



UGANDA NATIONAL EXAMINATIONS BOARD
PRIMARY LEAVING EXAMINATION
2020

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

Random No.	Personal No.

Candidate's Name: SCIENCE MARKING SCHEME

Candidate's Signature:

District ID No.

Read the following instructions carefully:

1. Do not write your school or district name anywhere on this paper.
2. This paper has two sections: **A** and **B**. Section **A** has **40** questions and section **B** has **15** questions. The paper has **15 printed pages** altogether.
3. Answer **all** questions. **All** answers to both Sections **A** and **B** must be written in the spaces provided.
4. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any work written in pencil will **not** be marked.
5. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss** of marks.
6. Do not fill anything in the table indicated: "**For Examiners' use only**" and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	MARKS	EXR'S NO.
1 - 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53 - 55		
TOTAL		

c10

SECTION A: 40 MARKS

Questions 1 to 40 carry one mark each.

- C 1. Name the type of cloud which is the highest in the sky. P·4

Cirrus

- A 2. State any one way of controlling the spread of ringworm among children P·4

- bathing chg regularly // avoid sharing clothes, beddings //
bathing utensils // washing and ironing clothes //

- C 3. P·5 Which type of soil erosion creates deep channels in the ground? ~~ing tools~~

Gully // Gully erosion

- C 4. Name the component of blood affected by the sickle cell disease. P·6

Red blood cells // Red blood corpuscles

- C 5. What is the function of the endosperm of a maize grain? P·4

stores food // For food storage //

The diagram below shows a change in state of matter. Use it to answer questions 6 and 7.



- C 6. What is the state of matter at Z? P·5

Solid state

- C 7. Name the process by which Z changes back to liquid. P·5

Melting

- C 8. Which part of a cow is affected by mastitis disease? P·6

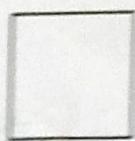
The udder // Teats

- C 9. State the principle on which a periscope works. P·7

Reflection of light // Light can be reflected

- C 10. State any one condition that favours the multiplication of bacteria. P.5

Warmth // Food // moisture //



- C 11. Give any one example of a non-renewable energy resource. P.7

Coal // crude oil // Petroleum // Uranium // Natural gas //

- A 12. State any one way in which the spread of germs through fingers can be controlled. P.4

Washing hands & clean H₂O // Grooming finger nails short // Clipping // Sanitizing hands // Wearing gloves // Avoid hand shaking // using Wipes // cutting finger nails short

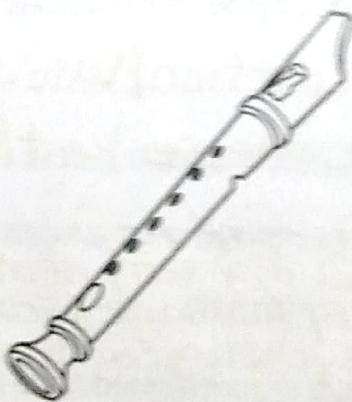
- C 13. Which method of heat transfer does not need any form of matter? P.5

Radiation

- C 14. State any one characteristic of a worker bee. P.5

Has a sting // Pollen basket // sterile // smallest // it has no ovipositor.

The diagram below is of a musical instrument. Use it to answer questions 15 and 16.



- C 15. Name the group of musical instruments to which the instrument above belongs. P.6

Wind instrument // Aerophone

- A 16. How can the pitch of the above instrument be varied? P.6

Closing and opening holes at intervals

While blowing

- C 17. How are legumes different from other dicotyledonous plants? P.6

Legumes have root nodules // keep seeds in pods // Have pods.

- K 18. State the method used to find the volume of an irregular object. P.5

Displacement method.

- A 19. Give any one way in which a school health club can promote health in their community. - Organising health meetings // Reporting health problems // organising health parades //

- Organising talk shows // Destroying breeding places of vectors // Monitoring food preparation // Cleaning water sources // Mobilising funds to buy sanitary facilities // Supervising general clearing // Displaying health posters //

- C 20. State any one advantage of having proper housing for goats. P.5

To protect goats from predators // harsh weather // Controls the spread of goat diseases //

- No. 22 Risk abortion // Leads to Fistula // Rupture of the uterus // Stigmatisation // Anaemia // Still birth // Early parenting or lack of parenting skills // Lack of basic needs

- C 21. How does the skin cool down the human body temperature on a hot day? P.7

- Sweating // Perspiration // Vaso dilation // Hair lies flat to open pores to release heat // Erector pili muscles relax

- C 22. State any one danger of teenage pregnancy to adolescent girls. P.6

- Leads to school drop out // death // Early marriage // Forced marriage // Early marriage // Family and community rejection // Psychological trauma // torture // obstructed labour

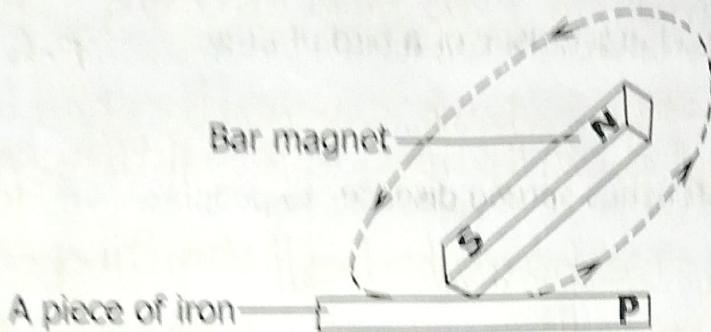
- C 23. Give any one life skill that children need to develop in order to safe guard themselves against drug dependence. - Self esteem // Awareness //

- Decision making // assertiveness // peer resistance // coping with stress // creative thinking // problem solving // effective communication

- A 24. State any one way in which the spread of hookworms can be prevented. P.4

- Wearing shoes // sandals // Proper disposal of human waste // Wash hands regularly // Regular deworming // wash fruit and vegetables // wearing gloves while digging // Boil drinking water // Early treatment .

The diagram below shows a method of making a temporary magnet. Study and use it to answer questions 25 and 26.



- C 25. Name the method shown above. P.7

single touch // stroking // single stroking //

- C 26. What will be the pole at P after magnetization? P.7

North pole

- A 27. How does chlorine make water safe for drinking? P.6

chlorine kills germs

- C 28. Name the type of lens used in a magnifying glass. P.7

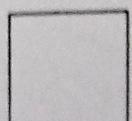
convex lens // converging lens //

- C 29. Apart from getting food, give any one other way in which rabbits benefit from plants. P.7

Get oval shelter // For protection // Get shade:

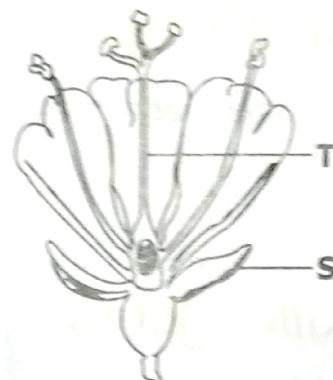
- C 30. Why are the triceps and biceps muscles referred to as voluntary muscles? P.7

controlled by the brains will // work at ones will



- A 31. ^{P.5} Apart from using medicine, state one other way of preventing the spread of coccidiosis in poultry. - Isolation || Keeping poultry house clean || Avoid overcrowding || Keeping food and water troughs clean || Reloaking litter regularly || Restricting ppe from entering || Spacing birds
- C 32. Give any one characteristic of a bird of prey. P.6
- have strong sharp curved hooked beaks || strong curved talons || claws || strong eyesight || keen eyesight || good speed
- C 33. ^{P.4} How do cockroaches spread diseases to people? To catch the prey.
Using the hairy bodies || Vomiting on food || Excreting || Defecating || Urinating on food || Feeding on food

The diagram below is of a flower. Use it to answer questions 34 and 35.



- C 34. Name the part labelled T. ^{P.4}

style

- C 35. Give the function of the part labelled S to a flower before it opens up. ^{P.4}

Protects the flower before it opens

- C 36. Name the human respiratory disease whose signs are loss of weight, ^{P.6} chronic cough and blood stained sputum.

Tuberculosis | TB

- C 37. State the digestive disorder which can be prevented when people chew ^{P.5} food properly and eat the right amount.

Indigestion

C 38. Give **one** reason why a person who has fainted should be placed in a cool P.6
and open space. To allow oxygen supply to the patient//
To allow oxygenated blood flow to the brain//

C 39. Give any **one** harmful effect of polythene bags to soil. P.5

Prevents water percolation//soil aeration//pollutes the soil//
Makes the soil hard//kills living organisms//Lead to water
logging//Damages the texture//structure

A 40. State the method which can be used to obtain salt that has dissolved in P.5
water.

Evaporation//Evaporation to dryness//Boiling to dryness



SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each.

41. C(a) What form of energy is stored in wood fuel? P.5

Chemical energy

- K(b) Name any one form of energy produced when wood burns. P.5

Heat energy // Light // Sound energy

- A(c) State any two practices carried out at home to conserve wood fuel. P.6

Putting out fire after cooking // cooking variety in one saucepan
(i) Energy saving stoves // Modern stoves // Covering food
(ii) Using alternative sources // Soaking dry food // Using briquettes // saw dust // Proper timing // Cooking too much food etc.

- C 42. (a) Apart from the vertebral column, give any two other parts of the human skeleton used for protection. P.7

(i) Rib cage // skull // Pelvis // Eye socket //

(ii) Mandibles // Cranium // Pelvic girdle // Ribs.

- K(b) Name the part protected by the vertebral column in the human body. P.7

The spinal cord

- C(c) Give any one health habit that helps to strengthen the human skeleton. P.7

Doing regular P.E // balanced diet // meal // Food rich in calcium // Phosphorus //

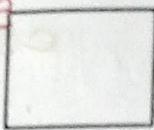
- C 43. (a) Apart from animals, mention two other agents of seed dispersal. P.6

(i) Wind // Water // Running Water //

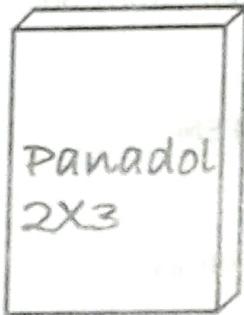
(ii) Rocket self explosion // Dispersal by wind

C (b) State any two characteristics of seeds dispersed by animals. P. 6

- (i) Have hooks // sticky // Edible // have hard seed coats //
- (ii) They are fleshy // Juicy // succulent // bright coloured epicarps // some are sweet // Attractive epicarps //



44. A patient was given a packet of drugs labelled with information as shown in the diagram below. Use it to answer the questions that follow.



K (a) What name is given to such information written on a packet of drugs? P. 6

Drug prescription // Prescription //

C (b) Give any one reason why such information is important to patients. Prevents overdose // under dose // drug misuse // P. 6

Helps to take the right dose // know the right dose // Prevents drug poisoning // Prevents drug abuse.

C (c) How many times a day is the patient supposed to take the drug? P. 6

Three times

A (d) The patient took the drug in the morning, for how many hours should the patient wait before taking the drug again? P. 6

After 8 hours (24 hrs ÷ 3 times)

45. C (a) State any two effects of heat gain on matter. P.5

- (i) Heat increases the temp // change of state of matter // Expansion // melting // change in colour // shape // Evaporation // Weakens matter // makes matter hot.
- (ii)

C (b) Give any two ways in which a blacksmith uses heat. P.5

- (i) For melting metals // shaping metals // softening metals // Forging metals // bending metals // moulding joining metals.
- (ii)

C 46. The table below shows human body organs, the system to which they belong and the organ function. Study and complete it correctly. P.5 & P.7

ORGAN	SYSTEM	ORGAN FUNCTION
Heart	Circulatory	Pumps blood to all body parts.
Kidney	Excretory	Formation of urine
Pancreas	Digestive	Produces pancreatic juice
Epididymis	Reproductive	Stores sperms

47. K (a) Name the group of simple machines to which each of the following tools belongs; P.7

(i) a ladder Inclined planes // Slopes.

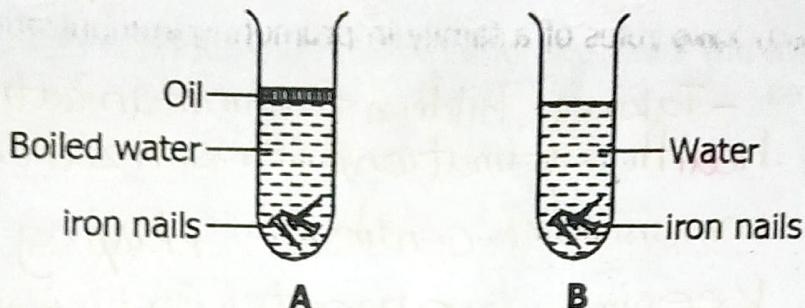
(ii) a panga Wedges.

C (b) Give any two ways in which simple machines make work easier. P.7

(i) Reduce the effort used // save energy //

(ii) change the direction of force // distance multipliers.

48. The diagram below shows an experiment about rusting. Use the diagram to answer the questions that follow.



C (a) In which of the containers will the iron nails rust after some days? P.5

Container B // B

C (b) Why would the iron nails in the container you have identified rust? P.5

Presence of water // oxygen //

C (c) Give **one** reason why oil was poured in container A. P.5

cuts off oxygen supply // prevent entry of air.

C (d) What would happen to the nails if they were painted before being put in the containers? P.5

The nails will not rust // would not rust //

K49/K(a) Name the type of immunity acquired through; P.5

(i) recovery from illness Natural immunity

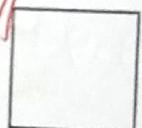
(ii) immunization Artificial immunity

c/c (b) Give any **two** roles of a family in promoting immunization in their area. P.5

- Taking children for immunisation // sharing

(i) health information // sensitization // organising
immunisation centres // displaying posters //

(ii) keeping documents // participating in immunisation meetings // Accepting to be immunised //
Reporting those who are not immunised //
Reminding other people the date of immunisation



50. C (a) State **one** way in which cattle farming contributes to the development of leather industry. P.6

Provides hides // skins // raw materials

C (b) Apart from leather industry, give any **one** other example of industry that uses cattle products. P.6

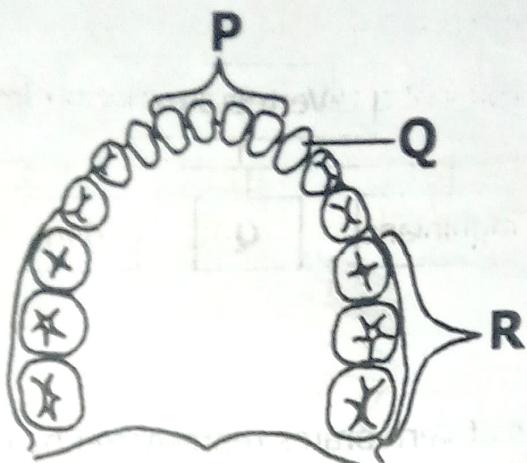
- Textile ind // Fertilizers industry
Dairy // Milk // Beef // Food processing industry // Animal feeds //

Glue industry // Fabric industry // Art and craft industry
A/A (c) State any **two** ways in which cattle farmers can improve on the quality of cattle products. P.6

(i) Cross breeding // Proper feeding // Upgrading //

(ii) Control of pests and diseases // Deworming //
Proper housing // Castration // Selective breeding //
Dehorning / Disbudding // Avoid bad practices that damage the skin of animals eg branding.

51. The diagram below shows the arrangement of permanent teeth in the lower jaw of a human being. Study the diagram and use it to answer the questions that follow.



K (a) Name the type of teeth marked Q. P.4

..... Canine teeth

C/I C (b) State the function of the types of teeth labelled; P.4

P: For biting // cutting food

R: For chewing // grinding // crushing food.

C (c) Identify any one difference between the structure of the types of teeth labelled Q and R. P.4

Q is sharp pointed while R is blunt topped & cusps and ridges.

Q is sharp point while R is flat with cusps and ridges.

52. C (a) Give any two reasons why farmers first plant some seeds in a nursery bed. - For easy watering // selection of good P.4 & P.7

For proper monitoring of seedlings // Seedlings/seeds // Protecting seedlings // Easy care // Reduces evaporation // spraying // Manuring // weeding // For proper germination Helps in testing Viability of seedlings. Ensures correct plant popn // Gives time to prepare the main garden

(b) C State any two advantages of planting crops in rows. main garden'

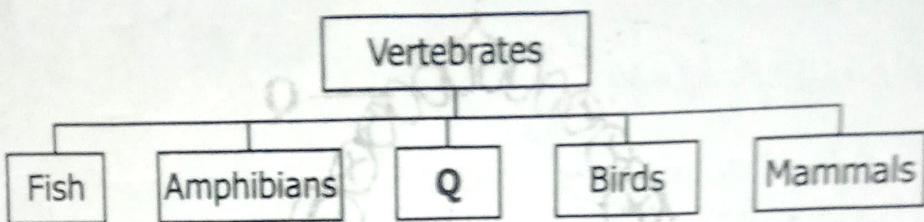
(i) For easy harvesting // spraying // weeding // application of fertilizers // Avoids seed wastage // Less competition

(ii) 4 nutrients // proper spacing // determines

- Plant Population // use of mechanisation // Improves crop yields // enables gap filling

For easy pruning // mulching // thinning // Watering // Turn Over

53. C The table below shows classes of vertebrates. Study and use it to answer the questions that follow.



C (a) Name the class of vertebrates represented by Q. P. 6

Reptiles

C/C (b) Apart from having backbones, give one characteristic common to; P. 6

- (i) all fish, amphibians and vertebrates in class Q.

cold blooded // Reproduce by eggs // Oviparous

- (ii) birds and mammals.

warm blooded // Four chambered hearts // use lungs // care for their young ones // undergo internal fertilisation

C/C (c) State the difference in reproduction between vertebrates in class Q P. 6 and the amphibians. Q undergoes internal fertilisation while

amphibians undergo external // Q lays eggs on land while

Amphibians lay eggs in water // Q lays eggs with soft shells while amphibians lay eggs covered in jelly

54. C (a) Name the disease which results from the deficiency of vitamin C in P. 4 & P. 5 human body.

Scurvy

C/C (b) State any two signs of the vitamin C deficiency disease in P. 4 & P. 5 humans. Bleeding gum // swollen gums // poor healing

(i) of wounds // skin rash // dry scaly skin // rough

(ii) skin // loss of teeth // loose teeth // bleeding

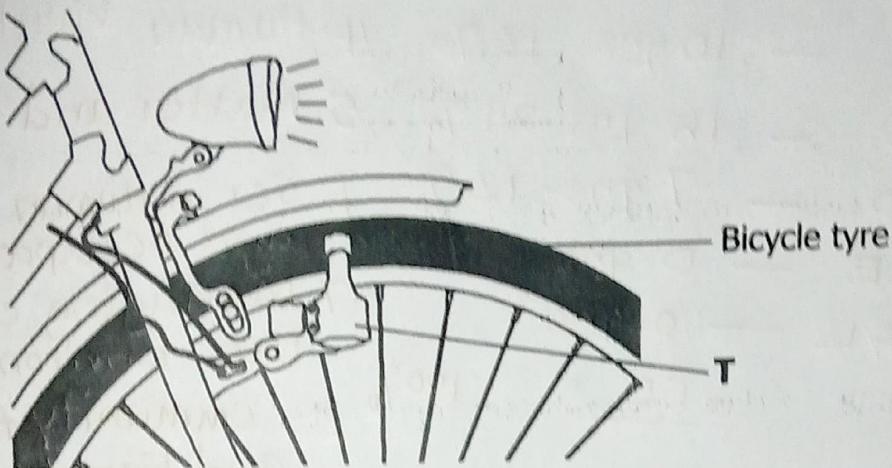
skin // Wounds on the skin // inflammation of gum

C (c) Give any one example of food which gives us vitamin C. P. 4 & P. 5

Green vegetables / cabbage / spinach // Fresh fruits /

Fruits / oranges / mangoes / citrus fruits /

The diagram below shows an equipment on a bicycle that is used to produce electricity. Study and use it to answer the questions that follow.



K (a) Name the equipment labelled T. P.7

A dynamo

C (b) Give the function of the bicycle tyre in producing the electricity. P.7

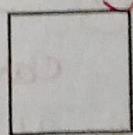
Rotates the knob // Turns the knob //

C (c) State the energy change that takes place in equipment labelled T P.7 when it is in use.

Kinetic to electric // mechanical to kinetic to electrical energy

A (d) State one way in which the amount of electricity produced by the equipment labelled T can be increased. P.7

Riding faster // Pedalling faster // Increasing the number of turns of the coil // Use of a strong magnet // Replacing the magnet with a new one // Increasing the speed of rotation //



KEY:

K — Knowledge questions // calls for recall-remember.

C — Comprehension questions // call for thinking/reasoning.

A — Application questions // Hands on activities

THEME ANALYSIS

1. Env't	— 5 qns	9%	1. Environment
2. WL	— 8 qns	15%	2. World of living things.
3. HB	— 9 qns	16%	3. Human body
4. H.H	— 10 qns	18%	4. Human health
5. M.E	— 16 qns	29%	5. Matter and energy
6. SHAO	— 7 qns	13%	b. Sci in Human activities and occupations.
7. MCE	— 0 qns		7. Managing changes in the environment.
8. CPFL	— 0 qns		8. Community population and Family Life.
	<u>55</u>	100%	

LEVELS / COGNITIVE ANALYSIS:

K — 10 qns	Fewer qns	} during assessment.
C — 76 qns	Most	
A — <u>14</u> qns	<u>100</u> Responses.	

DIAGRAM ANALYSIS:

- F.A — 3 — Were clearly drawn
 B — 4 — Well labelled
 — Appropriate.

TABLES:

- 3 — Tables should direct candidates.

NB: Maximum number of tables and diagrams should be 11.

LANGUAGE USED:

- Language was simple and understood.

NB: - Avoid lengthy or bulky questions.

- Qns shouldn't exceed 15 words.
- Recommended words 13 words.