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INTEGRATED SCIENCE 2017 (Marking guide)

Time allowed: 2 hours 15 minutes

Index No:

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Candidate's Name.....

Candidate's signature.....

District Name.....

Read the following instructions carefully

1. This paper has two sections **A** and **B**. Section **A** has 50 questions and section **B** has 5 questions. The paper has 15 pages following altogether.
2. Answer all questions. All answers to both sections A and B must be **written** in the spaces provided.
3. All answers must be written using a blue or black ball-point pen or ink. **Any** work written in pencil other than graphs, pictures and diagrams will **not** be marked.
4. Unnecessary change of work may lead to loss of marks.
5. Any handwriting that cannot easily be read may lead to loss to marks.
6. Do not fill anything in the boxes indicated:
7. "For examiners'. Use only and inside the question paper

FOR EXAMINERS USE ONLY		
Qn.No	MARKS	EXR'S NO.
1-10		
11-20		
21-30		
31-40		
51		
52		
53		
54		
55		
<b>Total</b>		

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1. State the injury caused by steam to a human body.

**Scald**

2. What type of electricity is lightening?

**Static electricity**

3. Give any **one** way in which termites benefit from soil.

**Get shelter**

**They obtain food material from soil**

4. State **one** effect of gonorrhoea on female reproductive system.

**Increased vaginal discharge.**

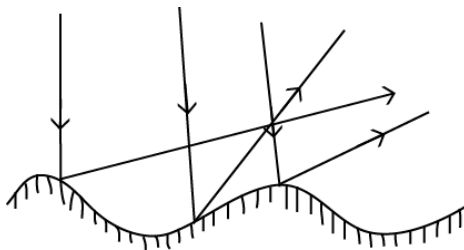
**Vaginal bleeding between periods, such as after vaginal intercourse**

**Blockade of fallopian tubes**

5. What is the importance of gap filling in crop growing?

**To maintain optimum plant population.**

The diagram below shows reflection of light. Study and use it to answer questions 6 and 7



6. What type of reflection is shown above?

**Diffuse reflection**

7. Why are the rays reflected as shown in the diagram?

**Because the reflecting surface is rough or uneven**

8. State any **one** way in which alcoholism affects a family.

**School dropout due to alcoholic failing to pay fee or attend classes**

**Self-neglect of the alcoholic**

**Increased accident of an alcoholic**

**Marital conflicts and abusive language**

**Fighting and violence- alcoholics have a tendency of fighting and being violent.**

**Robbery**

9. State any **one** reason why animals make sound.

**To sound warning**

**To entice mates**

**To express pain**

**To express happiness**

**To sense obstacles during motion e.g. bats**

**To protect territories**

10. Name the process through which water turns into ice.

**Freezing**

11. In which **one** way does toothpaste promote oral health?

**Strength tooth by providing calcium and fluoride**

**Ensure effective cleaning of teeth by removing plaque/bacteria from the teeth**

12. State any **one** physical change that takes place during the process of distillation of alcohol.

**Evaporation**

13. What is the importance of the rings of cartilages of the trachea in the respiratory system?

**Maintain the trachea open when pressure falls**

14. Why does a nail sink in water?

**It is denser than water**

15. Give any **one** danger of wetland drainage to water animals.

**Water animals lose habitats when wetlands are drained**

**Water animals die due to lack of water for breathing when wetlands are drained**

16. State any **one** principle of primary Health care.

**personal hygiene**

**sanitation**

**good nutrition,**

**maternal and child health,**

**prevention and control of endemic diseases.**

**health education**

17. Why are laying boxes put in dark corners of a poultry house?

To provide chickens **a safe location where they can lay their eggs in peace**

18. Apart from causing diseases, give one other way in which fungi are harmful to people?

Provide food nutrients

Provide medicine

Decompose sewage into non-poisonous substances

Used for baking

Used for brewing

19. How is reflected sound helpful to sailors?

To detect obstacles in its surrounding

to detect depth of water.

20. Give **one** way in which molluscs are different from other invertebrates.

Have soft bodies

May have shells to protect their bodies

21. Give any **one** mineral deficiency disease in humans.

**Anemia due to lack of iron**

**Goiter due to lack of iodine**

**Osteoporosis due to deficiency of calcium**

22. Name the type of bees, which develops from unfertilized eggs.

**Drones or honey bee males**

23. State any **one** way in which the spread of germs by houseflies can be controlled.

Use of insecticides

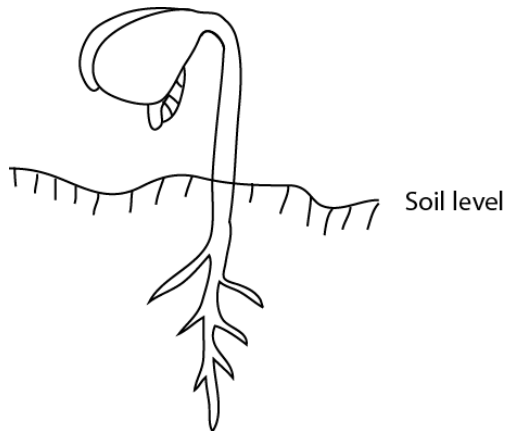
Cover food

Eat hot food

Keep home clean

Fly screens should be installed over ventilation covers and drain to prevent house flies from entering

The diagram below shows a germinating seed. Study and use it to answer questions 24 and 25.



24. What type of germination is shown in the diagram above?

**Epigeal germination**

25. To which group of flowering plants does the germinating seed belong?

**Dicotyledonous plant**

26. State any **one** way in which saliva is useful in the process of digestion.

**Softens food to ease swallowing**

**Contains amylase enzyme that digests starch**

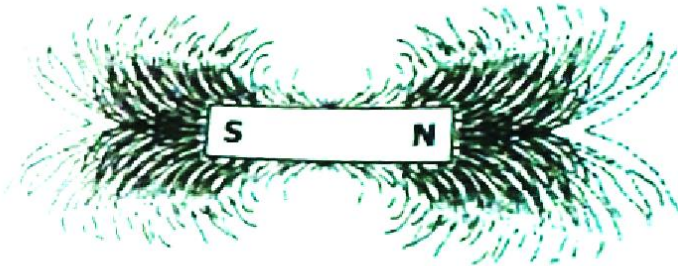
27. Name the vaccine which is given to prevent three childhood immunizable diseases.

**MMR for mumps, measles and mumps**

28. Give **one** reason why less effort is applied to move a load using first class levers.

**Less effort is used when applied far from the fulcrum than the load**

29. The diagram below shows a bar magnet with iron filings around it. Study and use it to answer the question that follows



Which property of magnets is shown in the diagram above?

**Magnets have magnetic field around them**

30. State any **one** sign of disease on the plant leaves.

**Chlorosis (yellowing of leaves)**

**Leaf rust (common in corn)**

**Leaf spot (septoria brown spot)**

**Leaf wilt**

**Leaf death**

31. Name the organ, which regulates the human body temperature.

**Skin**

32. State any **one** way in which animals can be used as energy resource.

**Excreta are used to make biogas**

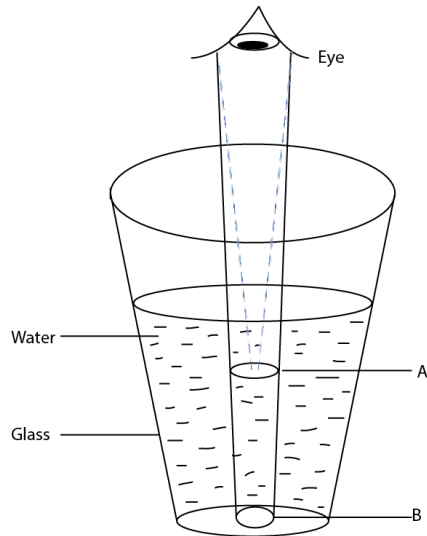
33. Which method of harvesting trees allows new shoots to grow for the stump?

**Coppicing**

34. Give any**one** way of controlling the bad smell in an ordinary pit latrine.

**Smoking**

35. The diagram below shows an object in a glass of water. Study and use it to answer the questions that follows.



Why does the object seem to appear at point **A** yet it is at point **B**?

**Due to refraction of light**

36. State any **one** sign of snuffle disease in rabbits.

- Fever
- mucus coming from the nostrils
- Runny eyes.
- breathing problems, possibly some wheezing, coughing and sneezing,

37. Which property of air makes the lungs to expand when we breathe in?

**Air occupy space**

38. Apart from curing diseases, give **one** other characteristic of essential drugs.

**Prevent diseases**

**Reduce pain**

**Provide dietary supplements**

39. Why is biogas regarded as an environmentally friendly source of energy?

- **Reduces deforestation**
- **It is renewable**
- **can help reduce methane and black carbon emissions**

40. State any **one** characteristic of seeds dispersed by wind.

**They are light**

**They have hairy extension**

**Have wing-like extension**

SECTION B: 60MARKS

Question 41 and 55 carry four marks each

41. (a) Give any two signs which show that a baby is dehydrated

- (i) Sunken eyes
- (ii) Pale skin
- (iii) a dry or sticky mouth.

(b) State any **two** pieces of advice to give to a mother whose baby is dehydrated.

- (i) Give oral rehydration salt solution
- (ii) Give a lot of fruit fluids

42 (a) Use the living things listed below to complete the given food chain

Lion, Goat, grass

grass → Goat → lion

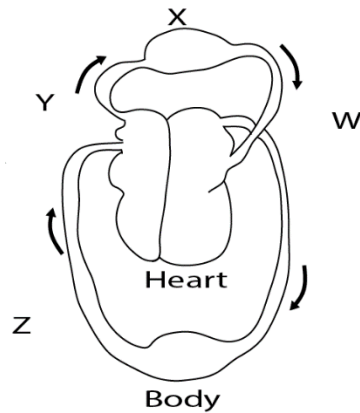
(b) Which one of the livings in the food chain above is a producer?

grass

(c) What is the source of energy for the producer in the food chain above?

sunlight

43 The diagram below shows circulation of blood in the body. Study and use it to answer the questions that follow.





(a) Name the organ marked with letter X

**lungs**

(b) Which blood vessel is marked with letter W?

**Pulmonary vein**

(c) State the similarity between blood vessel Y and blood vessel Z.

**Both carry deoxygenated blood**

(d) Why does vessel W bring blood back to the heart?

**To get oxygenated**

44. (a) Write down any two causes of soil erosion

(i) **wind**

(ii) **Rain**

(iii) **animals**

(b) Which agent of soil erosion causes gullies?

**water**

(c) How does soil erosion lead to soil infertility?

**It remove top fertile soil**

45. The table below shows information collected from five homes during a healthy

Homes	Sanitation items checked			
	Latrine	Rubbish pit	Bathing shelter	Drying rack
A	X	X	✓	X
B	✓	✓	✓	✓
C	X	✓	✓	✓
D	X	X	X	✓
E	X	✓	✓	X

survey. Study it to answer the question that follow.

Key

X = item missing

✓ = item present

- (a) Which home had all the sanitation items?

**B**

- (b) Identify the sanitation item missing in most of homes surveyed.

Latrine

- (c) Name any one disease that is likely to attack homes A, C, D and E.

Intestinal worms and dysentery.

- (d) Give any one other sanitation item which could be added in the health survey.

Kitchen

46. (a) What causes fainting?

Low blood to flow to the brain

- (b) State any two conditions that can lead to fainting.

- (i) **to anxiety, fear, pain, intense emotional stress, hunger, or use of alcohol or drugs, hunger, sickness.**

- (c) Why are the legs of a person who has fainted raised higher than the head when giving first Aid?

**To increase blood flow to the brain**

47. Use the list of crops given to answer the questions that follow.

Conifer, coffee, cassava, groundnuts

- (a) Which crop on the list is propagated by use of stem cutting?

**Cassava**

- (b) Identify any one crop on the list which is:

- (i) An annual crop.

Groundnuts

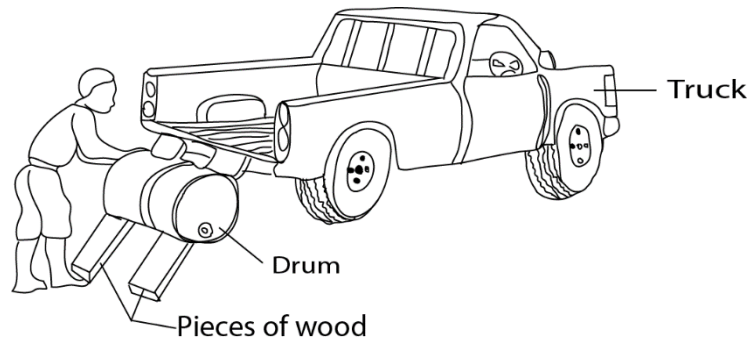
- (ii) A perennial crop.

Coffee, conifer

- (c) Give any one way in which a conifer is different from all the other crops on the list

It bears cones and not flowers, produces naked seed

48. The diagram below shows a man using a simple machine to load a drum on to a truck. Study and use it to answer the questions that follow.



- (a) What type of simple is the man using?

**Inclined plane**

- (b) Give any examples of the type of simple machine you have named in (a) above.

- (i) ladder
- (ii) Stair, slopping road

- (c) How can the man improve on this simple machine above in order to make his work easier?

**Using long wood to reduce the slope**

.....

- 49 (a) Which breed of cattle is obtained by making a pure local breed and an exotic breed?

**Hybrid**

- (b) Give any **two** reasons why some farmers prefer keeping local breeds of cattle to exotic breeds.

- (i) Resistant to diseases

(ii) **can survive and produce milk on poor feed and fodder resources**

(c) State any one characteristic of dairy cattle

**Big udder**

50 (a) Name any two bones that form the joint at the knee of the human body.

(i) Femur

(i) tibia

(b) What name is given to the joint at the knee?

Hinge joint

(c) In which one way friction reduced at a joint?

Smooth cartilage at bone ends

Presence of synovial fluids

51 The table below shows some common infection, organisms that cause it and the body part affected. Study and complete it correctly.

Common infections	Organism that cause it	Body parts affected
<b>Trachoma</b>	Chlamydia	Eyes
Tuberculosis	bacteria	<b>lungs</b>
<b>Polio</b>	Virus	Muscle and bones
scabies	mites	Skin

52 (a) Apart from rainfall, give one other element of weather necessary for plant growth.

sunlight

(b) In which two ways is rainfall important for plant growth?

(i) Provide water for photosynthesis

(ii) Cools the plant

(iii) Softens soil for penetration of roots

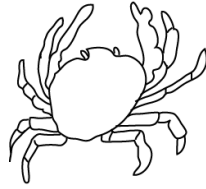
(c) State any one disadvantage of too much rainfall to plants.

Causes flooding reducing air in the soil

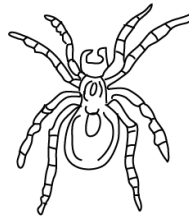
Cause trees to fall

53

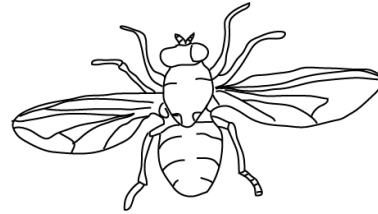
The diagrams below show animals in the arthropods group. Study and use them to answer the questions that follow.



X



Y



Z

(a) Name the group of arthropods to which animals X and Y belong

(i) X - Crustacean

(ii) Y - arachnids

(b) Give any one reason why animal Y does not belong to the same group as animal Z.

Y has two body parts while Z has three main body parts

Y has four pairs of legs while Z has three pairs of legs

Y has no wings while Z has wings

(c) How are animals X, Y and Z similar in the way they reproduce?

They lay eggs

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54

(a) Apart from raising the temperature of substances, give any two effects of heat on matter.

(i) Melts metal.

(ii) Burns them

Decompose matter

Cause expansion

Causes evaporation

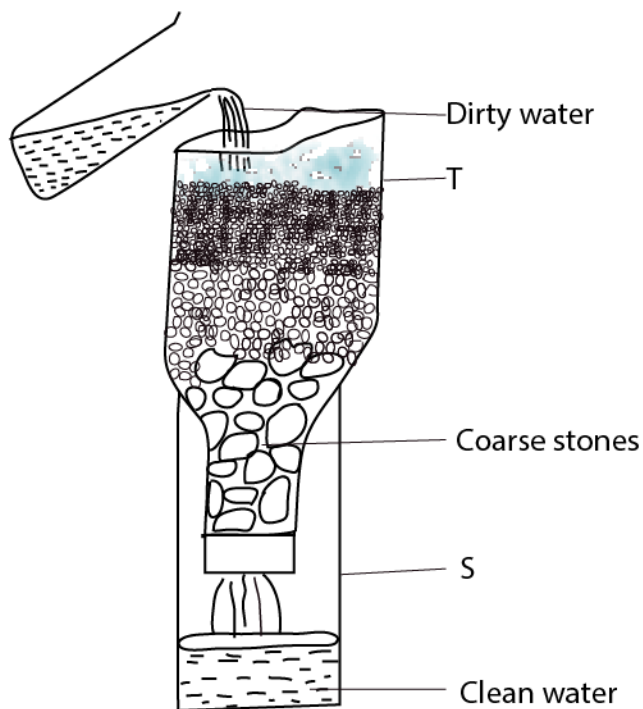
(b) State any two ways in which heat transfer by conduction is important to people.

(i) During ironing clothes

(ii) thermostat

55. The diagram below shows a simple method of making water clean.

Study and use it to answer the questions that follow.



(a) Name the method shown above

Filtration

(b) Apart from the coarse stones, name any **two** other local materials which are placed in container **T**.

(i) sand

- (ii) Charcoal powder
- (c) Why should the clean water obtained in containers be boiled before drinking?  
To kill germs

END