



DAS B.E.C.E. PERFORMANCE BOOSTER

BASIC EDUCATION CERTIFICATE MOCK

SEPT

INTEGRATED SCIENCE

2&1

2HRS

NAME _____ **INDEX NO** _____

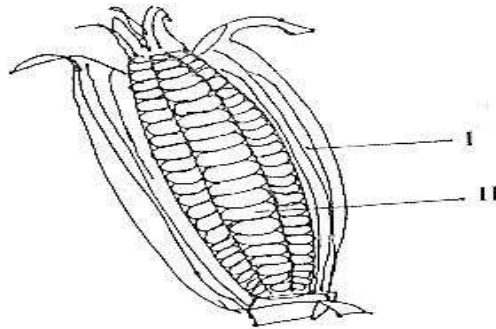
PAPER 2 ESSAY 100 MARKS (1HOUR 15 MINUTES)

This paper is in two parts: I and II. Answer question 1 and any other 4 questions in part II

PART 1. TEST OF PRACTICAL (40 MARKS)

Answer all of the questions

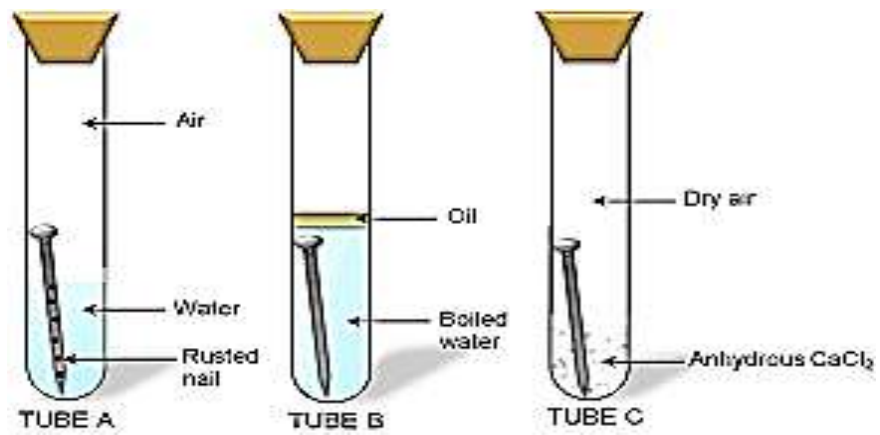
1(a) The diagram below is an illustration of a fruit. Study it carefully and answer the questions that follow.



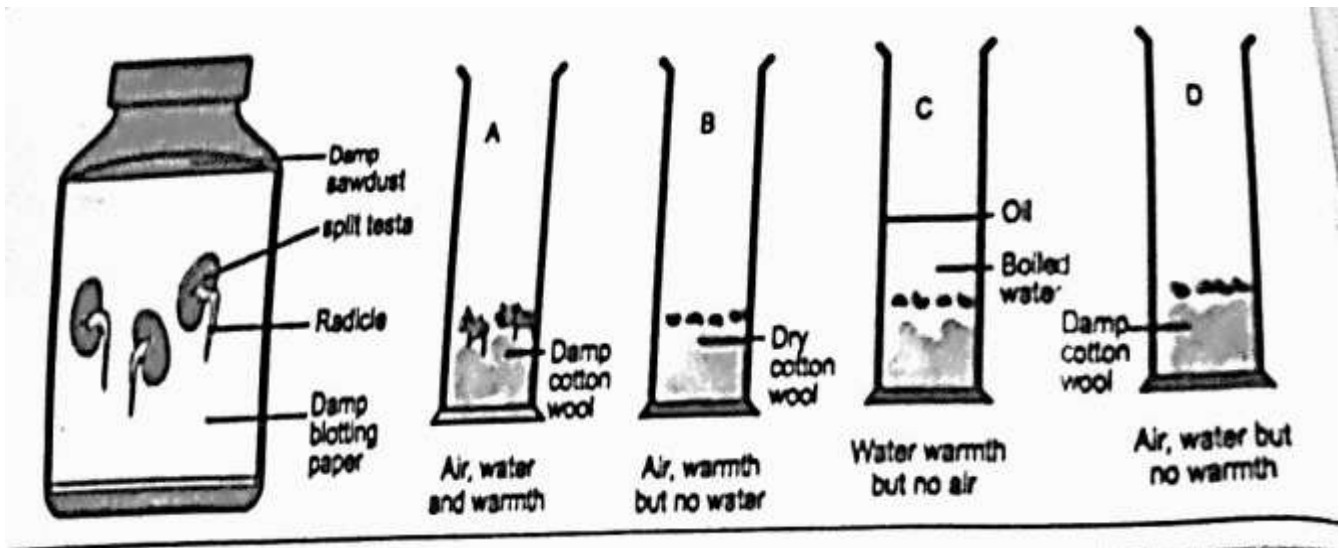
- (i) Identify the fruit **2marks**
- (ii) Name each of the parts I and II **2marks**
- (iii) Mention the term used for removing each of the parts labeled I and I **2marks**
- (iv) Give one use each of the parts I and II **2marks**
- (v) Name one insect pest and rodent pest that infest the fruit **2marks**

(b) In an experiment, a student took three iron nails and cleaned their surfaces dry and placed them in three separate test tubes in the set-ups A, B and C shown in the following diagram. After three days the nail in set-up A was found to have rusted while the nails in the set-ups B and C did not.

- i. why was the water in the set-up B boiled? **2marks**
- ii. Explain the function of the oil on top of the water in set-up B **2marks**
- iii. State the purpose of the rubber stopper in the set-up **2marks**
- iv. Why did the nail in the set-up rust? **2marks**
- v. Suggest an aim for the experiment **2marks**



(c) study the experimental set-up below carefully and answer the questions that follow.



- State the aim of the experiment set-up **2marks**
- What observation is made in each of test A, B,C and D after 7days? **2marks**
- State the reason why the test tubes were not covered **2marks**
- What was the role of layer of oil in test tube C **2marks**
- State what could have been observed in each of the test tubes if cowpea seeds were put in warm water for some minutes before they were used for the experiment **2marks**

(d) Study the electronic circuit below and answer the questions on it

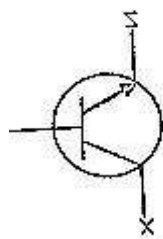


Figure 1

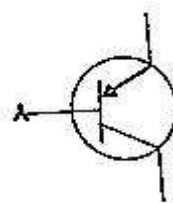


figure 2

- What does figure 1 and 2 represent **2marks**
- Name parts labelled X, Y and Z **3marks**

- | | | |
|------|--|--------|
| iii. | What is the role of Y | 1mark |
| iv. | Mention the material that can be used to make the figure | 2marks |
| v. | State two uses of the device in the diagram | 2marks |

PART II. THEORY (60 MARKS)

Answer four (4) questions only from this part

2. (a) i. what are electronics (2 marks)
 ii. Mention four parts of an electronic circuit (2 marks)
- (b) i. Define a communicable disease (2 marks)
 ii. Give three (3) examples of communicable diseases (1 ½ marks)
- (c) i. Give three examples of metalloids (1 ½ marks)
 ii. State three properties of metalloids (3 marks)
- (d) Mention four importance of crop production (3 marks)
3. (a) List four conditions necessary for germination (4 marks)
 (b)i. Define a force (1 mark)
 ii. State three applications of a force (3 marks)
- c. i. Define farming system (1 mark)
 ii. List four farming system suitable for crop production. (4 marks)
- d. i. what is rusting (1 mark)
 ii. State two causes of rusting (2 marks)
4. (a) i. Differentiate between a shadow and an image (1 mark)
 ii. List three uses of a plane mirror (3 marks)
- (b) Provide the methods of separating the following mixtures
 i. alcohol and water
 ii. Salt and water
 iii. Powdered charcoal and iron fillings (3 marks)
- (c) i. what is meant by mulching in crop production? (1 mark)
 ii. State three reasons for mulching (3 marks)
- (d) Mention four features of parents that can be inherited by children (4 marks)
5. (a) i. what is a resistor? (2 marks)
 ii. Mention three uses of a resistor (3 marks)
- (b) List five hazards or accidents in the laboratory (5 marks)
- (c) State four importance of soil to crops (2marks)
- (d) i. Define the respiratory system (1marks)
 ii. List two respiratory organs and their function (2marks)
- 6 (a) Provide chemical formula for the following compounds
 i. Carbon dioxide
 ii. Calcium chloride
 iii. Magnesium oxide (3 marks)
- (b) i. What is an element of weather (2marks)
 ii. List two weather station instruments (4 marks)
- (c) i. What is fertilizer (2 marks)
 ii. List four methods of applying fertilizer to crops (4 marks)
- (d) Mention four parts of the circulatory system (2 marks)

PAPER 1 40 MARKS, 45 MINUTES

OBJECTIVES

ANSWER ALL QUESTIONS

Do all rough work on this paper

Now answer the following questions

- Which of the following is not an instrument for measuring distance
 - Metre rule
 - Micro-screw gauge
 - Tape measure
 - Spatula
- Which of the following processes of conversion of the states of matter is correct?
 - $solid \xrightarrow{heat} gas \xrightarrow{heat} liquid$
 - $solid \xrightarrow{cool} liquid \xrightarrow{cool} gas$
 - $gas \xrightarrow{heat} liquid \xrightarrow{heat} solid$
 - $gas \xrightarrow{cool} liquid \xrightarrow{cool} solid$
- Gases are more compressible than solids because
 - Solids have harder surfaces
 - Gas particles are widely spread out
 - The particles of solids are regularly arranged
 - The molecules of gases are randomly arranged
- Work is measured in----
 - Newton
 - Joule
 - kilogram
 - watt
- Which of the following metals is less reactive ?
 - Manganese
 - Gold
 - Magnesium
 - zinc
- The chemical combination of two or more metals is---
 - An alloy
 - metalloid
 - compound
 - mixture
- Which of the following is the cause of hardness of water?
 - OH^- ions
 - Cl^- ions
 - H^+ ions
 - Mg^{2+} ions
- All the following are compounds except
 - Lead
 - Water
 - Carbohydrate
 - Salt
- Which of the following is a derived unit?
 - Metre
 - Kilogram
 - Newton
 - Second
- The word meniscus refers to
 - Volume of liquid
 - Mass of a liquid
 - Density of a liquid
 - Curved surface of a liquid
- The unit of measurement of pressure is
 - Joule
 - Newton
 - Pascal
 - Watt
- A mirror is used to direct the sun's rays onto the classroom wall by
 - Radiation
 - Reflection
 - Conduction
 - Convection
- Energy in dry cell is -----
 - Potential energy
 - Chemical energy
 - Electrical energy
 - Magnetic energy
- Which of the following is use to make a transistor?
 - Lead
 - Silicon
 - Copper
 - Iron
- Which of the following forces tends to pull objects towards the centre of the earth?
 - Electrical force
 - Tension force
 - Gravitational force
 - Magnetic force
- The efficiency of a machine is always less than one because of
 - Friction
 - Greasing
 - Heat
 - The load used
- Which of the following substances sublimes
 - Camphor
 - Salt peter
 - Lime
 - water
- Which of the following is an example of animal dispersed fruit?
 - Tridax
 - Pawpaw
 - Cotton
 - Coconut
- Which of the following is the main respiratory organ of man ?
 - Skin
 - Lungs
 - Mouth

- D. Gills
20. The thorns found on some plants are used for---
- Breathing
 - Protection
 - Absorbing water
 - Resisting fire
21. Which of the following substances can highly cause burning of the skin?
- Acid
 - Coal
 - Mercury
 - Alcohol
22. A fertilized ovum is known as
- A gamete
 - A zygote
 - An oocyte
 - An ovary
23. Plants absorb water from the soil through a process called
- Photosynthesis
 - Fertilization
 - Osmosis
 - Diffusion
24. Which of the following is part of the circulatory system in humans
- Heart
 - Lungs
 - Kidney
 - Liver
25. The end-product of respiration is-----
- Carbon dioxide
 - Oxygen
 - Energy
 - Starch
26. Which of the following is not a dietary source of protein
- Cassava
 - Egg
 - Fish
 - Meat
27. The end product of protein is -----
- Glucose
 - Fatty acid
 - Starch
 - Amino acid
28. The movement of ribs is brought about by the
- Pleural cavity
 - Intercostal muscle
 - larynx
 - trachea
29. Which of the following parts of a cell is responsible for respiration?
- Chloroplast
 - Mitochondrion
 - Nucleus
 - Vacuole
30. The part of the plant where pollination occurs is the
- Flower
 - Roots
 - Leaves
 - Stems
31. Which of the following soil types retains less water?
- Silt
 - Loam
 - Clay
 - Sand
32. Crop rotation helps to fix -----into the soil ?
- Iron
 - Nitrogen
 - Phosphorous
 - Potassium
33. Smut is a disease of
- Cocoa
 - maize
 - Guava
 - Mango
34. The place where seedlings are raised before transplanting is
- Mounds
 - Nursery bed
 - Mulching
 - Pruning
35. The farming system which involves the growing of one type of crop on the same piece of land every season is known as
- Mixed cropping
 - Mixed farming
 - Mono cropping
 - Monoculture
36. Sickle is a farm tool used for---
- Harvesting rice
 - Trimming hedges
 - Transplanting seedlings
 - Watering crops
37. An organism which cause damage to crop is-----
- Parasite
 - Vector
 - Pest
 - Pathogens
38. Soil aeration could be improved through--
- Mulching
 - Irrigation
 - Soil drainage
 - Fertilizer application
39. Which one of these is not a cereal crop
- Maize
 - Wheat
 - Yam
 - Rice
40. One disadvantage of science and technology is
- Teenage pregnancy
 - Using nuclear bombs in war
 - Farming
 - Medicine