

## **SCIENCE**

### **STRUCTURE AND SCHEME OF THE EXAMINATION**

There will be two papers: Paper 1 and Paper 2 both of which must be taken. The two papers will be a composite paper to be taken at a sitting.

#### **1. PAPER 1 (OBJECTIVE)**

This will be objective paper made up of **40 questions** drawn from the entire syllabus. All the questions must be answered in **45 minutes**.

#### **2. PAPER 2 (ESSAY)**

This shall be an essay paper made of 2 sections. Section A and B to be answered in **1 hour 25 minutes**.

**Section A:** will be one compulsory question consisting of four sub questions testing in practical skills specified in Agriculture, Biology , Chemistry and Physics aspects of the examination syllabus. This will attract **40 marks**.

**Section B:** will consist of four questions. Each question shall be a blend of Agriculture, Biology, Chemistry and Physics aspects of the examination syllabus. Candidates will be required to answer any three of the question for **60 marks**.

#### **3. WEIGHTING OF THE PAPER**

<b>Paper</b>	<b>Items</b>	<b>Scaling factor</b>	<b>Total marks</b>
1 (Objective)	40	1.0	100
2 (Essay)	4	0.6	

## **SAMPLE QUESTIONS**

### **PAPER 1 (OBJECTIVES)**

- The series of changes that occur during the development of a housefly is called
  - growth.
  - cycle.
  - reparation
  - metamorphosis
- Compost is not an ideal choice for use as mulch because
  - It is unsanitary
  - it attracts squirrels, ants and other critters looking for food.
  - the nutrients are too concentrated and will kill the plants.

- D. the nitrogen evaporates into the air instead of the soil.
3. In which part of the monogastric digestive system does microbial digestion takes place?
- A. Large intestine
  - B. Rectum
  - C. Caecum
  - D. Oesophagus
4. Which of the following best describes why carbon cycle is said to be a repeated pattern in nature? (U)
- A. It helps to maintain a balanced level of CO<sub>2</sub> in the earth's atmosphere.
  - B. It makes carbon dioxide available for plants to use for photosynthesis.
  - C. It involves carbon-sequestration process.
  - D. There is a continual exchange of carbon between the earth and the atmosphere
5. The **main** reason why hay making is less common in tropical Africa especially Ghana is because
- A. the animals can forage all year round.
  - B. pastures contain abundant forage all year round.
  - C. grazing animals are only reared for ritual purposes.
  - D. grazing animals are reared under the intensive system
6. The grasshopper life cycle is said to be incomplete metamorphosis because the grasshopper A. has both a caterpillar and nymph in its life cycle.
- B. life cycle has five stages.
  - C. life cycle has two very different stages.
  - D. life cycle has only 3 stages; adult, nymph, and egg
7. A feeding relationship consists of different organisms including maize, dog and lion. Which trophic level is missing in the feeding relationship?
- A. Primary consumer
  - B. Dominant producer
  - C. Secondary consumer
  - D. Tertiary consumer
8. The system of farming that is **most** likely to ensure harvest different types of crops at the end of the season is
- A. mono-cropping
  - B. mixed farming
  - C. mixed cropping
  - D. irrigational farming

9. A patient who reports to the hospital with a gum related disease is most likely suffering from
- A. periodontal disease
  - B. gingivitis
  - C. dental caries
  - D. gummosis
- 10 The part of the digestive system that **does not** contain digestive enzymes is the
- A. duodenum
  - B. mouth
  - C. oesophagus
  - D. stomach

### ESSAY

1. (a) State two conditions that makes the presence of life on Jupiter difficult.  
(2 marks) (b) Explain **two** steps involved in the preparation of manure.

(2  
marks)

- (c) State **two** diseases that affect the circulatory system of humans

(2 marks)

- (d) Explain briefly why a community will not be encouraged to practice mixed cropping.

(3 marks)

- (e) Briefly describe a test you will conduct to prove the presence of proteins in a piece of meat. (A)

(5  
marks)

- (f) Explain the term respiration (U)

- (g) Identify **three** human activities that are destroying the balance of ecosystems in Ghana.

(4 marks)

2. (a) Distinguish between land rotation and crop rotation (U)

(2  
marks)

- (b) Explain what happens to a morsel of kenkey as it travels along the alimentary canal (A)

- (4 marks) (c) (i) Name **three** parts of the human circulatory system.

(i) Give **one** function of each part of the parts named in (i).

**(6 marks)** (K)

(d) Distinguish between an inner planet and an outer planet. (U)

**(2**

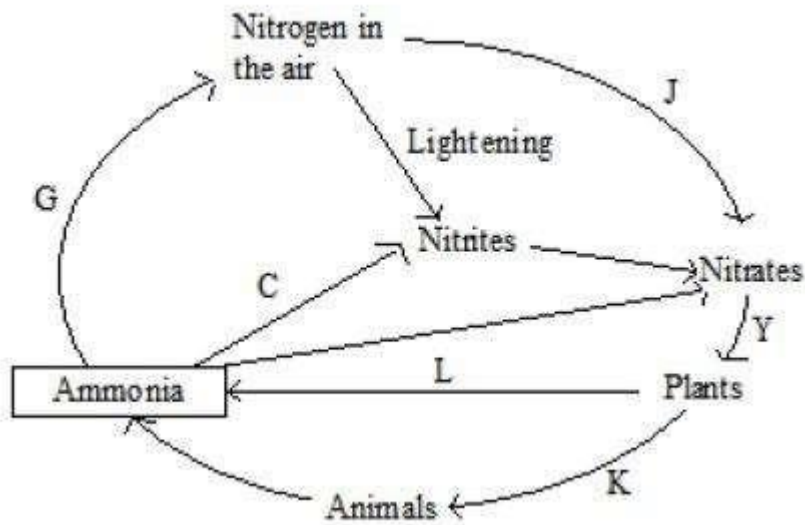
**marks)** (e) Consider three different animals namely, lion, sparrow and tilapia

(i) Identify the type of ecosystem that each of these organisms live in (U) (ii) Write down one feature/adaptation that enables each of the organisms to live successfully in the ecosystem in (i) above. (A)

*(6  
marks)*

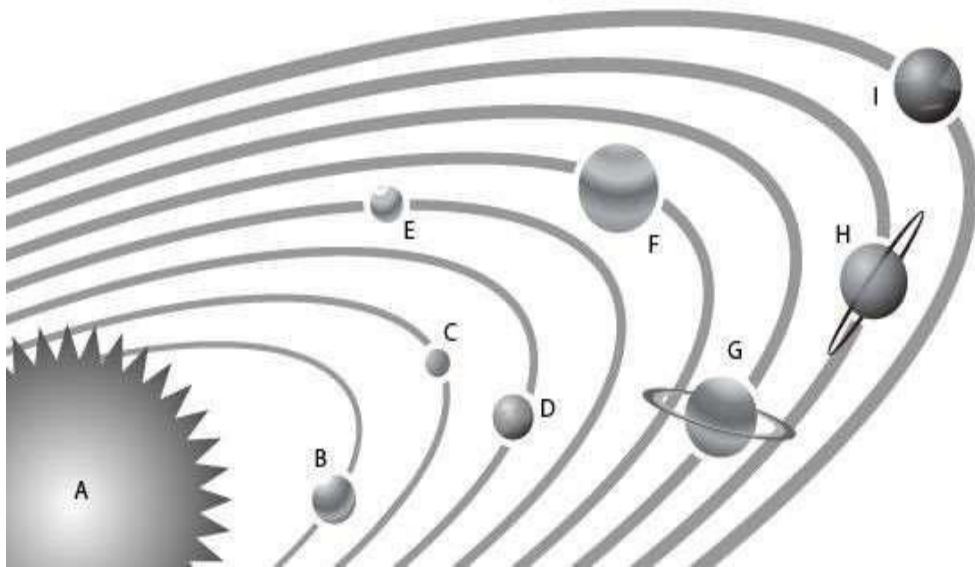
### TEST OF PRACTICALS

1.The diagram below shows various ways in which Nitrogen is cycled in nature, study it carefully and answer the question that follows;



- (a). Identify the stages **labelled** C, G, J, K, L and Y **[6 Marks]**
- (b) Describe the processes labelled G and Y **[4 Marks]**
- (c) Explain how certain plants fix nitrogen in the soil **[2 Marks]**
- (d) State two importance of the cycle to the environment. **[2 Marks]**

2.The picture below shows parts of the solar system. Study it carefully and use it to answer the questions that follow



- Name the parts labelled A, B, C, D, E, F, G, H, and I
- Which of the parts named is known as the twin of the earth?
- Group the objects A, B, C, D, E, F, G, H, and I into inner planet and outer planet.
- Which of the labelled parts supports life?
- Give **two** reasons why the part named in (d) supports life.
- Give one difference between the parts labelled B and A