

Question	Answer
What are taxonomic categories or taxa?	Categories/ranks in classification.
What do all taxonomic categories together constitute?	A taxonomic hierarchy.
Which scientific name of mango is correctly written?	*Mangifera indica*.
Who first attempted a scientific basis for classification?	Aristotle attempted a scientific basis for classification.
On what basis did Aristotle classify plants?	He classified plants into trees, shrubs and herbs using simple morphological characters.
How did Aristotle divide animals?	Into animals with red blood and animals without red blood.
Why was the Two Kingdom classification considered inadequate?	Many organisms did not fit into either plants or animals.
Name some characteristics later included in classification systems besides gross morphology.	Cell structure, nature of wall, mode of nutrition, habitat, methods of reproduction and evolutionary relationships.
Who proposed the Five Kingdom Classification?	R.H. Whittaker (1969).
Name the five kingdoms proposed by Whittaker.	Monera, Protista, Fungi, Plantae and Animalia.
What were the main criteria used by Whittaker for classification?	Cell structure, body organisation, mode of nutrition, reproduction and phylogenetic relationships.
What does the three-domain system do to Kingdom Monera?	It divides Kingdom Monera into two domains.
Which organisms were earlier included under the plant kingdom in older classification systems?	Bacteria, blue-green algae, fungi, mosses, ferns, gymnosperms and angiosperms.
What common character unified organisms under the old plant kingdom?	Presence of a cell wall.
Why were fungi separated into a separate kingdom?	Fungi are heterotrophic and have chitinous cell walls, unlike autotrophic green plants with cellulosic walls.
Which kingdom includes all prokaryotic organisms?	Kingdom Monera.
Which kingdom includes unicellular eukaryotic organisms?	Kingdom Protista.
Which organisms were grouped together in Kingdom Protista?	Chlamydomonas, Chlorella, Paramecium and Amoeba.
What is meant by a phylogenetic classification system?	A system based on evolutionary relationships.
Give the cell type of Monera.	Prokaryotic.

Question	Answer
Give the cell type of Protista, Fungi, Plantae and Animalia.	Eukaryotic.
What type of cell wall is present in Monera?	Non-cellulosic cell wall made of polysaccharide and amino acid.
Which kingdom has chitin in the cell wall?	Fungi.
Which kingdom has cellulose in the cell wall?	Plantae.
Which kingdom lacks a cell wall?	Animalia.
What is the mode of nutrition in Plantae?	Autotrophic (photosynthetic).
What is the mode of nutrition in Animalia?	Heterotrophic (holozoic/saprophytic etc.).
Which organisms are the sole members of Kingdom Monera?	Bacteria are the sole members of Kingdom Monera.
How are bacteria described in terms of abundance?	Bacteria are the most abundant micro-organisms.
Where do bacteria occur?	Bacteria occur almost everywhere.
Mention some extreme habitats where bacteria can survive.	Hot springs, deserts, snow and deep oceans.
In what way do many bacteria live with other organisms?	Many bacteria live in or on other organisms as parasites.
On what basis are bacteria grouped into four categories?	On the basis of shape.
What is the spherical form of bacteria called?	Coccus (plural: cocci).
What is the rod-shaped form of bacteria called?	Bacillus (plural: bacilli).
What is the comma-shaped form of bacteria called?	Vibrium (plural: vibrio).
What is the spiral-shaped form of bacteria called?	Spirillum (plural: spirilla).
How is bacterial structure described?	The bacterial structure is very simple.
How is bacterial behaviour described?	Bacteria are very complex in behaviour.
Which group of organisms shows the most extensive metabolic diversity?	Bacteria as a group show the most extensive metabolic diversity.
What are autotrophic bacteria?	Bacteria that synthesise their own food from inorganic substrates.
Name the two types of autotrophic bacteria.	Photosynthetic autotrophic and chemosynthetic autotrophic bacteria.
What are heterotrophic bacteria?	Bacteria that depend on other organisms or dead organic matter for food.

Question	Answer
What are archaebacteria?	Special bacteria that live in harsh habitats.
Name the three types of archaebacteria based on habitat.	Halophiles, thermoacidophiles and methanogens.
Where are halophiles found?	In extreme salty areas.
Where are thermoacidophiles found?	In hot springs.
Where are methanogens found?	In marshy areas.
What feature helps archaebacteria survive extreme conditions?	Their different cell wall structure.
In which animals are methanogens present in the gut?	Ruminant animals such as cows and buffaloes.
What is the role of methanogens in ruminants?	They produce methane (biogas) from dung.
What are eubacteria commonly called?	True bacteria.
What are the characteristic features of eubacteria?	Presence of a rigid cell wall and flagellum if motile.
What are cyanobacteria also called?	Blue-green algae.
Which pigment is present in cyanobacteria?	Chlorophyll a.
What is the mode of nutrition in cyanobacteria?	Photosynthetic autotrophic.
What forms can cyanobacteria occur in?	Unicellular, colonial or filamentous forms.
What type of habitats do cyanobacteria occupy?	Freshwater, marine and terrestrial habitats.
What surrounds cyanobacterial colonies?	A gelatinous sheath.
What are blooms formed by cyanobacteria in polluted water bodies called?	Blooms.