

Student ID \_\_\_\_\_ Signature \_\_\_\_\_



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: TEUP 305

COURSE TITLE: INTEGRATED SCIENCE III FOR UPPER PRIMARY

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**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 of the following factors affects the rate at which a substance changes from one state to another?
  - A. Both C and D
  - B. Neither C nor D
  - C. Pressure
  - D. Temperature
  
2. There are many agents of pollination. What other name is given to bird pollination?
  - A. Anemophily
  - B. Hydrophily
  - C. Ornithophily
  - D. Zoophily
  
3. The following are examples of self-pollinated crops EXCEPT \_\_\_\_\_.
  - A. Beans
  - B. Peanuts
  - C. Rice
  - D. Wheat
  
4. Which of the following represents the female parts of a flower?
  - A. Androecium
  - B. calyx
  - C. Corolla
  - D. Gynoecium

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5. The transfer of pollen from the anther to the stigma is described as \_\_\_\_\_.
  - A. Adoption
  - B. Diffusion
  - C. Fertilization
  - D. Pollination
6. Which of the following part of a flower plays the role of capturing pollen grains?
  - A. Anther
  - B. Carpel
  - C. Ovule
  - D. Stigma
7. What is the property of light that causes it to bend when passing through a medium?
  - A. Diffraction Reflection
  - B. Interference
  - C. Reflection
  - D. Refraction
8. What is the seed that allows entry of water into the embryo for active germination?
  - A. Epicotyl
  - B. Hypocotyl
  - C. Micropyle
  - D. Radicle
9. The fusion of the female reproductive nucleus with the male reproductive nucleus is known as \_\_\_\_\_.
  - A. Adoption
  - B. Excretion
  - C. Fertilization
  - D. Regeneration
10. Generative nucleus divides forming \_\_\_\_\_.
  - A. 3 female nuclei
  - B. 2 female nuclei
  - C. 2 male nuclei
  - D. 3 male nuclei
11. Stamens are collectively called \_\_\_\_\_.
  - A. Androecium
  - B. Anther
  - C. Filament
  - D. Gynoecium
12. The skeletal system of the body helps the human body in so many ways EXCEPT \_\_\_\_\_.
  - A. allows movement
  - B. controls heartbeat
  - C. gives the body shape
  - D. stores minerals

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13. Which of the following is a source of air pollution?
  - A. Fossil fuels
  - B. Hydroelectric power
  - C. Wind energy
  - D. Solar energy
  
14. Man and animal depend on fruits. Which part of the flower develops into fruit after fertilization?
  - A. The anther
  - B. The filament
  - C. The ovary
  - D. The ovule
  
15. Which of the following insects is not an agent of pollination?
  - A. Bees
  - B. Butterflies
  - C. Moths
  - D. Termites
  
16. Which of the following is dispersed by wind?
  - A. Crotalaria
  - B. Desmodium
  - C. Mango
  - D. Tridax
  
17. Which of these structures is not part of the androecium?
  - A. Anther
  - B. Filament
  - C. Stamen
  - D. Style
  
18. Which of the following is a property of water?
  - A. It is a nonpolar molecule
  - B. It has a low surface tension
  - C. It is a poor solvent
  - D. It forms hydrogen bonds with other molecules
  
19. Which of the following is NOT an example of enzymes?
  - A. Amylase
  - B. Amytase
  - C. Lactose
  - D. Maltose
  
20. Which of the following types of light waves has the longest wavelength?
  - A. Gamma rays
  - B. Infrared
  - C. Ultraviolet
  - D. X-rays

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21. Which of the following is NOT a benefit derived from nutrients of the digestive system?

- A. Cell division
- B. Cell repairs
- C. Energy
- D. Growth

22. From which structures are plant ovaries derived?

- A. Carpel
- B. Petals
- C. Sepal
- D. Stamen

23. Which of the following is not part of the pistil?

- A. Style
- B. Stigma
- C. Anther
- D. Ovary

24. What is the fate of the ovary after fertilization? It \_\_\_\_\_.

- A. becomes a seed
- B. withers away
- C. becomes a fruit
- D. develops more nuclei

25. How is the process by which water changes from a gas to a liquid called?

- A. Condensation
- B. Deposition
- C. Evaporation
- D. Sublimation

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SECTION B

[75 Marks]

Answer any THREE questions in this section.

1. a. What are primary and secondary air pollutants? Give one example of each. (6 Marks)  
b. Explain the following properties of water. (5 marks)
  - i. Surface tension
  - ii. Density  
c. With the aid of an appropriate experiment, demonstrate to a Basic 8 pupil that Air exerts pressure. (10 mark)  
d. State two differences between a fruit and a seed. (4 marks)
  
2. a. What is sublimation? (5 marks)  
b. Name two substances that can sublime. (4 marks).  
c. Describe how you would obtain a pure sample of sodium chloride from a mixture of sodium chloride and sand. (10 marks)  
d. Name any TWO (2) change of states identified in 1(c) above. (6 marks)
  
3. a. The respiratory system is very important in the human system. Briefly explain five (5) importance of the respiratory system to man. (5 marks)  
b. As an integrated science teacher, explain five (5) advantages of seed dispersal to your upper primary learners. (5 marks)  
c. Explain the concept of water conservation and its importance in today's world. (10 marks)  
d. State five (5) uses of water. (5 marks)
  
4. a. Distinguish between true fruit and false fruit. (5 marks)  
b. Using an example in each case, describe the adaptations of seed/fruits dispersed by (6 marks)
  - i. wind
  - ii. animal
  - iii. water  
c. Give one example of seed dispersed by explosive mechanism. (2 marks)  
d. How will you teach Parts of a flower to basic 5 pupils? (12 marks)
  
5. a. Describe the process of condensation and give an example of where it occurs in everyday life. (5 marks)  
b. Respiration is a chain of process. Trace the respiratory system from the beginning to the end. (10 marks)  
c. What is the difference between incandescent and fluorescent light bulbs? (4 marks)  
d. Briefly explain three (3) importance of flower to a plant. (6 marks)