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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
- (9marks)
- d. State **two** importance of measurement in science (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
- (8marks).
- c. State the constituents of soil. (6marks).
- d. State **two** advantages of sexual reproduction in plants (7marks).
5. a. Distinguish between epigeal and hypogeal germination. (4marks)
- b. Explain the following terms.
- i. Epiphytes
  - ii. Grafting
  - iii. Vertebrates
- (6marks).
- c. State **three** uses of air (6marks).
- d. Outline systematically, how you will determine the volume of a small stone (9marks).