

Quiz: Botany set 9

Q401: Which taxonomic aid provides step-wise identification using paired contrasting characters?

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

Q402: Which algal pigment masks chlorophyll in brown algae?

- A) Phycoerythrin
- B) Phycocyanin
- C) Fucoxanthin
- D) Carotene

Q403: Which plant group shows dominant gametophyte generation?

- A) Gymnosperms
- B) Angiosperms
- C) Pteridophytes
- D) Bryophytes

Q404: The edible part of maize grain is:

- A) Pericarp
- B) Endosperm
- C) Cotyledon
- D) Scutellum

Q405: Which tissue is responsible for protection in plants?

- A) Parenchyma
- B) Meristem
- C) Epidermal tissue system
- D) Vascular tissue

Q406: Casparian strips are made up of:

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

Q407: Which organelle contains hydrolytic enzymes?

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

Q408: Which biomolecule forms the genetic material in most organisms?

- A) Protein
- B) RNA
- C) DNA
- D) Carbohydrate

Q409: Which phase of cell cycle shows duplication of DNA?

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

Q410: Which process explains movement of water through cell membrane?

- A) Diffusion
- B) Active transport
- C) Osmosis
- D) Mass flow

Q411: Which macronutrient is required for synthesis of chlorophyll?

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

Q412: Which pigment participates directly in light reaction?

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

Q413: Which compound is the first stable product of C4 pathway?

- A) 3-PGA
- B) RuBP
- C) Oxaloacetic acid
- D) Malic acid

Q414: Which respiratory step produces maximum ATP?

- A) Glycolysis
- B) Krebs cycle
- C) Electron transport chain
- D) Fermentation

Q415: Which plant hormone promotes cell elongation in stems?

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

Q416: Which structure nourishes the developing pollen grains?

- A) Endothecium
- B) Tapetum
- C) Middle layer
- D) Epidermis

Q417: Which breeding method exploits heterosis?

- A) Inbreeding
- B) Pureline selection
- C) Hybridisation
- D) Mutation breeding

Q418: Which microorganism is used for production of statins?

- A) *Penicillium notatum*
- B) *Rhizopus*
- C) *Monascus purpureus*
- D) *Aspergillus niger*

Q419: Which enzyme synthesises RNA using DNA template?

- A) DNA polymerase
- B) RNA polymerase
- C) Ligase
- D) Reverse transcriptase

Q420: Which term represents number of individuals added per unit time?

- A) Mortality
- B) Natality
- C) Density
- D) Dispersion

Q421: Which trophic level has maximum energy?

- A) Producers
- B) Primary consumers
- C) Secondary consumers
- D) Tertiary consumers

Q422: Which biodiversity pattern shows more species in tropics?

- A) Latitudinal gradient
- B) Species-area relationship
- C) Island biogeography
- D) Succession

Q423: Which pollutant is responsible for depletion of ozone layer?

- A) CO₂
- B) SO₂
- C) CFCs
- D) NO₂

Q424: Which taxonomic aid gives detailed information about a single species or genus?

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

Q425: Which algae shows haplontic life cycle?

- A) Fucus
- B) Ectocarpus
- C) Ulothrix
- D) Polysiphonia

Q426: Which tissue is responsible for mechanical strength in plants?

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

Q427: Which plastid stores starch?

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

Q428: Which nitrogenous base is present only in RNA?

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

Q429: Which stage of meiosis shows terminalisation of chiasmata?

- A) Pachytene
- B) Diplotene
- C) Diakinesis
- D) Metaphase I

Q430: Which phenomenon explains upward movement of water in plants?

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

Q431: Which micronutrient is a component of plastocyanin?

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

Q432: Which pathway fixes CO₂ at night?

- A) C₃ pathway
- B) C₄ pathway
- C) CAM pathway
- D) Calvin cycle

Q433: Which respiratory substrate gives RQ greater than 1?

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

Q434: Which hormone promotes fruit ripening?

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

Q435: Which part of ovule forms seed coat?

- A) Nucellus
- B) Integuments
- C) Funiculus
- D) Chalaza

Q436: Which breeding method transfers a single desirable gene to elite variety?

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

Q437: Which microorganism is used for production of ethanol?

- A) Acetobacter
- B) *Saccharomyces cerevisiae*
- C) Rhizobium
- D) Nitrosomonas

Q438: Which technique separates DNA fragments based on size?

- A) PCR
- B) ELISA
- C) Gel electrophoresis
- D) Blotting

Q439: Which dispersion pattern shows individuals grouped in patches?

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

Q440: Which ecological pyramid is always upright?

- A) Pyramid of numbers
- B) Pyramid of biomass
- C) Pyramid of energy
- D) All pyramids

Q441: Which biome is characterised by tall grasses with scattered trees?

- A) Tundra
- B) Savanna
- C) Taiga
- D) Desert

Q442: Which gas is responsible for acid rain?

- A) CO₂
- B) SO₂
- C) CH₄
- D) N₂

Q443: Which system of classification considers evolutionary relationships?

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

Q444: Which algae is used as source of carrageenan?

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

Q445: Which tissue lies just inside epidermis in dicot stem?

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

Q446: Which plastid is involved in photosynthesis?

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

Q447: Which nitrogenous base is present only in DNA?

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

Q448: Which stage of mitosis involves condensation of chromosomes?

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

Q449: Which force is mainly responsible for ascent of sap?

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

Q450: Which international agreement focuses on climate change mitigation?

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