

Quiz: Botany set 8

Q351: Which taxonomic hierarchy arranges organisms in decreasing order of similarity?

- A) Kingdom -> Phylum -> Class -> Order
- B) Order -> Class -> Phylum -> Kingdom
- C) Species -> Genus -> Family -> Order
- D) Family -> Genus -> Species -> Order

Q352: Which algal group stores reserve food as floridean starch?

- A) Chlorophyceae
- B) Phaeophyceae
- C) Rhodophyceae
- D) Cyanophyceae

Q353: Water is essential for fertilisation in which plant group?

- A) Gymnosperms
- B) Angiosperms
- C) Bryophytes
- D) Seed plants

Q354: Which part of flower becomes seed after fertilisation?

- A) Ovary
- B) Ovule
- C) Nucellus
- D) Integument

Q355: In dicot root, xylem and phloem are arranged as:

- A) Conjoint
- B) Scattered
- C) Radial
- D) Collateral

Q356: Which cell wall component provides rigidity to secondary wall?

- A) Cellulose
- B) Pectin
- C) Lignin
- D) Hemicellulose

Q357: Which organelle is known as powerhouse of the cell?

- A) Chloroplast
- B) Mitochondria
- C) Golgi apparatus
- D) Lysosome

Q358: Which biomolecule shows maximum structural diversity?

- A) Carbohydrates
- B) Lipids
- C) Proteins

D) Nucleic acids

Q359: Which stage of cell cycle prepares cell for DNA replication?

- A) G1 phase
- B) S phase
- C) G2 phase
- D) M phase

Q360: Movement of substances across membrane using carrier proteins without energy is:

- A) Active transport
- B) Simple diffusion
- C) Facilitated diffusion
- D) Osmosis

Q361: Which macronutrient is part of nucleic acids?

- A) Nitrogen
- B) Phosphorus
- C) Potassium
- D) Calcium

Q362: Which pigment is directly involved in photochemical reaction?

- A) Chlorophyll a
- B) Chlorophyll b
- C) Carotene
- D) Xanthophyll

Q363: Which compound is the first acceptor of CO₂ in C₄ plants?

- A) RuBP
- B) OAA
- C) PEP
- D) Malate

Q364: Which step of respiration occurs in cytoplasm?

- A) Krebs cycle
- B) Electron transport
- C) Glycolysis
- D) Oxidative phosphorylation

Q365: Which hormone promotes senescence and abscission?

- A) Auxin
- B) Gibberellin
- C) Ethylene
- D) Cytokinin

Q366: Which structure is diploid in embryo sac?

- A) Egg
- B) Synergids
- C) Central cell
- D) Antipodals

Q367: Which breeding method is useful for vegetatively propagated crops?

- A) Pureline selection
- B) Mass selection
- C) Clonal selection
- D) Backcrossing

Q368: Which microorganism is used in production of single cell protein?

- A) Chlorella
- B) Rhizobium
- C) Nitrosomonas
- D) Methanobacterium

Q369: Which vector is used in gene transfer in plants?

- A) pBR322
- B) Ti plasmid
- C) lambda phage
- D) Cosmid

Q370: Population density refers to:

- A) Total biomass
- B) Number of individuals per unit area
- C) Rate of increase
- D) Carrying capacity

Q371: Which trophic level has maximum biomass in terrestrial ecosystem?

- A) Producers
- B) Primary consumers
- C) Secondary consumers
- D) Top carnivores

Q372: Which biodiversity measure compares diversity between communities?

- A) Alpha diversity
- B) Beta diversity
- C) Gamma diversity
- D) Genetic diversity

Q373: Which pollutant is responsible for ozone hole formation?

- A) CO₂
- B) SO₂
- C) CFCs
- D) NO₂

Q374: Which taxonomic aid provides list of plants of a region with identification keys?

- A) Monograph
- B) Manual
- C) Flora
- D) Catalogue

Q375: Which algae shows diplontic life cycle?

- A) Ulothrix
- B) Chlamydomonas
- C) Fucus
- D) Spirogyra

Q376: Which tissue provides mechanical strength to mature plant parts?

- A) Parenchyma
- B) Collenchyma
- C) Sclerenchyma
- D) Phloem

Q377: Which plastid stores oils and fats?

- A) Amyloplast
- B) Chromoplast
- C) Elaioplast
- D) Leucoplast

Q378: Which bond joins nitrogenous bases of two DNA strands?

- A) Peptide bond
- B) Hydrogen bond
- C) Phosphodiester bond
- D) Glycosidic bond

Q379: Which stage of meiosis shows separation of homologous chromosomes?

- A) Anaphase I
- B) Anaphase II
- C) Metaphase I
- D) Telophase I

Q380: Which process is responsible for cooling effect of transpiration?

- A) Diffusion
- B) Evaporation
- C) Osmosis
- D) Root pressure

Q381: Which micronutrient is a component of nitrogenase?

- A) Iron
- B) Molybdenum
- C) Copper
- D) Zinc

Q382: Which pathway minimises photorespiration?

- A) C₃
- B) C₄
- C) CAM
- D) Glycolysis

Q383: Which respiratory substrate yields maximum energy per gram?

- A) Carbohydrates
- B) Proteins
- C) Fats
- D) Organic acids

Q384: Which hormone promotes cell elongation in stems?

- A) Auxin
- B) Cytokinin
- C) Ethylene
- D) Absciscic acid

Q385: Which structure opens into pollen tube during fertilisation?

- A) Chalaza
- B) Micropyle
- C) Hilum
- D) Funiculus

Q386: Which breeding method improves population mean without maintaining pedigree?

- A) Pureline selection
- B) Mass selection
- C) Backcrossing
- D) Mutation breeding

Q387: Which microorganism is used in production of citric acid?

- A) *Aspergillus niger*
- B) *Rhizopus*
- C) *Penicillium*
- D) *Lactobacillus*

Q388: Which enzyme cuts DNA at palindromic sequences?

- A) Ligase
- B) Polymerase
- C) Restriction endonuclease
- D) Reverse transcriptase

Q389: Dispersion pattern where individuals are evenly spaced is:

- A) Random
- B) Uniform
- C) Clumped
- D) Aggregated

Q390: Which ecological pyramid represents rate of energy flow?

- A) Pyramid of numbers
- B) Pyramid of biomass
- C) Pyramid of energy
- D) Pyramid of productivity

Q391: Which biome is characterised by evergreen tall trees and heavy rainfall?

- A) Savanna
- B) Temperate forest
- C) Tropical rainforest
- D) Taiga

Q392: Which gas is responsible for acid rain?

- A) CO₂
- B) SO₂
- C) CH₄
- D) N₂

Q393: Which system of classification uses evolutionary relationships?

- A) Artificial
- B) Natural
- C) Phylogenetic
- D) Numerical

Q394: Which algae is source of carrageenan?

- A) Gelidium
- B) Gracilaria
- C) Sargassum
- D) Ulothrix

Q395: Which tissue is present just inside epidermis in dicot stem?

- A) Endodermis
- B) Cortex
- C) Pericycle
- D) Pith

Q396: Which plastid is involved in photosynthesis?

- A) Chloroplast
- B) Chromoplast
- C) Amyloplast
- D) Leucoplast

Q397: Which nitrogenous base is present only in DNA?

- A) Adenine
- B) Guanine
- C) Cytosine
- D) Thymine

Q398: Which stage of mitosis involves formation of daughter nuclei?

- A) Prophase
- B) Metaphase
- C) Anaphase
- D) Telophase

Q399: Which force explains upward movement of sap according to cohesion-tension theory?

- A) Root pressure
- B) Transpiration pull
- C) Diffusion
- D) Capillarity

Q400: Which international convention deals with conservation of wetlands?

- A) Kyoto Protocol
- B) Montreal Protocol
- C) Ramsar Convention
- D) Stockholm Convention