



STEP-UP EXAMINATIONS BOARD
NATIONAL PRE-PLE SET ONE
2024

INTEGRATED SCIENCE GUIDE

Time allowed : 2 hours 15 minutes

Random No.						Personal No.		

Pupil's Name

Signature.....

District No.				
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Read the following instructions carefully;

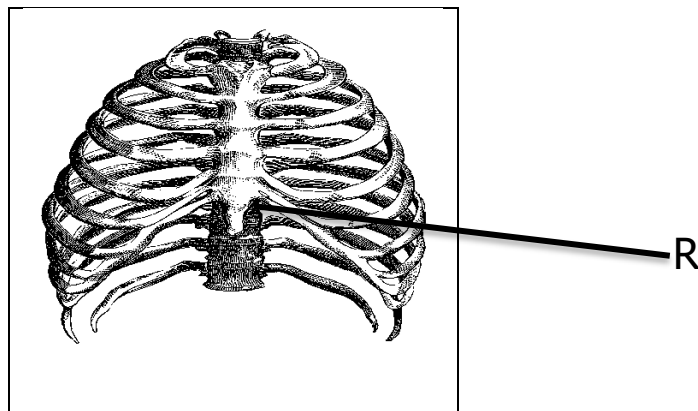
1. This paper has **two** sections: **A** and **B**.
Section **A** has **40** questions and Section **B** has **15** questions.
2. Answer **all** the questions. **All** the answers for both sections **A** and **B** must be shown in the spaces provided.
3. All working must be done using a **blue** or **black** ball-point pen or fountain pen. Any work done in pencil other than graphs, pictures and diagrams will **NOT** be marked.
4. Unnecessary changes of work may lead to **loss** of marks.
5. Any handwriting that cannot easily be read may lead to **loss of marks**.
6. Do **not** fill anything in the boxes indicated: **"FOR EXAMINERS' USE ONLY"** and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
QN. NO.	MARK	EXR'S NO.
1 – 10		
11 – 20		
21 – 30		
31 – 40		
41-43		
44-46		
47-50		
51-53		
54-55		
TOTAL		

SECTION A

- 1. Name the garden tool used for harvesting cereals.**
✓ Sickle
- 2. Mention the component of the environment that helps plants to make glucose**
✓ Water//The sun
- 3. Name the method of heat transfer in solids**
✓ Conduction//Heat transfer by conduction
- 4. State the purpose of tying a splint around the fracture of a causality**
✓ To keep the fractured bones in position.
- 5. Why are fish able to live in water?**
✓ Fish breath in dissolved oxygen//Fish have gills for breathing//Fish breath in air containing dissolved oxygen.
- 6. Why are faeces not regarded as excretory products?**
✓ Feaces are removed from the body by any of the excretory organs//
✓ Gut feaces are not produced by metabolic breakdown//Feaces are not produced due to metabolism.
- 7. State any one biological feature that can be used to classify arthropods.**
✓ Body structure//Number of legs//Breathing organs
- 8. Which breed of cattle is characterized by short horns?**
✓ Exotic breeds

The diagram below is of a part of the human skeleton study it and use to answer question 9 and 10



- 9. Name part marked R.**
✓ Sternum//Breast bone

10. What type of bone is part marked R?

- ✓ Flat bone

11. State the importance of a vent pipe in a VIP latrine

- ✓ To let out bad smelling air

12. Give a reason why the right ventricle of the human heart is made up of thick walls.

- ✓ To withstand a low blood pressure//To pump blood of higher pressure across a short distance.

13. What causes wind?

- ✓ Difference in atmospheric air pressure.

14. State one way people can manage natural changes like floods.

- ✓ Avoiding swamp drainage//Reducing on cultivation in wetland//
- ✓ Planting more trees//Reducing on mining

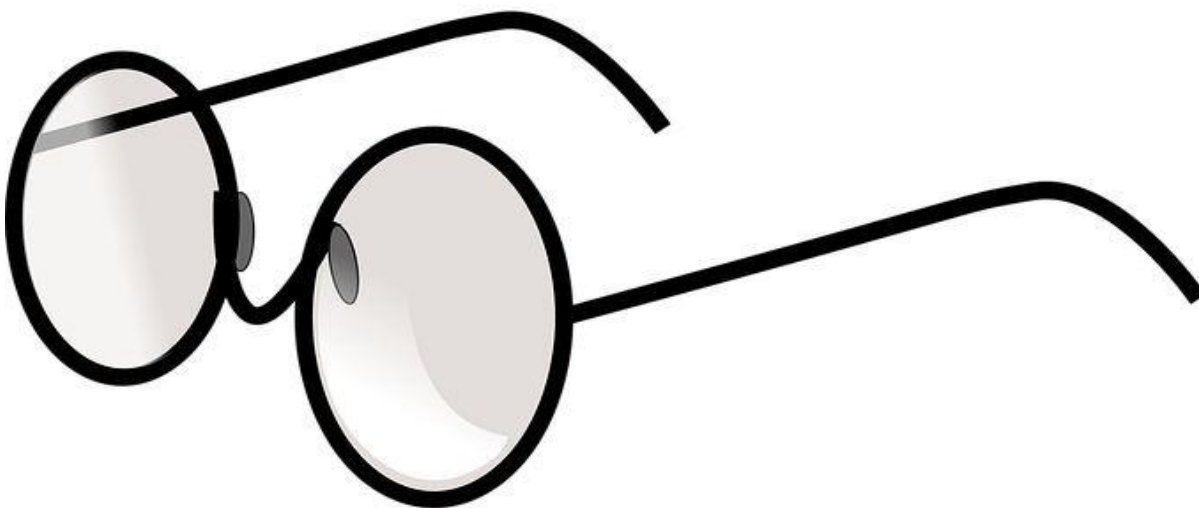
15. Mention one sign of hookworm infection in humans

- ✓ Anaemia//Pale skin//Vomiting//Diarrhoea//Stunted growth in children

16. Give a reason why the wooden pole for a fence should be got from mature and ready trees.

- ✓ The trees are able to withstand harsh weather conditions

The diagram below shows a simple optical instrument. use it to answer questions 17 and 18



17. Name the optical instrument shown above.

- ✓ Spectacle

18. How is the above optical instrument useful to opticians.

- ✓ For correcting eye defects.

19. Mention any one danger of using natural fertilizers.

- ✓ They take long to release nutrients in the soil//They are bulky//
- ✓ Some natural fertilizers like green manure may carry diseases and spread them to crops

20. Apart from pneumonia, give any other disease that attacks both poultry and rabbits.

- ✓ Coccidiosis

21. State one advantage of using electricity in the conservation of the environment.

- ✓ Electricity does not produce smoke which causes pollution//
- ✓ Electricity minimizes cutting down of trees for wood fuel

22. Give any one similarity between bacteria and animals in terms of feeding.

- ✓ Both bacteria and animals feed on already made food//Do not make their own food

23. Why could one bend forward while climbing a hill?

- ✓ To overcome the effect of gravity

24. State any one factor that affects the weight of an object.

- ✓ Gravity acting upon an object//Mass of an object//Upthrust acting upon an object

25. State the purpose of boiling water before drinking.

- ✓ To kill germs

26. Mention any one activity a P.2 child can do to promote personal hygiene.

- ✓ Regular bathing//Brushing teeth//Combing hair//Shaving over grown hair

27. How long is the incubation period of a turkey?

- ✓ 28 days//4 weeks

28. Apart from having hemoglobin, give any other way red blood cells are able to transport oxygen.

- ✓ Have no nucleus for carrying oxygen//Disc shape (biconcave) to carry oxygen

29. Name the part of a cow that lets milk out from the udder.

- ✓ Teats

30. Give one method of preserving hides.

- ✓ Wet salting//Suspension drying

31. State any one bad health style that leads to still births in humans.

- ✓ Tobacco smoking//Alcoholism

32. State the advantage of dipping a burnt part of a casualty in clean cold water.

- ✓ To minimize swelling of the burnt part//To reduce high temperature//
- ✓ To reduce further damage on skin tissues//To reduce(relieve) pain//
- ✓ To cool temperature around the burnt part//To minimize formation of blisters

33. State the difference between a cassava plant and a bean plant in terms of propagation.

- ✓ Cassava plant propagated by planting stem cuttings while a bean plant propagated by planting seeds.

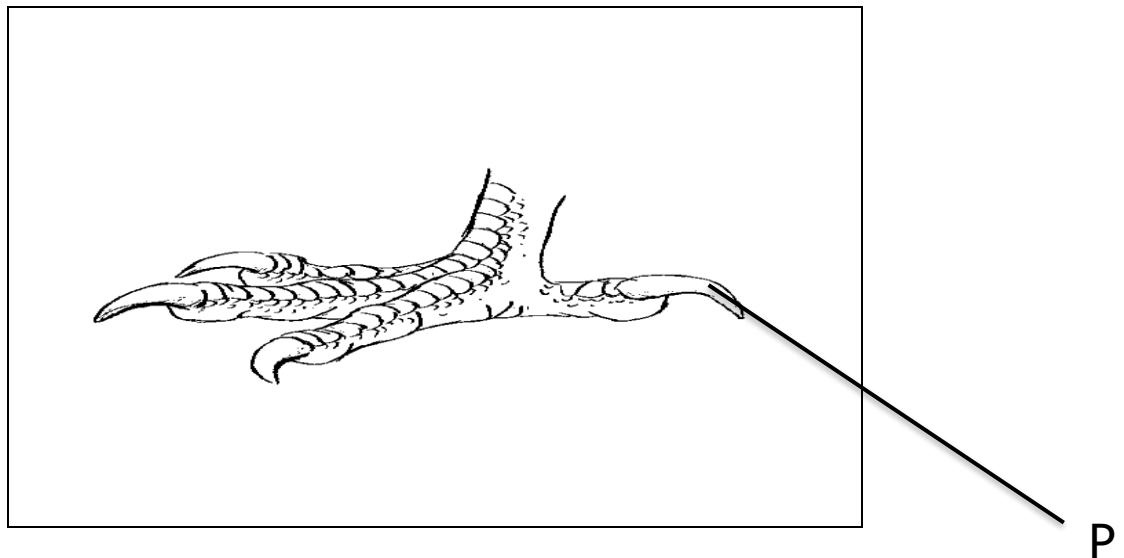
34. Name the element of weather that enables people to dry wet clothes at night.

- ✓ Wind

35. State what could happen to chest cavity when breathing in air.

- ✓ The chest cavity moves upwards and outwards

The diagram below shows the foot of a hen. Study and use it to answer questions 36 and 37.



36. Give the use of part marked P to a hen when feeding.

- ✓ For scratching the ground in search for food

37. To which group of birds does the above foot belong?

- ✓ Scratching birds

38. State any one way soil is formed.

- ✓ Weathering of rocks//Decomposition of organic matter

39. How are perches useful in promoting the health of poultry?

- ✓ Perches enable poultry to do physical exercise

40. Of what importance is docking to a ram?

- ✓ Keeps the ram clean//Ensures even distribution of fats in a ram.

Note: it's a ram (male sheep) not ewe (female sheep) so reject makes mating easy

SECTION B

41a) State any two principles of PHC.

- i) Prevention is better than cure//Total health for all members
- ii) Full participation by all members//PHC activities should be done according to people's priorities//PHC services should be cheap//available e.t.c.

b) Identify any two ways in which an individual can participate in PHC.

- i) Going for antenatal care//Feeding on a balanced diet//Having safe delivery from hospitals
- ii) Taking children for immunization//Promoting good sanitation

42. Complete the table below correctly

Body organ	Digestive juice	ENZYME
Pancreas	Pancreatic juice	Pancreatic amylase//Trypsin// Lipase
Mouth	Saliva	Ptyalin
Stomach	Gastric juice	Pepsin/rennin
Ileum	Succus entericus (intestinal juice)	Peptidase//Lipase//Maltase// Sucrase//Lactase

43. The process below summarizes a certain body process. Study and use it to answer the questions that follow.



a) Identify the human body process shown in the equation above.

✓ Respiration

b) Name the gaseous substances marked W and Z.

I. W-Oxygen

II. Z-Carbondioxide

c) Start the role of the gaseous substance marked W during the human body process above.

✓ To oxidize glucose to produce energy.

✓ To burn glucose to produce energy.

44.a) State any two social and emotional changes that occur in adolescents.

i) They become confused about body changes//Become interested to people of opposite sex//They develop desire for freedom

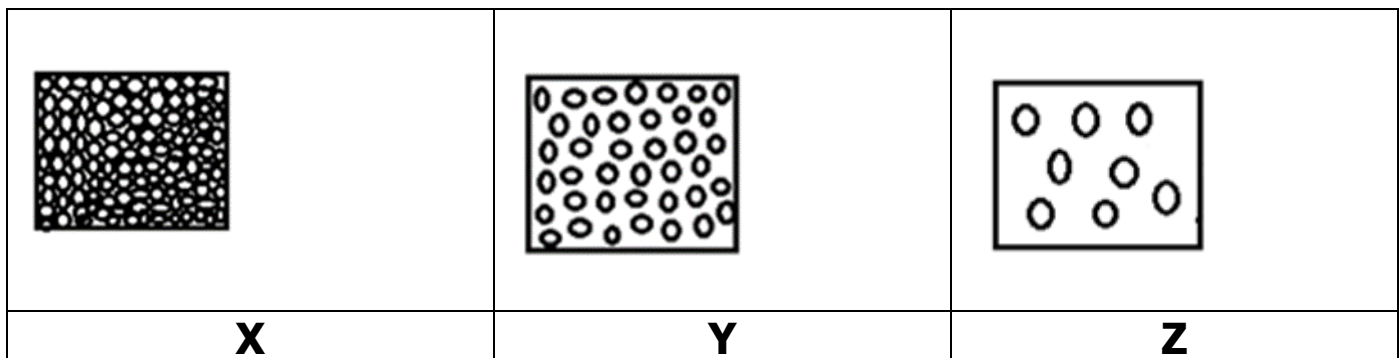
ii) They move in peer groups//Rebel against rules of parents and teachers

b) Give two danger signs of pregnancy among humans.

i) Vomiting at all times//Vaginal bleeding//Lower back pain

ii) Severe tiredness//Prolonged anaemia//Severe swelling of legs and hands//Difficulty in seeing

45. The diagram below shows states of matter. Study and use them to answer the questions that follow



a) Name the force of attraction that holds the molecules of state X above together.

✓ Cohesion

b) State any one difference between the state marked X and Y above

- ✓ State X does not take shape of the container while state Y takes up the shape of the container
- ✓ State X allows heat transfer by conduction while Y allows heat transfer by convection
- ✓ State marked X has closely parked molecules while state Y has fairly spaced molecules
- ✓ State X has high cohesion while state Y has less cohesion

c) Identify the state of matter in which heat travels fastest?

✓ Gases//Gaseous state

d) state the use of the physical process that changes state of matter Z to Y in our daily life.

✓ Helps in rain formation//Helps in distillation of fermented alcohol (crude oil)

46. You are provided with the following materials; water, saucepan, heat source, table salt, fresh banana leaves and peeled matooke.

a) Write the steps Kellen would follow while preparing a local dish at home using the above materials. (04 marks)

- ✓ Place the peeled matooke in the saucepan.
- ✓ Pour enough water to cover the peeled matooke and add a pinch of table salt.
- ✓ Cover the peeled matooke with fresh banana leaves to conserve heat during steaming.
- ✓ Steam the peeled matooke until its ready and serve with any sauce of your choice.

47.a) Mention any two disease that attack the circulatory system.

- i) Sickle cell anaemia//Anaemia (Anemia)//AIDs//Mnemonic:SHALAM
- ii) Haemophilia//Leukemia (Blood cancer)//Malaria

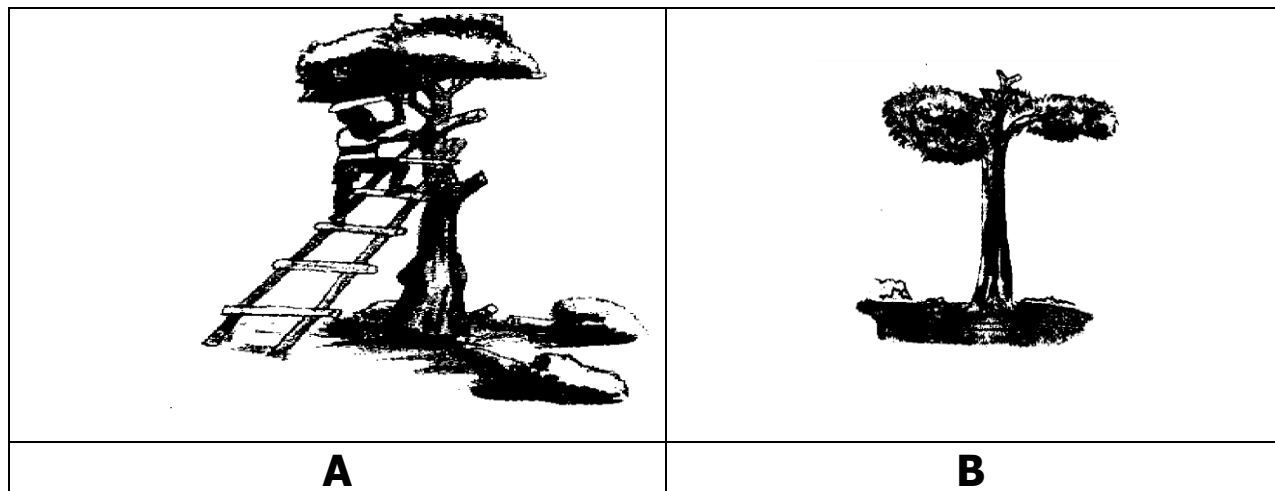
other diseases

- ✓ Coronary Heart disease//Heart Value disease

b) Give any two ways of promoting the proper functioning of the circulatory system.

- i) Eating less oily or fatty food//Performing regular physical exercises//Feeding on balanced diet
- ii) Avoid smoking//Going for regular medical checkups

48.The diagram below shows proper methods of harvesting trees in Agro-forestry. Study them carefully and answer questions that follow.



a). Name the method of harvesting trees marked A and B.

A: Lopping

B: Pollarding

b). Which of the above method of harvesting trees does not cause danger to the trees?

- ✓ Method A

c). Mention any one tool used when harvesting trees using method marked B.

✓ Panga

49.a) State any one example of a single movable pulley.

✓ Cranes//Elevators

b) An effort of 50kgs is used to lift a load of using a single moveable pully.

i) Calculate the size of the load lifted. (02marks)

$$M.A = \frac{L}{E}$$

$$2 = \frac{L}{50}$$

$$Kg(2 \times 50) = \frac{L}{50kg} \times 50kg$$

$$100kg = L$$

$$L = 100kg$$

∴ The size of the load lifted is 100kg

ii) Give one advantage of using the above type of pulley over others.

✓ The above machine reduces effort required to overcome bigger load

50. a) Give the meaning of the term electric circuit.

✓ An electric circuit is a path for the flow of electric current

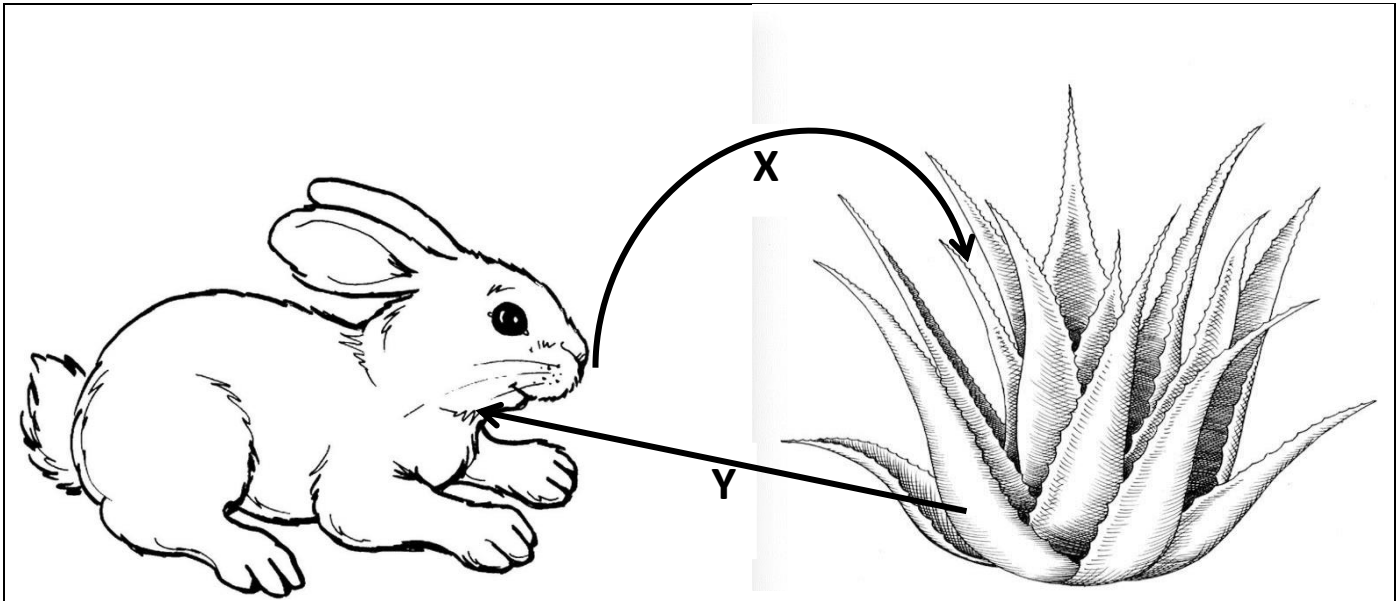
b) Identify the safety device found in the electric circuit.

✓ Fuse

c). State the purpose of switching off the source of electricity as soon as possible as a way giving first aid for electric shock.

✓ To prevent further flow of electric current

51.a) The diagram below shows the relationship between a rabbit and a sisal plant. Study it carefully and answer the questions that follow



a). What name is given to the relationship above?

✓ Interdependence

b). Name the gaseous product marked X and Y.

X: Carbondioxide

Y: Oxygen

c). Give any one way plant benefit from plants.

- ✓ Plants depend on others as habitants//Some plants provide support to others//Some parasitic plants obtain food from host plants
- ✓ Big and tall plants protect short plants against strong wind

52.a) Give any two reasons why carrying out a health survey in an area is important.

- i) Determines health status of people//Creates awareness about health challenges// Helps in identifying health needs to people//Helps in monitoring health programs.
- ii) Provides health health services//Helps in planning for better health services

b). Mention any two issues addressed during health education.

- ✓ Proper sanitation//Control of diseases//Importance of immunization//
- ✓ Importance of proper nutrition//Proper personal hygiene

53.a) Give a reason why a hen turns its eggs using a beak during incubation.

- ✓ To ensure all her eggs get warmth//To supply warmth to all her eggs

b). Apart from warmth, give any other two things provided to chicks in a brooder.

- ✓ Food (Mash)//Water//Protection

c). State any one disadvantage of natural brooding.

- ✓ Chicks can die if not well protected
- ✓ Chicks can be eaten by wild animals
- ✓ Natural brooding cannot be used on large scale

54.a) Why is distilled water not good for drinking?

- ✓ Distilled water lacks mineral salts

b) Mention any two ways of making water safe for drinking

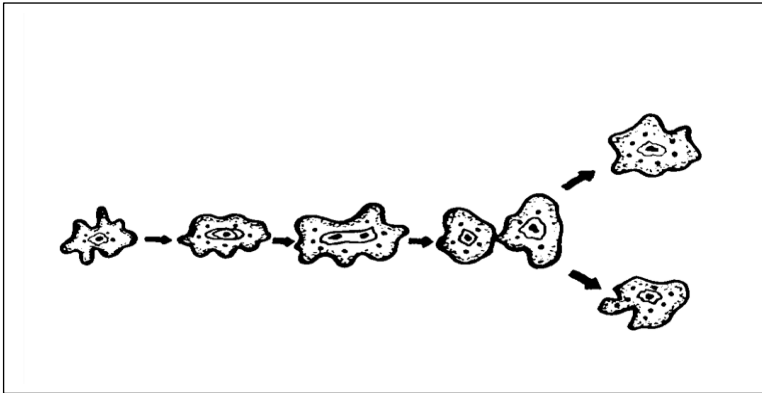
i)Boiling to kill germs

ii) Chlorination//Fluoridation

c). Give any one example of a mixture that can be separated by a magnet.

- ✓ Iron filings and maize flour
- ✓ Iron and sand mixture
- ✓ Iron filings and rice

55. The diagram below shows a mode of reproduction. Study it carefully and answer the questions that follow.



a). Name the mode of reproduction shown above.

✓ Cell division//Binary fission

b). How is the mode of reproduction shown above different from that of most fungi?

✓ Most fungi reproduce by spore formation (sporulation) while the above mode of reproduction is by cell division (binary fusion)

c). In which two ways are bacteria useful to people?

i) For fermenting milk to make cheese//Some bacteria are used to make vaccines//For fermenting milk to make yoghurt//Bacteria help in reducing large volume of faeces in latrines

ii) Bacteria help in decomposition of wastes to form compost manure//Some bacteria enable production of biogas//Bacteria help in decomposition of rubbish in rubbish pits

TEACHERS SHOULD TRAIN THEIR LEARNERS TO WRITE SPECIFIC ANSWERS WHILE ANSWERING QUESTIONS

EXAMPLE

1. How are houseflies dangerous to human beings?

- ✓ They spread diarrhoeal diseases
- ✓ They spread trachoma.
- ✓ They spread dysentery.

NOT

They spread diseases to humans