



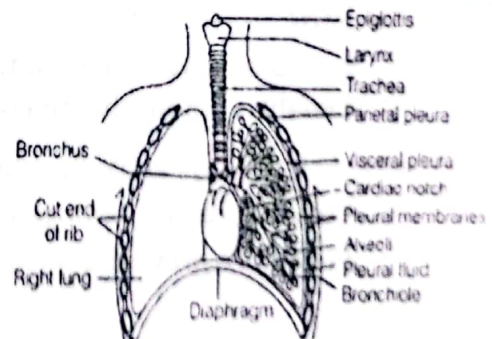
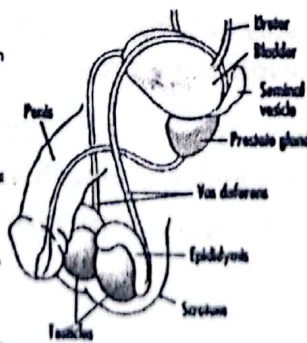
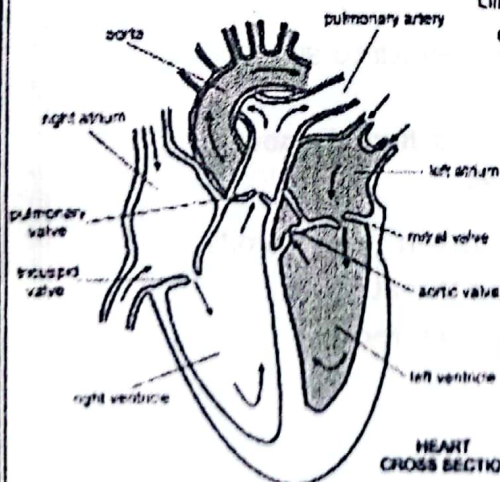
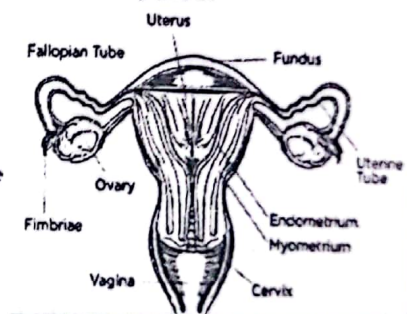
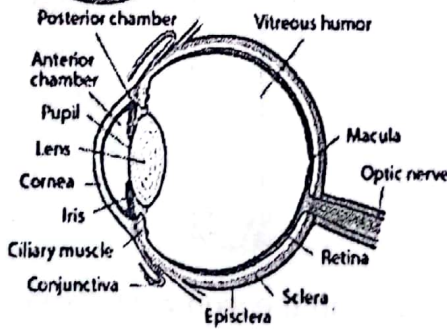
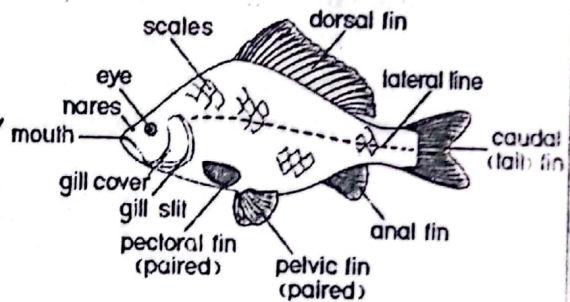
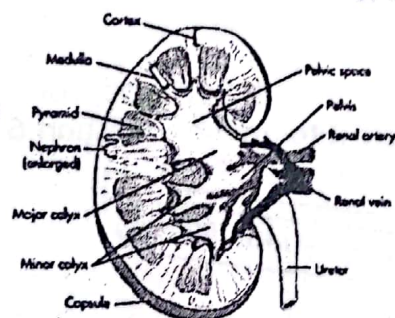
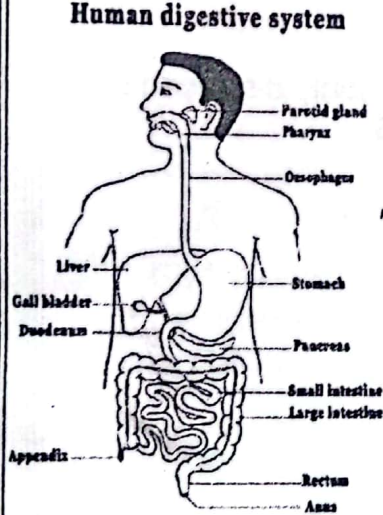
SUREKEY EXAMINATIONS BOARD PRIMARY SEVEN TARGET SERIES

2023

INTEGRATED SCIENCE OFFICIAL MARKING GUIDE

PREPARED BY:
Human digestive system

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Diagrammatic view of human respiratory system
(sectional view on the left side)

SECTION A: 40 MARKS

1. Name the stage in the life cycle of a butterfly that destroys plants.
✓ Larva // caterpillar
2. How is a sprain different from a strain?
✓ A sprain is a torn / over stretched ligament while a strain is a torn / overstretched tendon / muscle
3. What happens to pollen grains when they land on the stigma?
✓ A pollen tube develops towards the ovary
4. Which body organ is attacked by yellow fever?
✓ the liver // liver
5. Give any **one** way in which honey is useful in industries.
✓ Used to make cough syrup
✓ Used to make sweets and chocolates
✓ Used to make cosmetics like lip shiners
✓ Used to make dye and soap
✓ Used as a preservative

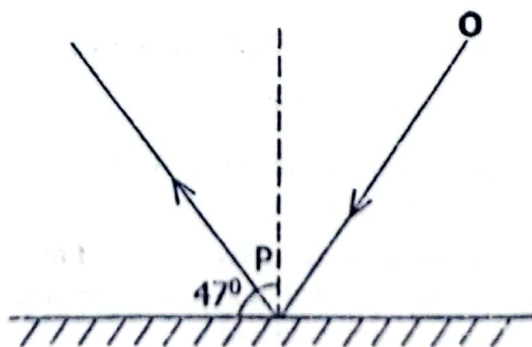
The diagram below shows a message in the signpost commonly displayed in school compounds. Study and use it to answer question 6.



6. In which way is the message in the sign post above helpful to school children?
✓ It enables school children to stay at school / prevents school dropouts
✓ It enables school children to avoid early pregnancies
7. Why is it not advisable to make a casualty who has taken jik to vomit?
✓ Vomiting causes damage to the gullet, stomach and throat
(Reject: To prevent damaging the gullet, stomach and throat)

8. Apart from hormones, write down any **one** other substance transported by blood plasma in the body.
 ✓ Carbon dioxide // water // amino acids // mineral salts // vitamins // glucose // antibodies // medicines. (Reject: oxygen)
9. Give any **one** feature used to classify birds.
 ✓ Nature of the beak // Nature of the foot // Body structure // Mode of feeding // Mode of movement
10. Mention any **one** group of people that receives Tetanus Toxoid (T.T) vaccine.
 ✓ Adolescent girls // pregnant / expectant mothers
11. Why does a pencil put in a transparent glass with water appear bent?
 ✓ Due to refraction of light
12. State any **one** way in which a spider benefits from its cobweb.
 ✓ For protection // For trapping its prey // For breeding // For shelter
13. Give any **one** feature on a bean plant that makes it a legume.
 ✓ A bean plant has root nodules on its roots
 ✓ A bean plant stores its seeds in pods
14. State the danger of keeping flammable liquids like petrol in a residential house.
 ✓ Petrol can easily catch fire in the house
 ✓ It can lead to fire outbreak when petrol comes into contact with heat
15. Give the main reason why farmers harvest their crops during dry season.
 ✓ There is plenty / abundant sunshine to dry harvested crops / To allow proper drying of harvested crops
16. Name the communicable intestinal disease that makes a person to pass out blood stained stool.
 ✓ dysentery

The diagram below shows rays of light striking a plane mirror. Use it to answer questions **17** and **18**.



17. Name the ray of light marked **O**.

✓ Incident ray

18. What is the size of angle marked **P** on the diagram above?

$$\angle P + 47^\circ = 90^\circ$$

$$\angle P + 47^\circ - 47^\circ = 90^\circ - 47^\circ$$

$$\angle P = 43^\circ$$

The size of angle marked **P** is 43°

19. State any **one** habit that an individual can do to promote oral health.

✓ Regular brushing of teeth // Dental flossing teeth // Regular rinsing of the mouth

20. Give any **one** way in which trees help to control soil erosion.

✓ Trees act as windbreaks (*Reject wind brakers / breakers*)

✓ Tree roots hold soil particles together

21. How is the function of the endosperm different from that of the cotyledon in a maize grain?

✓ The endosperm stores food for the embryo while the cotyledon supplies food from the endosperm to the embryo during germination

22. Give any **one** organism that reproduces by binary fission.

✓ Bacteria // amoeba

23. State any **one** way in which vectors spread germs to people.

✓ Through bites

✓ Through contaminating food

✓ Through body contact

✓ Through hairy body

✓ Through contaminating water

24. How is wax important in the human ear?

✓ Wax traps dust / dirt

✓ Wax lubricates the ear

The diagram below shows an equipment commonly found in schools.
Use it to answer questions **25** and **26**.



25. Identify the equipment shown above.

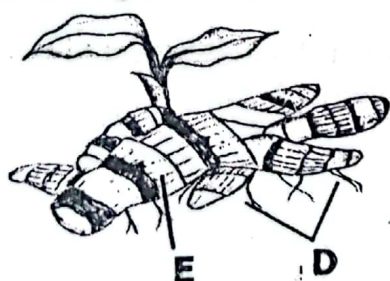
✓ Fire extinguisher

26. Why should the equipment above be kept outside the school buildings?

✓ For easy accessibility in case of fire outbreak / For easy identification in case of fire outbreak / To be easily seen when fire breaks out

27. How is the energy resource got from animals helpful during land preparation?
Oxen are used for ploughing land
28. State any **one** way in which humus is important in the soil.
✓ Provides nutrients for proper plant growth
✓ Binds the soil particles together
29. Which body system is affected by choking?
✓ Respiratory system (Reject digestive system)
30. Why are ventilators put at a higher level than windows?
✓ To let out warm air which is less dense than cool air
31. State **one** way of promoting food security at home.
✓ Storing enough food ✓ Proper storage of food
✓ Preserving food ✓ Growing drought resistant crops
✓ Practising good farming methods
✓ Early planting
32. Give any **one** cause of short circuit at home.
✓ Poor wiring when installing electricity in buildings
✓ Pushing metallic objects in electric sockets
✓ Overloading electric sockets ✓ Faulty appliances

The diagram below shows a rhizome. Use it to answer questions 33 and 34.



33. Name the part marked **D**.
✓ Adventitious roots
34. State the function of part marked **E** to the rhizome.
✓ Stores food for the rhizome
35. State any **one** factor that leads to alcoholism.
✓ Peer pressure // boredom // idleness // frustration // stress // family background
// excitement // success // happiness
36. Mention any **one** factor one should consider before starting a livestock farm.
✓ land // labour // capital // management // market // (mnemonic LCM)
37. Why are logs of wood for making charcoal burnt under the limited supply of oxygen?
✓ To prevent the wood from burning to ash
38. Give any **one** example of a health concern in the community.
✓ Poor water supply // poor food supply // poor sanitation // poor Disease out break

39. In which way is the use of a sickle different from that of a garden trowel in crop farming?

✓ A sickle is used for harvesting cereals while a garden trowel is used for transplanting seedlings

40. Write down any **one** example of a water impurity.

✓ Human wastes // agrochemicals // animal dung // urine // silt // fish poison // decomposing plant or animals // industrial funds

SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each.

41. (a) Give any **two** causes of cannibalism in domestic birds.

✓ Overcrowding birds in the coop
✓ Poor feeding of birds (lack of proteins in feeds)
✓ Starving birds
✓ Bright lighting

(b) Apart from cannibalism, give any **one** other bad habit practiced by domestic birds.

✓ feather pecking // egg eating // toe pecking (mnemonic: FECT)

(c) State any **one** way in which a poultry farmer can control the outbreak of cannibalism in domestic birds

✓ Handling green vegetables in the coop
✓ Regular feeding of birds
✓ Avoid over stocking
✓ Providing enough feeds to birds
✓ Cull cannibal birds
✓ Control the amount of light in the coop
✓ Providing enough space to birds
✓ Debeaking birds

42. (a) Write down any **two** examples of anti-social behaviour.

✓ Truancy // arson // murder // smoking // stealing / theft // robbery // telling lies // abusive language

(b) State any **two** causes of anti-social behaviour.

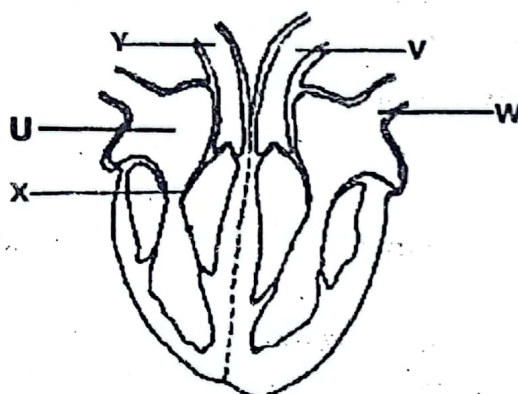
✓ Lack of proper guidance and counselling
✓ Joining bad peer groups
✓ Failure to punish law breakers
✓ Living in a society with poor morals
✓ Unfulfilled promises by some parents
✓ Pampering children by some parent

43. (a) Give any **two** examples of biological changes that take place in both plants and animals.

✓ Reproduction // growth // fertilization

- (b) State any **two** characteristics of physical changes.
- ✓ They are reversible
 - ✓ They form temporary substances
 - ✓ The mass of the substance remains the same
 - ✓ The chemical properties remain the same
 - ✓ There is no change in the weight

44. The diagram below shows the human heart. Study and use it to answer the questions that follow



- (a) Name the parts marked **U** and **V**.
- (i) **U** - right auricle / atrium
 - (ii) **V** - Aorta
- (b) State the function of part marked **X** in the human heart.
- ✓ Part **X** prevents the backflow of blood
- (c) How is blood carried by blood vessel marked **Y** different from blood carried by blood vessel marked **W**?
- ✓ Blood carried by blood vessel marked **Y** is deoxygenated while blood carried by blood vessel **W** is oxygenated

45. (a) State any **one** cause of convulsions in children.
- ✓ Fever // epilepsy // diseases like malaria // electric shock
- (b) Write down any **two** signs of convulsions in children.
- ✓ High blood temperature
 - ✓ Excessive sweating
 - ✓ Uncontrolled body movements
 - ✓ Frequent urination
 - ✓ Bubbles of saliva in the mouth
- (c) Why is it advisable to put a hard object in the mouth of a convulsing child?
- ✓ To prevent the casualty from biting his / her tongue
46. (a) Apart from decomposition, which other process helps in the formation of biogas.
- ✓ fermentation

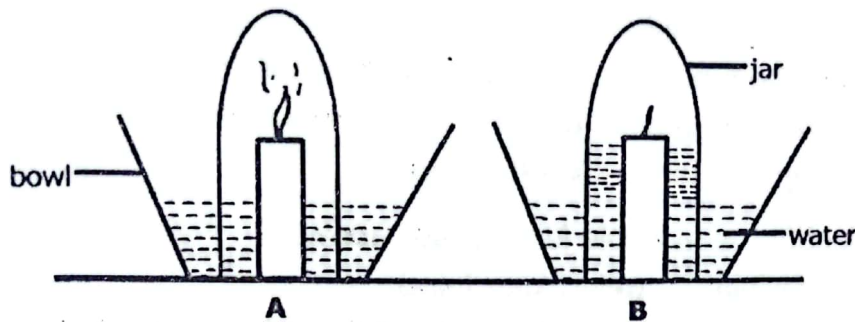
- (b) Write down any **two** organic materials used in the production of biogas.
 ✓ Animal dung // banana peelings // poultry droppings // potato peelings // urine // cassava peelings
- (c) State any **one** advantage of using biogas over natural gas.
 ✓ Biogas is cheaper to use than natural gas
 ✓ Materials use to make biogas are easier to access while natural gas requires extraction of crude oil to get it

47. (a) Give any **two** examples of rodents.
 ✓ Rats // squirrels // beavers // mole rats // mice // porcupines // guinea pig
 (Reject: rabbits)
- (b) What type of teeth are well developed in rodents?
 ✓ Incisor teeth
- (c) How are rodents dangerous to crop farmers?
 ✓ Some rodents destroy farmers' crops / They are crop pests
48. The table below shows groups of musical instruments. Study and use it to answer the questions that follow.

Group A	Group B	Group C
Bell	Guitar	Horn
Xylophone	Bow harp	Flute
Drum	Violin	Trumpet
Shakers	Lyre	Panpipes

- (a) Name the group of musical instruments to which devices in group **B** belongs.
 ✓ String musical instruments
- (b) State the difference between a bell in group **A** and a horn in group **C** in the way they produce sound.
 ✓ A bell produces sound by vibration of its surface when hit while a horn produces sound by vibration of air blown in inside it
- (c) How can the pitch of a guitar in group **B** of the table above be varied?
 ✓ By tightening or loosening the strings
- (d) Identify the group from the table above to which vuvuzela belongs.
 ✓ group c (Reject wind musical instruments)

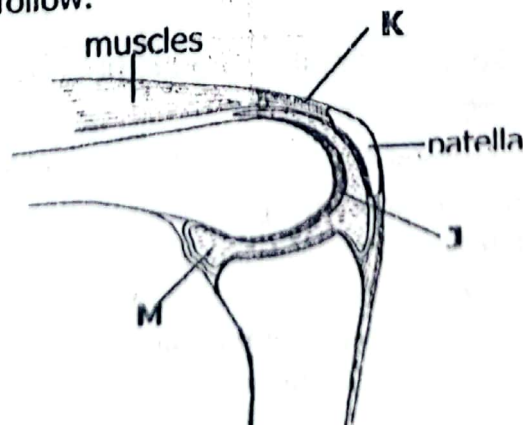
49. The diagram below shows a candle flame placed in a jar in a bowl containing water. Study and use it to answer the questions that follow.



- (a) Which gas is found in the jar in diagram A?
✓ **Oxygen**
- (b) Why does the candle flame go off in the jar as shown in the diagram B?
✓ **oxygen that supports burning is used up**
- (c) Give a reason why the level of water rises as shown in the diagram B.
✓ **To occupy the space left by used up oxygen**
- (d) What is the main purpose of carrying out the experiment above?
✓ **To prove that oxygen supports burning**

50. (a) Name the germ that causes syphilis.
✓ **bacteria**
- (b) State any **two** signs and symptoms of syphilis.
✓ **Painless sores on the penis or, in the vagina**
✓ **Mild fever // sores in the throat and mouth // swollen joints // loss of hair on the head // painful rash all over the body // swollen lymph nodes**
- (c) Why is it important for both married couples to go for treatment together in case they are infected with syphilis?
✓ **To prevent reinfection**

51. The diagram below shows a movable joint. Study and use it to answer the questions that follow.



- (a) Name the parts marked **J** and **M**.
 (i) Cartilage
 (ii) Synovial fluid
- (b) State the function of part marked **K** at the joint.
 ✓ It attaches muscles to bones (Reject Reduces friction)
 ➤ Note: Part marked K is the tendon
- (c) Identify the movable joint shown above.
 ✓ Hinge joint (reject knee joint)
 ➤ Note: A knee is not a joint but a place where hinge joint is found or located

52. (a) State any **two** signs shown by a cow on heat.
 ✓ The cow urinates frequently ✓ The cow makes a lot of noise
 ✓ The cow mounts other cows ✓ Discharge of mucus from vulva
 ✓ The cow becomes restless ✓ The cow loses appetite
- (b) Give any **one** advantage of artificial insemination in cattle management.
 ✓ Controls inbreeding
 ✓ Reduces the cost of buying bulls on the farm
 ✓ Many cows are inseminated within a short time
 ✓ Prevents the spread of venereal diseases
- (c) Name the farm practice carried out by cattle farmers to reduce injuries among cattle.
 ✓ Dehorning / disbudding

53. The tables below shows crop farming practices. Study and use them to answer the questions that follow.

R	Seasons	1	2	3
	Crops grown	Maize	Millet	Sorghum

T	Seasons	1	2	3
	Crops grown	sorghum	Ground nuts	Cassava

- (a) Name the crop farming practices marked **R** and **T**.
 (i) Monoculture / monocropping
 (ii) Crop rotation
- (b) Why are ground nuts included in the crop farming practice marked **T**?
 ✓ Ground nuts add nutrients into the soil
 ✓ To maintain the fertility of the soil

- (c) State any **one** in which the crop farming practice marked **R** affects the soil.

✓ It causes soil exhaustion / loss of soil fertility / it makes the soil lose nutrients

54. (a) Name the digestive juice produced by;

(i) Stomach - gastric juice

(ii) Pancreas - pancreatic juice

- (b) State any **one** thing that happens to food in the mouth.

✓ Food is chewed // food is softened // food is moistened // food is rolled into bolus // digestion of cooked starch begins // food is lubricated // food is mixed with saliva.

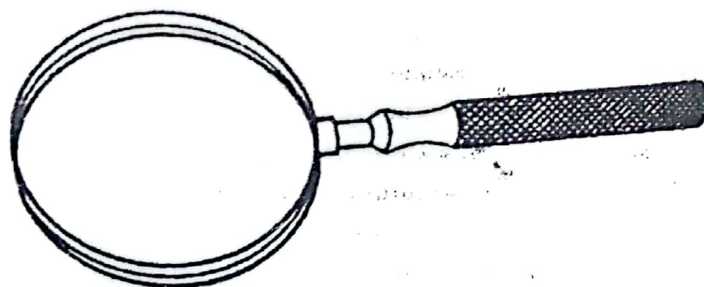
- (c) Give any **one** role of the tongue during digestion of food.

✓ Rolls food into bolus

✓ Pushes food into the gullet during swallowing

✓ Mixes food with saliva

55. The diagram below shows an optical device. Study and use it to answer the questions that follow.



- (a) Name the optical device shown above.

✓ Magnifying lens

- (b) How is the optical device above useful to people?

✓ It is used for reading small texts

✓ It used for viewing tiny objects

✓ It used for starting fire using tinder

- (c) Which type of lens is used in the optical device above?

✓ Convex lens

- (d) State any **one** characteristic of images formed by the optical device above.

✓ Images are upright // Images are virtual // Images are magnified (bigger than objects)