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Biology Grade 9 — Chapter 9

Plant Reproduction

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Independent practice MCQs from the supplied Class 9 Biology notes pack. Total: 50 questions.

A. Important / Main Topics

1. Asexual reproduction produces offspring that are:

(A) Clones of the parent
(B) Genetically diverse
(C) Always male
(D) Always female

Correct Answer: A

Explanation: Asexual reproduction produces clones, which are genetically identical to the parent.

2. Which of the following is NOT a method of asexual reproduction?

(A) Binary fission
(B) Meiosis
(C) Budding
(D) Spore formation

Correct Answer: B

Explanation: Meiosis is involved in sexual reproduction, not asexual reproduction.

3. Binary fission is commonly used by:

(A) True plants
(B) Fungi
(C) Bacteria and protozoa
(D) Animals

Correct Answer: C

Explanation: Binary fission is used by bacteria and protozoa; no true plant uses this process.

4. In yeast, budding involves the splitting of the nucleus by:

(A) Meiosis
(B) Binary fission
(C) Fertilization
(D) Mitosis

Correct Answer: D

Explanation: In yeast, budding involves the splitting of the nucleus by Mitosis.

5. In higher plants, vegetative buds give rise to:

(A) New branches and leaves
(B) Flowers
(C) Fruits
(D) Seeds

Correct Answer: A

Explanation: In higher plants, vegetative buds give rise to New branches and leaves.

6. Spores in Rhizopus are produced in:

(A) Gametangia
(B) Sporangia
(C) Nodules
(D) Roots

Correct Answer: B

Explanation: Spores in Rhizopus are produced in sporangia on sporangiophores.

7. Which of the following is NOT considered part of asexual reproduction?

(A) Parthenogenesis
(B) Vegetative propagation
(C) Spores produced by meiosis in bryophytes
(D) Binary fission

Correct Answer: C

Explanation: Spores produced by meiosis in bryophytes are part of the sexual life cycle, not asexual reproduction.

8. Parthenogenesis in plants is also known as:

(A) Fertilization
(B) Pollination
(C) Budding
(D) Apomixis

Correct Answer: D

Explanation: Parthenogenesis in plants is also known as apomixis.

9. Vegetative propagation can be:

(A) Natural or artificial
(B) Only natural
(C) Only artificial
(D) Only sexual

Correct Answer: A

Explanation: Vegetative propagation can be natural (plants do it on their own) or artificial (humans help).

10. Which of the following organisms reproduces by budding?

(A) Rhizopus
(B) Yeast
(C) Bacteria
(D) Fern

Correct Answer: B

Explanation: Yeast — this correctly answers the question.

11. Bulbs are enveloped by:

(A) Scales
(B) Bark
(C) Fleshy leaves
(D) Roots

Correct Answer: C

Explanation: Bulbs are enveloped by thick, succulent (fleshy) leaves.

12. Which of the following is an example of a corm?

(A) Onion
(B) Potato
(C) Strawberry
(D) Garlic

Correct Answer: D

Explanation: Garlic — this correctly answers the question.

13. Rhizomes are:

(A) Horizontal underground stems
(B) Above-ground stems
(C) Swollen root tips
(D) Small outgrowths

Correct Answer: A

Explanation: Rhizomes are flat, horizontal underground stems.

14. Which plant reproduces by stem tubers?

(A) Ginger
(B) Potato
(C) Onion
(D) Strawberry

Correct Answer: B

Explanation: Potato is an example of a stem tuber.

15. Strawberries reproduce by:

(A) Bulbs
(B) Corms
(C) Runners
(D) Suckers

Correct Answer: C

Explanation: Strawberries reproduce by Runners.

16. The male reproductive part of a flower is the:

(A) Calyx
(B) Corolla
(C) Gynoecium
(D) Androecium

Correct Answer: D

Explanation: The androecium (stamens) is the male reproductive part.

17. The female reproductive part of a flower is the:

(A) Gynoecium
(B) Calyx
(C) Corolla
(D) Androecium

Correct Answer: A

Explanation: The gynoecium (carpels) is the female reproductive part.

18. Pollen grains are produced in the:

(A) Ovule
(B) Anther
(C) Stigma
(D) Style

Correct Answer: B

Explanation: Pollen grains are produced in the anther.

19. Megaspores are produced in the:

(A) Anther
(B) Stigma
(C) Ovule
(D) Filament

Correct Answer: C

Explanation: Megaspores are produced in the ovule.

20. The transfer of pollen from anther to stigma is called:

(A) Fertilization
(B) Germination
(C) Double fertilization
(D) Pollination

Correct Answer: D

Explanation: Pollination is the transfer of pollen from anther to stigma.

21. The fusion of one sperm nucleus with the egg forms the:

(A) Zygote
(B) Endosperm nucleus
(C) Polar nuclei
(D) Synergids

Correct Answer: A

Explanation: The fusion of one sperm nucleus with the egg forms the zygote.

22. Double fertilization is unique to:

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

Correct Answer: B

Explanation: Double fertilization is unique to angiosperms (flowering plants).

23. After fertilization, the ovule becomes the:

(A) Fruit
(B) Flower
(C) Seed
(D) Embryo

Correct Answer: C

Explanation: After fertilization, the ovule becomes the Seed.

24. In epigeal germination, the cotyledons are:

(A) Underground
(B) Absent
(C) Photosynthetic
(D) Above ground

Correct Answer: D

Explanation: In epigeal germination, the cotyledons are Above ground.

25. The best temperature for most seeds to germinate is:

(A) 25–30°C
(B) 10–15°C
(C) 35–40°C
(D) 0–5°C

Correct Answer: A

Explanation: For most plants, the best temperature for germination is between 25–30°C.

B. Less Important / Secondary Topics

26. Which of the following is an artificial method of vegetative propagation?

(A) Grafting
(B) Bulbs
(C) Rhizomes
(D) Runners

Correct Answer: A

Explanation: Grafting is an artificial method; the others are natural.

27. The part of the plant used for artificial vegetative propagation is called a:

(A) Seed
(B) Vegetative propagule
(C) Gamete

(D) Spore

Correct Answer: B

Explanation: The part used is called a vegetative propagule.

28. Stem cuttings must have at least one:

(A) Leaf
(B) Flower
(C) Node
(D) Root

Correct Answer: C

Explanation: Stem cuttings must have at least one node.

29. Which hormone is used to stimulate growth in stem cuttings?

(A) Insulin
(B) Adrenaline
(C) Thyroxine
(D) Auxin

Correct Answer: D

Explanation: Auxin is a plant hormone used to stimulate growth in cuttings.

30. In grafting, the upper part of the plant is called the:

(A) Scion
(B) Rootstock
(C) Explant
(D) Callus

Correct Answer: A

Explanation: In grafting, the upper part of the plant is called the Scion.

31. In grafting, the lower part of the plant is called the:

(A) Scion
(B) Rootstock
(C) Explant
(D) Callus

Correct Answer: B

Explanation: In grafting, the lower part of the plant is called the Rootstock.

32. Cloning in plants is also called:

(A) Grafting
(B) Stem cutting
(C) Tissue culturing
(D) Budding

Correct Answer: C

Explanation: Cloning in plants is also called tissue culturing or micropropagation.

33. The initial piece of plant tissue used in tissue culture is called an:

(A) Callus
(B) Scion
(C) Rootstock
(D) Explant

Correct Answer: D

Explanation: The initial piece is called an explant.

34. The undifferentiated mass of cells formed in tissue culture is called a:

(A) Callus
(B) Plantlet
(C) Scion

(D) Explant

Correct Answer: A

Explanation: The undifferentiated mass is called a callus.

35. Which of the following is an example of a plant propagated by stem cuttings?

(A) Apple
(B) Rose
(C) Potato
(D) Onion

Correct Answer: B

Explanation: Roses are commonly propagated by stem cuttings.

36. A scientist discovers a new unicellular organism that has a nucleus, is aquatic, and moves using pseudopodi

(A) To which kingdom does it most likely belong? A. Monera
(B) Fungi
(C) Protista
(D) Animalia

Correct Answer: C

Explanation: "Protista" is correct: it matches the idea asked in the question ("A scientist discovers a new unicellular organism that has a nucleus, is aquatic, and moves using pseudopodi"), while the other choices do not.

37. Which of the following best explains why the two-kingdom system was replaced?

(A) It had too many kingdoms
(B) It was too complicated
(C) It did not include bacteria
(D) Organisms like Euglena had both plant-like and animal-like characteristics

Correct Answer: D

Explanation: Euglena has chlorophyll (plant-like) and heterotrophic nutrition in darkness with no cell wall (animal-like), making the two-kingdom system inadequate.

38. Which of the following correctly distinguishes Archaea from Bacteria?

(A) Archaea lack peptidoglycan in their cell walls; Bacteria have peptidoglycan
(B) Archaea are eukaryotic; Bacteria are prokaryotic
(C) Archaea are multicellular; Bacteria are unicellular
(D) Archaea are sensitive to traditional antibacterial antibiotics; Bacteria are not

Correct Answer: A

Explanation: Archaea lack peptidoglycan in their cell walls; Bacteria have peptidoglycan — this correctly answers the question.

39. A scientist is classifying a newly discovered organism. It is multicellular, autotrophic, has cellulose in its cell wall, and contains chloroplasts. To which kingdom does it belong?

(A) Protista
(B) Plantae
(C) Fungi
(D) Animalia

Correct Answer: B

Explanation: Members of kingdom Plantae are eukaryotic, multicellular, and autotrophic with chloroplasts containing chlorophyll. Their cell wall is made up of cellulose.

40. Which of the following statements about viruses is correct?

(A) They are included in the kingdom Monera
(B) They are classified in the domain Archaea
(C) They are not included in any domain or kingdom
(D) They are classified as fungi

Correct Answer: C

Explanation: Because viruses are at the borderline of living and non-living, they are not included in any domain or kingdom under modern classification.

41. A person is exercising vigorously. Which homeostatic response is most likely to occur?

(A) Decreased blood flow to the skin
(B) Decreased breathing rate
(C) Decreased body temperature
(D) Increased sweating and increased blood flow to the skin

Correct Answer: D

Explanation: Increased sweating and increased blood flow to the skin — this correctly answers the question.

42. Which of the following correctly matches an organ system with its role in homeostasis?

(A) Digestive — maintains blood nutrient levels
(B) Cardiovascular — maintains tissue fluid homeostasis
(C) Lymphatic — stabilizes gases, wastes, temperature, and pH
(D) Endocrine — provides protection from injury

Correct Answer: A

Explanation: Digestive — maintains blood nutrient levels — this correctly answers the question.

43. A student examines a leaf under the microscope. Which of the following structures would be present for gas exchange?

(A) Xylem
(B) Stomata
(C) Phloem
(D) Cuticle

Correct Answer: B

Explanation: Stomata are tiny pores on the lower epidermis that allow the exchange of oxygen and carbon dioxide with the environment.

44. Which of the following best explains why plant cells can become turgid while animal cells cannot?

(A) Plant cells have a nucleus; animal cells do not
(B) Plant cells have chloroplasts; animal cells do not
(C) Plant cells have a rigid cell wall; animal cells lack a cell wall
(D) Plant cells have mitochondria; animal cells do not

Correct Answer: C

Explanation: Plant cells can become turgid due to the presence of a cell wall, which allows plant parts to maintain structure and stay upright. Animal cells lack a cell wall and cannot become turgid.

45. Which of the following statements about the shoot system is correct?

(A) It is generally underground
(B) It consists only of reproductive parts
(C) It anchors the plant
(D) It includes leaves, stems, flowers, and fruits

Correct Answer: D

Explanation: It includes leaves, stems, flowers, and fruits — this correctly answers the question.

46. Which of the following correctly describes the role of guard cells?

(A) They regulate the opening and closing of stomata
(B) They transport water
(C) They perform photosynthesis
(D) They store food

Correct Answer: A

Explanation: They regulate the opening and closing of stomata — this correctly answers the question.

47. A scientist is studying a tissue that covers and lines body surfaces and organs. Which tissue type is this?

(A) Connective tissue
(B) Epithelial tissue
(C) Muscular tissue
(D) Nervous tissue

Correct Answer: B

Explanation: Epithelial tissue — this correctly answers the question.

48. Which of the following best explains why most organs contain all four tissue types?

(A) To increase their size
(B) To reduce their weight
(C) To perform complex functions requiring different cell activities
(D) To prevent disease

Correct Answer: C

Explanation: Most organs contain all four tissue types, which work together to perform specific functions.

49. Which of the following is a function of the endocrine system?

(A) Transport of oxygen
(B) Providing physical defence against infection
(C) Producing movement
(D) Maintaining balance of many blood components like glucose, water, and calcium

Correct Answer: D

Explanation: Maintaining balance of many blood components like glucose, water, and calcium — this correctly answers the question.

50. Which of the following statements about the levels of organization is correct?

(A) Organ systems are made of organs
(B) Tissues are made of organs
(C) Organs are made of organ systems
(D) Cells are made of tissues

Correct Answer: A

Explanation: Organ systems are groups of organs that perform related functions. Answer.