrhiza?
14. What is a prion?

Section C — Short Answer II ($4 \times 3 = 12$ marks)

15. State two drawbacks of the two-kingdom system.
16. Distinguish between archaebacteria and eubacteria.
17. Write two characteristic features of dinoflagellates.
18. State the role of each partner in a lichen.

Section D — Long Answers ($2 \times 5 = 10$ marks)

19. (a) Explain the five-kingdom classification and the criteria used. (b) Describe the major groups of Kingdom Protista with examples.
20. (a) Describe the classes of Kingdom Fungi with examples. (b) Distinguish between viruses, viroids and prions with examples.

Answer Key (Marking Scheme)

- Q1 — (A) R. H. Whittaker. Q2 — (A) prokaryotes. Q3 — (A) cocci, bacilli and spirilla. Q4 — (A) chitin. Q5 — (A) algae and fungi. Q6 — (A) cellulose. Q7 — (A) obligate intracellular parasites. Q8 — (A) free RNA without a protein coat. Q9 — Carolus Linnaeus.
- Q10 — Coccus, bacillus and spirillum (vibrio).
- Q11 — Prokaryotic organisms such as bacteria and cyanobacteria.
- Q12 — Hyphae are the long, thread-like filaments that make up the fungal body (mycelium).
- Q13 — Mycorrhiza is a symbiotic association between a fungus and the roots of a higher plant.
- Q14 — A prion is a misfolded infectious protein (e.g. the agent of BSE/CJD).
- Q15 — Prokaryotes grouped with eukaryotes; fungi placed with autotrophic plants though they are heterotrophic.
- Q16 — Archaebacteria live in extreme habitats and have a different cell-wall structure; eubacteria are true bacteria with peptidoglycan walls.

Q17 — Mostly marine and photosynthetic; cells have a stiff cellulose plate (some cause red tides).

Q18 — Alga prepares food; fungus provides shelter and absorbs water and minerals.

Q19 — (a) Criteria: cell structure, thallus organisation, mode of nutrition, reproduction, phylogenetic relationships → Monera, Protista, Fungi, Plantae, Animalia. (b) Photosynthetic protists (diatoms, dinoflagellates, euglenoids), slime moulds and protozoans.

Q20 — (a) Phycomycetes (Mucor), Ascomycetes (Penicillium), Basidiomycetes (Agaricus), Deuteromycetes (Alternaria). (b) Virus = nucleic acid + protein coat; viroid = free RNA; prion = infectious protein.