

Biological Classification — CBSE Pattern Test 2

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

Test 2 — 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 two-kingdom system of classification was given by
 - Linnaeus
 - Whittaker
 - Aristotle
 - Haeckel
- Archaeobacteria live in
 - extreme habitats
 - normal soil
 - fresh water only
 - the human gut only
- Dinoflagellates are mostly
 - marine and photosynthetic
 - terrestrial
 - fresh-water only
 - parasitic only
- Fungi reproduce by
 - spores
 - binary fission
 - fragmentation only
 - budding only
- In lichens, the algal partner
 - prepares food
 - absorbs water only
 - fixes nitrogen
 - provides shelter only
- Most animals are
 - holozoic
 - autotrophic
 - chemosynthetic
 - photosynthetic
- The virus that infects a bacterium is a
 - bacteriophage

- (B) viroid
 - (C) prion
 - (D) fungus
8. Prions are
- (A) misfolded infectious proteins
 - (B) free DNA
 - (C) free RNA
 - (D) bacteriophages
9. Name the five kingdoms of Whittaker.
10. What is a pellicle?

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

11. What are archaebacteria?
12. Name the three groups of protists.
13. Name the four classes of fungi.
14. What is a viroid?

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

15. How do fungi obtain nutrition?
16. Give two economic uses of lichens.
17. Name two viral diseases of plants and two of humans.
18. Describe the classification of Kingdom Plantae.

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

19. (a) Describe the classification of bacteria based on shape and mode of nutrition. (b) Compare the main features of Kingdom Plantae and Kingdom Animalia.
20. (a) Describe the structure of a virus with a labelled example. (b) Explain the types of mycorrhiza and their role.

Answer Key (Marking Scheme)

- Q1 — (A) Linnaeus. Q2 — (A) extreme habitats. Q3 — (A) marine and photosynthetic. Q4 — (A) spores. Q5 — (A) prepares food. Q6 — (A) holozoic. Q7 — (A) bacteriophage. Q8 — (A) misfolded infectious proteins.
- Q9 — Monera, Protista, Fungi, Plantae and Animalia.
- Q10 — A pellicle is a protein-rich flexible layer covering the cell of euglenoids.
- Q11 — Ancient bacteria that live in extreme habitats (halophiles, thermoacidophiles, methanogens).
- Q12 — Photosynthetic protists, slime moulds and protozoans.
- Q13 — Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes.
- Q14 — A viroid is an infectious agent made of free RNA without a protein coat (e.g. potato spindle tuber viroid).
- Q15 — Fungi are heterotrophic — saprophytic, parasitic or symbiotic — and absorb nutrients from the substrate.
- Q16 — Used as food (some species) and in making antibiotics (e.g. from lichen extracts); also natural dye/litmus.
- Q17 — Plants: tobacco mosaic, leaf curl; humans: AIDS, influenza (or polio, mumps).
- Q18 — Algae, bryophytes, pteridophytes, gymnosperms and angiosperms.

Q19 — (a) By shape: coccus, bacillus, spirillum, vibrio; by nutrition: photoautotrophic, chemoautotrophic, heterotrophic. (b) Plantae: cellulose wall, autotrophic, reserve starch; Animalia: no cell wall, holozoic, reserve glycogen, motile.

Q20 — (a) A virus has a nucleic acid core (DNA or RNA) surrounded by a protein coat (capsid); e.g. TMV (RNA) and bacteriophage (DNA). (b) Ectomycorrhiza (fungus on the root surface) and endomycorrhiza (fungus inside root cells, e.g. VAM) — both help absorb water and minerals.