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UNIVERSITY OF GHANA

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DEPARTMENT OF TEACHER EDUCATION
SCHOOL OF EDUCATION AND LEADERSHIP
COLLEGES OF EDUCATION

END OF SEMESTER ONE EXAMINATIONS FOR LEVEL 300, 2022/2023
B.ED. PROGRAMME

COURSE CODE: TEEG 311

COURSE TITLE: EARLY GRADE SCIENCE

Instruction: Answer all questions in Section A and any three questions in Section B.

Time: 2 hours

SECTION A

[25 Marks]

Answer all the questions in this section.

1. Which ONE of these options DOES NOT belong to the category of terrestrial plants?
 - A. Ceratophyllum
 - B. Kalanchoe
 - C. Nut grass
 - D. Sweet potato
2. Which ONE of these options belongs to the category of aquatic plants?
 - A. Elephant
 - B. Guinea grass
 - C. Maize
 - D. Vallisneria
3. Which ONE of the following options represents a floating aquatic plant?
 - A. Ceratophyllum
 - B. Vallisneria
 - C. Water hyacinth
 - D. Water lily
4. Which ONE of the following biotic interactions is NOT considered beneficial for terrestrial plants in the environment?
 - A. Bacteria and fungi decomposing organic matter.
 - B. Birds acting as agents of pollination
 - C. Epiphytes attaching themselves to tall trees
 - D. Herbivores feeding on plants.

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5. Which ONE of the following options does NOT represent an adaptive feature of terrestrial plants against herbivores?

- A. Presence of spines on leaves
- B. Presence of prickles
- C. Presence of tender and succulent leaves
- D. Secretion of latex by plants

6. The term used to describe the process by which living things give rise to new ones of their own kind is _____.

- A. Growth
- B. Irritability
- C. Reproduction
- D. Respiration

7. Identify the depiction of sexual reproduction in plants from the following options.

- A. Planting cassava sticks
- B. Planting okro seed
- C. Planting the rhizome of ginger
- D. Planting the corm of cocoyam

8. What is the sexual reproductive organ in a flowering plant?

- A. Flower
- B. Leaf
- C. Root
- D. Stem

9. An example of an artificial vegetative propagation method is _____.

- A. Budding
- B. Bulb
- C. Corm
- D. Rhizome

10. What is the name of the plant that reproduces by using the bulb?

- A. Cocoyam
- B. Ginger
- C. Plantain
- D. Shallot

11. What is the term used to describe a short, vertical underground stem that is swollen with stored food?

- A. Bulb
- B. Corm
- C. Rhizome
- D. Sucker

12. Which of the following plants is generally NOT reproduced by the stem tuber?

- A. Potato
- B. Sweet potato
- C. Water yam
- D. Yam

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13. What is the term for a type of vegetative propagation in which a dormant bud from one plant is joined with the rootstock of a closely related species?

- A. Budding
- B. Grafting
- C. Layering
- D. Marcotting

14. Which of the following is NOT a part of a dicot seed?

- A. Hilum
- B. Micropyle
- C. Receptacle
- D. Seed coat

15. What part of the seed protects the inner parts against adverse environmental conditions and diseases?

- A. Cotyledon
- B. Hilum
- C. Micropyle
- D. Testa

16. From what does the shoot system of the plant develop?

- A. Hilum
- B. Micropyle
- C. Plumule
- D. Radicle

17. What plant among the following does NOT exhibit epigeal germination?

- A. Beans
- B. Cocoa
- C. Cotton
- D. Maize

18. What part of the seed does absorption of water usually occur during the process of germination?

- A. Cotyledon
- B. Micropyle
- C. Plumule
- D. Testa

19. Which of the following is not a condition for the germination of seeds?

- A. Light
- B. Temperature
- C. Viability of the seed
- D. Water

20. Which of the following animals is an amphibian?

- A. Duck
- B. Frog
- C. Lizard
- D. Squirrel

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21. Which of the following animals is an omnivore?

- A. Cheetah
- B. Goat
- C. Hyena
- D. Pig

22. Which of the following animals is covered with a cuticle?

- A. Cricket
- B. Horse
- C. Snail
- D. Snake

23. What is NOT a good quality of drinking water among the following?

- A. It has a taste
- B. It consists of no organic matter
- C. It is colourless
- D. It is odourless

24. What is an organic part of the soil among the following?

- A. Humus
- B. Mineral salts
- C. Soil particles
- D. Water

25. What soil particle size denotes clay among the following?

- A. Less than 0.002mm
- B. 0.002 to 0.02mm
- C. 0.02 to 0.2mm
- D. 0.2 to 2.0mm

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SECTION B

[75 Marks]

Answer any THREE questions in this section.

1. a. Explain the following terms.
 - i. Budding
 - ii. Amphibians(8marks).
- b. Distinguish between terrestrial and aquatic plants(4marks)
- c. State **three** differences between mass and weight(9marks)
- d. State the parts that are used in reproducing the following plants
 - i. Cocoyam
 - ii. Shallot
 - iii. Kalanchoe
 - iv. Ginger(4marks).

- 2 a. Copy and complete the table below.

Characteristics of soil	Sand	Loam	Clay
Water drainage			
Aeration			
Support for plant growth			

(9marks).

- b. State **three** differences between temperature and heat(6marks)
- c. State the functions of the following parts of the body
 - i. Nose
 - ii. Tongue
 - iii. Eye
 - iv. Ear(4marks)
- d. Classify the following plants as terrestrial or aquatic plants
Vallisneria, Hibiscus, coconut, bamboo, Ceratophyllum, Pistia(6marks).

- 3 a. State the constituents of air and their respective percentages(5marks)

- b. Convert the following temperatures in degrees Celsius to Kelvin scale

- i. 30°C
 - ii. -200°C
 - iii. 25°C
 - iv. 15°C
- (8marks)

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- c. Explain how you will help the following groups of learners in an inclusive science classroom.
- i. Visual learners
 - ii. Auditory learners
 - iii. Kinesthetic learners
- d. State **two** importance of measurement in science
- (9marks)
(3marks).
- 4 a. Explain the term weathering (4marks).
- b. State the S.I units for the following quantities.
- i. Mass
 - ii. Time
 - iii. Length
 - iv. Volume
- c. State the constituents of soil. (8marks).
- d. State **two** advantages of sexual reproduction in plants (6marks).
- d. State **two** advantages of sexual reproduction in plants (7marks).
5. a. Distinguish between epigeal and hypogea germination. (4marks)
- b. Explain the following terms.
- i. Epiphytes
 - ii. Grafting
 - iii. Vertebrates
- c. State **three** uses of air (6marks).
- d. Outline systematically, how you will determine the volume of a small stone (6marks).
- d. Outline systematically, how you will determine the volume of a small stone (9marks).