

STUDENT'S ID NO: _____ SIGNATURE: _____



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 300, 2022/2023

B.ED. PROGRAMME

COURSE CODE: TEUP 306

COURSE TITLE: PREPARING TO TEACH UPPER PRIMARY 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. In the human digestive system, large amount of water is absorb in the
 - a. Duodenum
 - b. Large intestines
 - c. Small intestine
 - d. Stomach
2. Lipase is an enzyme responsible for the digestion of
 - a. Carbohydrates
 - b. Lipids
 - c. Proteins
 - d. Starch
3. The following are main ways of making a magnet except
 - a. By magnetic induction
 - b. Hammering
 - c. Stroking method
 - d. Using an electrical current
4. Which of the following is an accessory organ?
 - a. Intestines
 - b. Mouth
 - c. Pancreas
 - d. Stomach
5. The process of making a magnet to lose its magnetism is known as
 - a. Demagnetization
 - b. Magnetisation
 - c. Magnetic induction
 - d. Stroking
6. Which of the following is present in exhaled air?
 - a. Carbon dioxide
 - b. Hydrogen
 - c. Nitrogen
 - d. Oxygen
7. In which part of human beings are the lungs situated?
 - a. Abdominal cavity
 - b. Diaphragm
 - c. Stomach
 - d. Thoracic cavity

8. The adult mosquito lays eggs, which hatch into
- Embryo
 - Imago
 - Larva
 - Pupa
9. Which of the following is not a common breeding habitat for mosquito larvae?
- Clean, stagnant water
 - Flower vases with fresh water
 - Ponds
 - Running streams
10. What do mosquito pupae primarily do in their aquatic environment?
- Feed on algae
 - Lay eggs
 - Swim and filter-feed
 - Rest and develop into adult
11. Which type of adult mosquito typically feeds on blood?
- Both males and females
 - Females
 - Males
 - None of them
12. How do mosquitoes locate their hosts for a blood meal?
- By following a specific trail
 - By listening to their heartbeat.
 - By sight
 - By using their sense of smell
13. Which part of the digestive system serves as a temporary storage and mixing area for food before it enters the small intestine?
- Large intestine
 - Liver
 - Oesophagus
 - Stomach
14. What is the function of the gall bladder in the digestive system?
- Absorption of nutrients
 - Mixing of stomach content
 - Production of digestive enzymes
 - Storage of bile

15. What is the role of pancreas in the digestive system?
- Production of digestive enzymes
 - Production of hydrochloric acid
 - Production of insulin
 - Production of mucus
16. Heat flows naturally from a point at lower temperature to another point at higher temperature.
- False
 - True
17. The quantity of heat contained in a body depends on the following except
- The mass of the body
 - The temperature of the body
 - The source of the heat
 - Type of material
18. The quantity of heat energy required to raise the temperature of a body by one kelvin is called.....
- Heat capacity
 - Heat content
 - Specific heat capacity
 - Temperature gradient
19. The SI unit for specific heat capacity is
- $\text{J } ^\circ\text{C}^{-1}$
 - J K^{-1}
 - J kg^{-1}
 - $\text{J kg}^{-1} \text{K}^{-1}$
20. Which of the following is not affected by heat application?
- The mass of a body
 - The state of a body
 - The volume of a body
 - The Water Cycle
21. The following are processes by which magnets can be demagnetized EXCEPT
- Hammering
 - Heating
 - Magnetic induction
 - Rough handling
22. Magnetic lines of force is a series of lines running from
- North Pole to the North Pole
 - North Pole to the South Pole
 - North Pole to the West Pole
 - South Pole to the North Pole

23. The mosquito larvae breathe through spiracles located on their
- Eighth abdominal segment
 - Fifth abdominal segments
 - First abdominal segment
 - Third abdominal segments
24. Neutral point is point within a magnetic field where the resultant magnetic flux density is
- Zero and hence no magnetic force is experienced
 - Zero and hence magnetic force is experienced
 - Zero and hence greater magnetic force is experienced
 - Zero and hence repulsive magnetic force is experienced
25. The mosquito larvae breathe through
- Abdomen
 - Nostrils
 - Spiracles
 - Thorax

SECTION B

[75 Marks]

Answer any three questions in this section.

- What is complete metamorphosis? 2 marks
 - Describe the four main stages in the life of a mosquito, including the specific characteristics and events that occur at each stage. 10 marks
 - Explain the significance of stagnant water in the mosquito life cycle. 6 marks
 - Describe the primary function of the alveoli. 3 marks
 - Explain how the alveoli are adapted for this function. 4 marks
- Define the following
 - Electromagnet 3 marks
 - Aerobic Respiration 3 marks
 - Magnetization 3 marks
 - What is the temperature change when 10kg of iron are supplied with 400J of energy.
Take specific heat capacity of iron to be 470 J/Kgk 8 marks
 - State two similarities between aerobic and anaerobic respiration 4 marks
 - State the Ohms law 4 marks
- State four uses of electromagnets 4 marks
 - Explain the following terms
 - Conduction 3 marks

- (ii) Convection 3 marks
(iii) Radiation 3 marks
c. (i) State the stages of the life cycle of a mosquito 8 marks
(ii) What is respiration? 4 marks
4. a. Explain the following terms and give two examples for each.
i. Electrical Conductors 4 marks
ii. Electrical Insulators 4 marks
b. State the main components of an electric circuit 3 marks
c.
i. State Ohm's Law 4 marks
ii. A resistor of $10\ \Omega$ has a current of 2 amperes flowing through it. What is the potential difference (p.d.) across the resistor? 4 marks
- d. Two resistors each of resistance $1\ \Omega$ are connected in a circuit containing a 2 V battery of negligible internal resistance. Calculate the current flowing in the circuit when the resistors are connected
i. in series 3 marks
ii. in parallel 3 marks
5. a. i. State three differences between aerobic and anaerobic respiration. 6 marks
ii. State three characteristics of insulators which make them unable to conduct electricity 6 marks
b. Explain the following terms;
i. Paramagnetic substances 3 marks
ii. Diamagnetic substances 3 marks
- c. i. Four resistors of 4 ohm, 3 ohm and 6 ohm are series. Calculate effective resistance. 3 marks
ii. State any two ways by which magnets can be taking care of. 4 marks