



UNIVERSITY OF GHANA

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DEPARTMENT OF TEACHER EDUCATION

SCHOOL OF EDUCATION AND LEADERSHIP

COLLEGES OF EDUCATION

END OF SEMESTER TWO EXAMINATIONS FOR LEVEL 200, 2023/2024

B.ED. PROGRAMME

COURSE CODE: TEEG 214

COURSE TITLE: EARLY GRADE SCIENCE II

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 electromagnetic radiations has the longest wavelength?
 - A. Blue light
 - B. Green light
 - C. Red light
 - D. Yellow light

STUDENT'S ID NO: _____

SIGNATURE: _____

2. Which of the following electromagnetic radiations is the most utilized in thermometers?
- A. Gamma
 - B. Infra-red
 - C. Ultra violet
 - D. X rays
3. _____ light is not a component of visible light spectrum.
- A. Indigo
 - B. Green
 - C. Orange
 - D. Purple
4. The most common cause of sunburn in humans is _____
- A. Heat radiations
 - B. Infra-red radiations
 - C. Ultra violet radiations
 - D. X-rays
5. _____ are the products of photosynthesis.
- A. Carbon dioxide and Chlorophyll
 - B. Carbon dioxide and Sunlight
 - C. Chlorophyll and Sunlight
 - D. Glucose and Oxygen
6. The following processes is not common to plants only?
- A. Transpiration
 - B. Photosynthesis
 - C. Pollination
 - D. Respiration
7. _____ does not contain all the essential amino acids.
- A. Beans
 - B. Beef
 - C. Eggs
 - D. Fish

8. Which of these is not a good source of calcium to the human body?
- A. Beans
 - B. Carrot
 - C. Groundnut
 - D. Lettuce
9. Consumption of _____ is good for the prevention of scurvy.
- A. Beet roots
 - B. Carrots
 - C. Coconuts
 - D. Oranges
10. Deficiency of _____ is responsible for the occurrence of rickets in children.
- A. Vitamin A
 - B. Vitamin C
 - C. Vitamin D
 - D. Vitamin K
11. Which of the following metals is good for controlling current flowing in an electronic circuit?
- A. Aluminium
 - B. Constantan
 - C. Copper
 - D. Lead
12. _____ store electric charges for use in electronic circuits.
- A. Lithium batteries
 - B. Capacitors
 - C. Diodes
 - D. Transistors
13. _____ control the direction of electric current flowing through an electronic circuit.
- A. Capacitors
 - B. Diodes
 - C. Transistors
 - D. Resistors

14. Which component of toothpaste strengthens human teeth?

- A. Calcium
- B. Fluorine
- C. Glycerol
- D. Sodium

15. Exposure of human skin to sunlight result in the synthesis of _____

- A. Vitamin A
- B. Vitamin C
- C. Vitamin D
- D. Vitamin K

16. The following are vegetables EXCEPT _____

- A. Cabbage
- B. Carrot
- C. Lettuce
- D. Tomato

17. _____ has three electrical terminals.

- A. Cell
- B. Diode
- C. Inductor
- D. Transistor

18. _____ is used to pry open objects.

- A. Crowbar
- B. Scissors
- C. Screwdriver
- D. Spanner

19. _____ is used for pruning hedges.

- A. Garden fork
- B. Hand trowel
- C. Rake
- D. Shears

20. Regular brushing, washing, and trimming human hair _____

- A. change colour of hair
- B. increase hair growth
- C. maintain healthy hair
- D. prevent hair loss

21. _____ is not a skilful use of spanner to tighten bolt.

- A. Applying appropriate torque to a spanner
- B. Selecting the appropriate spanner size
- C. Holding the shaft of the spanner
- D. Holding the profile of the spanner

22. The shape and size of spanner that makes contact with the fastener is the _____

- A. groove
- B. head
- C. shaft
- D. profile

23. _____ is more appropriate for setting rivets.

- A. Ball pen hammer
- B. Claw hammer
- C. Mallet
- D. Sledge hammer

24. _____ is the most versatile type of spanner.

- A. Combination spanner
- B. Double ring spanner
- C. Single open end spanner
- D. Tubular box spanner

25. State one practice for proper maintenance of tools _____

SECTION B

[75 Marks]

Answer any three questions in this section.

1. (a) Give three importance each of the following personal hygiene practices:

i. Cleaning the teeth

[3 marks]

ii. Washing the hand

[3 marks]

iii. Bathing

[3 marks]

(b) i. Explain the term balanced diet.

[2 marks]

ii. What are the constituents of balanced diet?

[4 marks]

(c) Classify the following foods under the following headings: Body building, energy giving and protective foods [millet, wheat, pepper, spinach, sugar, cottage cheese, tomatoes, lettuce, soybeans, chicken, eggs, oyster, almond, barley, strawberries, corn, grapes, bread, beans, apples]

[10 marks]

2. (a) Explain the functions of five named electronic components/devices in a circuit.

[10 marks]

(b) Draw a simple labelled electronic circuit to show:

i. P-N junction in forward bias

[6 marks]

ii. P-N junction in reverse bias

[6 marks]

(c) Distinguish between intrinsic and extrinsic semiconductors.

[3 marks]

3. (a) i. Draw a simple labelled diagram of visible light spectrum, including infra-red and ultra violet rays.

[6 marks]

ii. Distinguish between infra-red and ultra violet rays.

[3 marks]

iii. Give two uses of ultra violet rays.

[2 marks]

(b) i. Distinguish between grains and nuts.

[7 marks]

ii. Give four examples each of grains and nuts.

[4 marks]

iii. Distinguish between fruits and vegetables.

[3 marks]

4. (a) i. What is a simple machine?

[2 marks]

ii. Name four classes of simple machines.

[4 marks]

iii. Copy and complete the following table showing the names of simple machines and their classes.

| Simple machine | Class of machine |
|----------------|------------------|
| Scissors | |
| Wheelbarrow | |
| Axe | |

STUDENT'S ID NO: _____

SIGNATURE: _____

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|--------------|--|
| Door hinge | |
| Bicycle | |
| Car jack | |
| Hammer | |
| Nut cracker | |
| Bolt and nut | |
| Shovel | |

[10 marks]

(b) What are the conditions for occurrence of photosynthesis in green plants?

[4 marks]

[5 marks]

(c) Distinguish between food substances and food nutrients.

[14 marks]

5. (a) Name and explain characteristics of the main classes of food.

[3 marks]

(b) i. Briefly explain personal hygiene to a class three pupil.

ii. Explain to JHS 2 pupils how economic factors such as cost, income, availability affect food choices of a family.

[5 marks]

(c) i. Give one symptom of vitamin A deficiency in children.

[1½ marks]

ii. What is the treatment for Vitamin A deficiency in children?

[1½ marks]