

PAPER 1

Objective

Answer all questions in this section

1. Which of the following processes could be used to preserve fish for a long time?
A. Boiling only
B. Salting only
C. Sun drying only
D. Salting and sun drying
2. One hectare is equivalent to
A. 100 m²
B. 1,000 m²
C. 10,000 m²
D. 100,000 m²
3. Which of the following causes ringworm?
A. Bacteria
B. Fungi
C. Protozoa
D. Ticks
4. The planet earth is located in a galaxy known as
A. constellation
B. meteorites
C. milky way
D. satellite
5. An object weighing 60N is dragged through a distance of 2m. Calculate the work done
A. 6 J
B. 15 J
C. 30 J
D. 120 J

$W.D = Force \times Distance$
 $= 60N \times 2m$
 $= 120J$
6. Which of the following substances is necessary for the formation of food in plants?
A. Carbon dioxide
B. Nitrogen
C. Oxygen
D. Starch
7. How many times is the sun over head at the equator within a year?
A. 1
B. 2
C. 3
D. 4
8. Which of the following takes the shape of its container?
A. Chalk
B. Charcoal
C. Paper
D. Petrol
9. A group of stars form
A. The universe
B. The atmosphere
C. The solar system
D. A galaxy
10. Which of the following types of soil is good for plant growth?
A. Clay
B. Coarse sand
C. Fine sand
D. Loam
11. The equation Carbon (IV) oxide + water → Glucose + Oxygen, represents
A. Breathing
B. Diffusion
C. Photosynthesis
D. Respiration
12. Which of the following pairs of diseases are both contracted through water?
A. Cholera and dysentery
B. Small pox and dysentery
C. Ringworm and smallpox
D. Tuberculosis and cholera
13. The efficiency of a machine is usually less than one due to
A. friction
B. greasing
C. heat
D. the load used
14. Which of the following pairs of organisms are decomposers?
A. Animals and bacteria
B. Animals and fungi
C. Bacteria and plants

D. Bacteria and fungi

15. A mixture of engine oil and water could be best separated by

- A. Evaporation
- B. Freezing
- C. Decantation
- D. Heating

16. Which of the following plants is propagated vegetatively?

- A. apple
- B. coconut
- C. pawpaw
- D. sweet potato

17. Which of the following diseases is transmitted by close contact with an infected person?

- A. AIDS
- B. Bilharzia
- C. Elephantiasis
- D. Measles

18. The breakdown of rocks into smaller particles is known as

- A. decomposition
- B. erosion
- C. ploughing
- D. weathering

19. Which of the following energy changes takes place when a church bell is tolled?

- A. Chemical energy is changed to sound energy
- B. Kinetic energy is changed to sound energy
- C. Potential energy is changed to sound energy
- D. Potential energy is changed to kinetic energy

20. The dodder on milk bush is an example of

- A. a plant parasite on animal host
- B. a plant parasite on plant host
- C. an animal parasite and a plant parasite
- D. an animal parasite on an animal host

21. Decay is an important biological process because it brings about the

- A. formation of nutrients in living organisms
- B. manufacture of cells of living organisms
- C. production of oxygen by plants
- D. release of nutrients from dead organisms

22. The darkest part of a shadow formed during an eclipse is called

- A. annular eclipse
- B. lunar eclipse
- C. penumbra
- D. umbra

23. Which of the following particles can be found in the nucleus of an atom?

- A. Electrons and protons
- B. Electrons and shells
- C. Neutrons and electrons
- D. Neutrons and protons

24. Which of the following substances is used to purify water for town supply?

- A. Alcohol
- B. Carbon dioxide
- C. Chlorine
- D. Nitrogen

25. The shedding of leaves by plants during the dry season protects them against

- A. bush fire
- B. cold weather
- C. plant-eating animals
- D. water loss

26. The volume of water in a container rises when a piece of stone is put into the container. The change in the volume of water is equal to the

- A. mass of the container
- B. mass of the stone
- C. density of the stone
- D. volume of the stone

27. Which of the following carry deoxygenated blood in the body?

- A. Arteries
- B. Red blood cells

- C. Valves
- D. Veins

28. Which of the following forces will cause an object to move in a circular path?

- A. Centripetal force
- B. Gravitational force
- C. Inertial force
- D. Reaction force

29. The paired fins in fishes are used for

- A. protection and diving
- B. diving and balancing
- C. balancing and control
- D. balancing and steering

30. In which of the following is urine stored?

- A. Bladder
- B. Kidney
- C. Liver
- D. Penis and vagina

31. Photosynthesis occurs only in green plants because they

- A. absorb water
- B. are found in the tropics
- C. are very active
- D. contain chlorophyll

32. The food we eat undergoes slow oxidation in our bodies to produce heat. In this process

- A. chemical energy is converted to heat energy
- B. electrical energy is converted to heat energy
- C. kinetic energy is converted to heat energy
- D. mechanical energy is converted to heat energy

33. Which of the following planets is nearest to the earth?

- A. Jupiter
- B. Mercury
- C. Pluto
- D. Venus

34. Which of the following organs help to improve soil fertility?

- A. Earthworms
- B. Guinea worms
- C. Hookworms
- D. Roundworms

35. A stone released from a catapult was able to kill a bird because

- A. the stone had a lot of energy
- B. the stone was sharp
- C. there was tension in the stone
- D. the rubber of the catapult was strong

36. Which of the following is a plant parasite?

- A. Capsid
- B. Caterpillar
- C. Dodder
- D. Louse

37. By the end of digestion, lean meat is turned into

- A. amino acids
- B. fatty acids
- C. glycerol
- D. glucose

38. In which of the following electrical appliances is electrical energy mainly converted to heat energy?

- A. Cooker
- B. Fan
- C. Refrigerator
- D. Tape recorder

39. The energy for lighting a torchlight bulb comes from the

- A. bulb
- B. cell
- C. filament
- D. glass

40. The largest component of sweat is

- A. glucose
- B. oil
- C. salt
- D. water

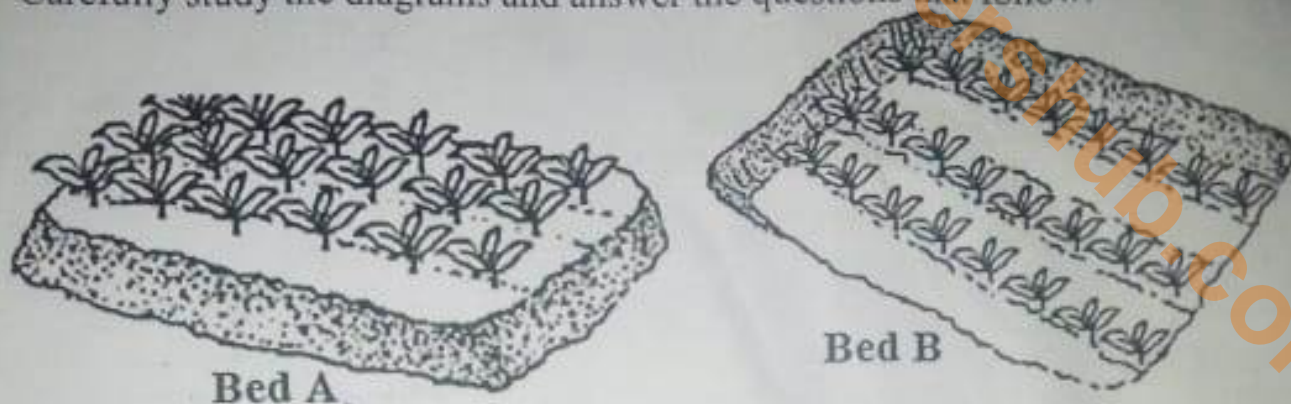
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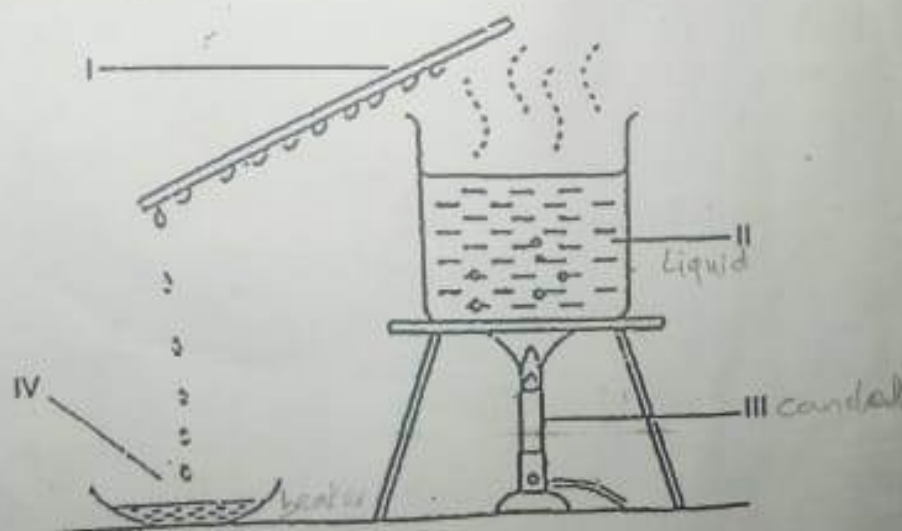
SECTION A [40 Marks]

Answer all of Question 1

1. a. The diagrams below are prepared by Saps JHS 3 students in their School Garden. Carefully study the diagrams and answer the questions that follow.

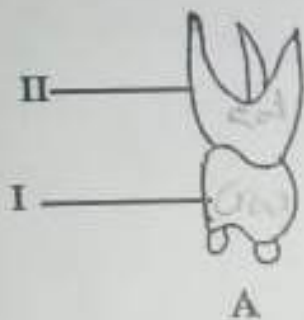


- Identify the seed beds A and B. 1 mark
 - Name four tools used in preparing bed A and B. 2 marks
 - State the steps involved in the preparation of the bed A and B. 5 marks
 - State one benefit of bed A and B in vegetable production. 2 marks
- b. The diagram below is an experimental setup conducted by a Science Teacher at Excellent International School Science Laboratory. Study the diagram below carefully and answer the questions that follow.



- Name the process demonstrated. 2 marks
- Name the parts labelled I to IV. 2 marks
- State the function of I and III. 2 marks
- Define the process demonstrated. 2 marks
- Name the state of change of matter that occurs in II and I. 2 marks

- c. In an experiment, two identical measuring cylinders, stop watch, two identical ball bearings, engine oil and diesel were used to carried out an experiment on a type of friction in fluid. Use the information provided to answer the following questions.
- Draw a well label diagram to illustrate the experimental setup. 6marks
 - State the aim of the experimental setup. 2marks
 - State what will be observe from your drawing. 1 mark
 - Name any two types of friction force. 2marks
- d. The diagrams below show different types of human teeth. Carefully study them and answer the questions that follow.



- i. Copy and complete the table below. 3marks

Tooth	Name of tooth	Function of tooth	Description of structure of tooth
A	Molar	for grinding food	
B	Canine		
C	Incisors		

- Name the parts of A labelled I and II. 4marks
- State three differences between teeth A and B. 3marks

PART II [60marks]

Answer only four questions from this section.

2. a. Define the following terms and give one example of each:

- Element
- Mixture
- Compound

3marks

- b. Explain the following terms:

- Work
- Energy

2marks

- c. State the units in which each of the following are measured:

- Power
- Energy
- Electric current
- Temperature

4marks

d. A body of mass 100 kg is placed at a point 2m above the ground. What is the potential energy of the body with reference to the ground? [Take $g = 10 \text{ ms}^{-2}$]
3marks

(c) State **three** characteristics of each of the following:

- (i) An insect pollinated flower
- (ii) A wind pollinated flower

3marks

3. (a) (i) Give the names of organisms which cause the following diseases:

Sleeping sickness, Cholera, Malaria, Bilharzia.

2marks

(ii) Which part of the following crops does a farmer usually grow?

Banana, cocoyam, tomato, ginger, yam, cassava

3marks

(b) Name the organs used by the following organisms for respiration:

(i) Tilapia

(ii)

Toad

1marks

(c) (i) What happens to the temperature of water that is boiling in an open container?

1mark

(ii) Give **two** characteristics of a liquid.

1mark

(iii) Name the **three** processes by which heat is transmitted.

3marks

(iv) State **two** applications of the expansion of solids in everyday life.

1marks

(d) Name the compound formed when the following elements combine:

(i) Iron and sulphur FeS

(ii) Zinc and oxygen

(iii) Sodium and chlorine NaCl

3marks

4. (a) (i) Distinguish between a rhizome and a stem tuber

(ii) Give **one** example each of a rhizome and a stem tuber.

5marks

(b) State the method which could be used to separate each of the following mixtures and explain your answer in each case:

(i) salt and water,

(ii) sawdust and iron filings,

(iii) powdered charcoal and water

6marks

(c) (i) Define density of a substance

(ii) Explain how a body which sinks in water could be made to float.

4marks

5. a. What is a living cell?

2marks

b) Give **one** function of each of the following components of a living cell:

(i) cell membrane

(ii) chloroplast

(iii) nucleus

3marks

c) Make sketches to show the arrangement of the particles in each of the three states of matter. 6marks

d) What instrument would you use to measure each of the following quantities:

(i) volume of a liquid

(ii) mass of a stone

(iii) time

(iv) speed of the wind? \Rightarrow wind thermometer

4marks

6. (a) (i) What is *indiscriminate sex*?

(ii) Give **three** reasons why teenagers indulge in indiscriminate sex. 4 marks

(b) Name **two** sources each of

(i) natural light

(ii) artificial light

4marks

(c) State **three** ways in which soil texture is important in crop production. 3marks

(d) Write down the systematic name of **each** of the following chemical compounds:

(i) FeS \Rightarrow Iron (II) Sulphur

(ii) CO

(iii) Cu_2O

(iv) NaOH \Rightarrow Sodium hydroxide

4marks

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