



FLOURISH OF EXCELLENCE EXAMINATIONS BOARD

SUGGESTED PLE INTEGRATED SCIENCE MARKING GUIDE - 2024

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SECTION A (40 MARKS)

NO	CORRECT RESPONSE	WRONG RESPONSE	TOPIC & CLASS	QNL
1	Ventilated Improved Pit latrine (VIP latrine) // Potties // Ecosan toilets // Flush toilet	Pit latrine	Sanitation P.6	C
2	A person may easily be struck by lightning // one maybe struck by lightning.	Leads to death of a person	Electricity and magnetism P. 7	C
3	Flattens to create space for the lungs to expands // flattens to create space for the lungs expanding during breathing.	Separates chest cavity from the abdominal cavity	RESPIRATORY SYSTEM P.6	C
4	Flowing water//moving animals // wind	Animals Vehicles	Components of the environment(soil) P. 5	C
5	Snail // water snail	Fresh water snail	Classification of animals P.6	K
6	Molluscs // Mollusks	Invertebrates	Classification of animals P.6	K
7	Keeping vegetables in refrigerators	Sun drying	P.4	A
8	Helps in decomposition of organic matter to form humus // Causes rotting of organic matter to form humus // Bacteria breaks down organic matter to form soil	Emphasize the concept of humus not soil	Components of the environment(soil)P. 5	A
9	Blood flukes feed on blood leading to anaemia // Bilharzia flukes suck blood leading to anaemia.		Common intestinal worms and diseases P.4	C
10	Constructing a rabbit hutch with a wire mesh/ Proper ventilation of the rabbit hutch.	Using a wire mesh	Rabbit keeping P.4	A

11	To prevent heat loss from the body		Excretory system P.7	C
12	For storing seeds // for fetching water // for drenching animals // for growing flowers // for growing trees // for carrying materials like food // for making crafts // for raising seedlings // for packing alcoholic drinks for sale.	Drinking water	Resources in the envt P.6	A
13	For dressing open cuts and wounds	Stopping bleeding	Accidents and first aid P.4.	A
14	Helps in brewing alcohol // helps in making of alcohol from juice // Helps in baking of bread // Helps in production of yoghurt//helps in production of biogas.	Helps in making of compost manure Note that ➤ The question is looking at fermentation like something to be fermented	Alcohol , smoking, and drugs P.6	C
15	A pulley uses less effort to lift sand from the ground to the top of a building unlike an inclined plane A Pulley reduce the effort needed to do the work than an inclined plane It is easier to lift sand using a pulley than an inclined plane	There must be comparisons of a pulley and an inclined plane	Simple machines and friction P.7	A ,
16	The kidney // kidney // Human kidney	Kidneys	Excretory system P.7	K
17	Leads urine from the pelvis in the kidney to the urinary bladder // Passes urine from the pelvis in the kidney to the urinary bladder // Acts as a passage of urine from the pelvis in the kidney to urinary bladder // Directs urine from the pelvis in the kidney to the urinary bladder // Carries urine from the pelvis in the kidney to the urinary bladder.		Excretory system P.7 Major body organs P.4	C
18	Pest and diseases make tubers to rotting // Pest and diseases cause yellowing of leaves of tuber crops // Pest and diseases cause deformation of leaves of tuber crops // Pest and diseases damage the tuber crops // Pest and diseases leads to poor yields of		Growing tuber crops P.5	C

	tuber crops // Pest and diseases lead to stunted growth of tuber crops // Pest and diseases causes wilting of tuber crops			
19	<p>It leads to death of family members due to overdose</p> <p>It leads to body poisoning in case of overdose</p> <p>it worsens sickness due to underdose</p> <p>It leads to poisoning of family members in case of overdose.</p> <p>It leads to drug misuse among family members.</p> <p>It leads to prolonged sickness due to underdose.</p>	<p>Causes wastage of money.</p> <p>leads to loss of family members.</p> <p>Note that</p> <p>The question is targeting:</p> <p>Underdose, Overdose and poisoning</p>	Alcohol, drugs and smoking P.6	A
20	<p>To obtain clean honey // To prevent damage of the hive // Most worker bees are not in the hive making it easier to remove honey combs // For easy removal of honey combs from the hive // // To prevent contamination of honey // To enable honey harvester to see ready honey combs easily.</p>	<p>Bees are Scattered</p> <p>Most worker bees are not in the hive</p> <p>Note that.</p> <p>The above points are incomplete</p>	Keeping poultry and bees P.5	C
21	Dislocation	Fracture // Sprain // Strain	Accident and First Aid P.7	K
22	<p>The density of a cubic unit of wool is less than that of cubic unit of a stone // A cubic unit of wool has less density than that of a cubic unit of a stone // A cubic unit of wool has less density than that of a cubic unit of a stone // A cubic unit of wool is less dense than the one of a stone // A cubic unit of stone is denser than the one of wool // A cubic unit of wool has less density than that of a cubic unit of a stone.</p>	<p>A cubic unit of wool has less mass than a cubic unit of stone</p> <p>Note that</p> <p>The question is talking about weight therefore you cannot bring mass onto weight</p>	Measurements P.5	C

23	Paddock grazing starves pests like ticks to death Paddock grazing starves cattle pests to death		Keeping cattle P.6	A
24	Rusting improves on soil fertility by adding iron in the soil Rusting adds iron in the soil Rusting reduces on metallic scraps in the environment.		Components of the environment(soil) P.5	A
25	Personal hygiene		Personal hygiene P.6	K
26	Organizing health parades // Organizing class health meetings // Organizing general cleaning activities // Organizing health education seminars // Reporting any diseases outbreak // Discourages anti-social behaviour //Designing health rules // Promoting physical education.// Identifying school children who are not immunized // Inviting health workers to sensitize school children about health issues // Helping to monitor school sanitation.// Helping to monitor children's hygiene at school // Helping to monitor food and nutrition // Helping to organize campaigns against drug abuse.		Population and Health P.7	K
27	Air occupies space	Air exerts pressure Note that The question is all about the property of air used for filling balloons and because of the word filling we take only air occupies space.	Environment and weather P.3	K
28	Trees act as windbreaks // Trees control soil erosion Trees shade leaves that decay and add fertility into the soil Leguminous trees add nitrates into the soil hence making it fertile.	Leguminous trees fix nitrogen into the soil	Interdependence of things in the environment P.7	A
29	To kill and remove germs from hands // // To kill germs in the hands	To remove germs from the hands Note that	Personal hygiene P.4	K

		The question is about water and soap not only water		
30	Both the antennae and the skin are sense organs for feeling Both the antenna and the skin help in feeling Both the antennae and the skin are used for touch			A
31	A vacuum in a thermos flask lacks a medium to conduct heat A vacuum in a thermos flask lacks matter to conduct heat A vacuum in a thermos flask does not contain matter to transmit heat // A vacuum in a thermos flask has no medium A vacuum lacks matter/molecules A vacuum lacks matter/molecules to transmit heat by conduction and convection A vacuum does not contain matter A vacuum lacks solids, liquids and gases		Heat energy P.5	C
32	Row planting method // Row planting method	Planting in lines Note that The diagram shows only one method		K
33	Makes weeding easy // Makes mulching easy// Makes pest control easy // Makes spraying easy // Makes pruning easy// Makes harvesting easy // Increases crop yields // Reduces competition for sunlight and nutrients.		Growing crops P.4	C
34	Adolescents move in peer groups // Adolescents become interested in members of opposite sex// Adolescents always wants freedom // Adolescent reject parents rules // Adolescents demand for freedom // Disobedience to elders rules and regulations // Get disappointed quickly // Like to be independent. // Like to be recognized mature // Becoming attracted to the opposite sex // Getting annoyed easily // Having higher demands for their needs // Forming peer groups // Demands for immediate feedback.		Reproductive system P.6	C

35	Polio // Poliomyelitis		Immunization P.5	K
36	Due to change in speed of light rays // Due to change in speed of light // Due to reduction in speed of light rays // Due to change in the speed of light rays as it passes through the glass block		Light energy P.7	C
37	Fencing water sources // Planting trees // Proper disposal of sewage/ Conserving swamps to maintain rain formation // Construction of water dams // Digging more water bodies.// Discouraging deforestation // planting grass around water source // Discouraging bush burning.		Resources in the environment P.6	A
38	To avoid bad smell from the mouth // To avoid bad breath To remove germs on the tongue that may cause tooth decay To reduce bad smell from the mouth To promote good mouth breath		Personal hygiene P.4	A
39	Using insulated wires to install electricity // Avoid pushing metallic objects into electric sockets // Avoid using faulty electric appliances // Insulating electric wires // Proper installation of electricity // Avoid touching the switch with wet hands // Using well insulated wires. // Using technical personnel to install electricity in houses // Avoid overloading the circuit. // By using trained electricians to install electricity		Electricity and magnetism P.7	A
40	Drying seeds properly before storage /// Dressing seeds to prevent damage by pests // Storing seeds in dry places // dusting seeds to prevent them from pests	Carrying out seed selection Note that The question is looking way a crop farmer can keep seeds viable meaning this is all about drying and storage to keep them viable for a long	Growing crops P.4	A

		time we only look at Drying and storage.		
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SECTION B (60 MARKS)

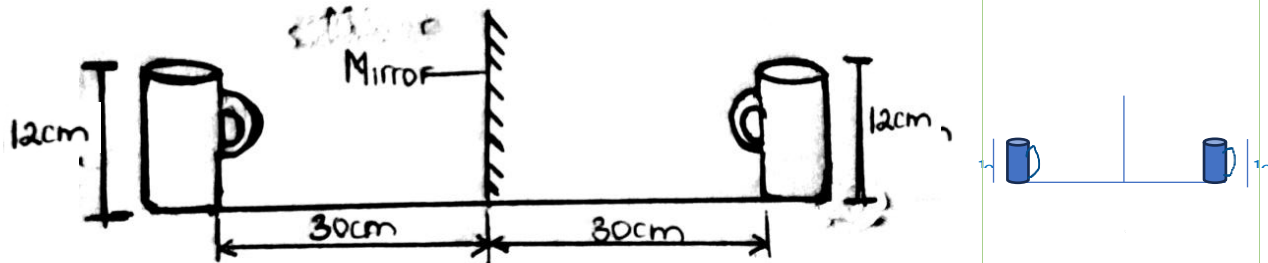
41	Proteins	Grow food	Our food P.4	A
a)				
b)	Food spoilage // Low quality of food // Uncertainty about food origin // One may buy expired food // One may buy rotten food // Food may be expensive			
c)	Proper disposal of wastes in the market//regular cleaning of the market // Covering food properly // Storing food properly // Proper storage of food/ // By Maintaining proper sanitation // Selling food on raised places // Keeping food in clean container // Proper packing of food.	High price of food Note that The question is all about food contamination and how is price related to food contamination		
42	Vibrio cholerae // bacteria			A
a)				
b)	They lead to poor disposal of wastes which lead to higher chances of spreading cholera High population may lead to poor disposal of wastes There is poor sanitation in heavily populated areas which attract houseflies that spread germs that cause cholera		Communicable intestinal diseases and worm infestations P.4	
c)	Washing hands before and after eating food // Advising people to drink boiled water // Washing hands after visiting the toilet or latrine // Washing utensils before using them // Cutting finger nails short // Boiling drinking water // Covering left over food // Warming left over food // Spraying using insecticides to kill houseflies // Cementing house walls to destroy hiding places of cockroaches.			
43	Garden trowel // Trowel		Crop growing	C
a)				

b)	There is low temperature in the evening // There is low rate of transpiration since the temperature is low // To prevent wilting of seedlings due to excessive loss of water														
c)	Mulching conserve (maintain) moisture in the soil. / Mulching controls soil erosion.// Mulching improves on soil fertility.// Mulching controls the growth of weeds.														
44	i) X – Liver			Digestive system	C										
a)	ii) W – Appendix														
b)	Y – It is where absorption of food takes place Z – It is where absorption of water takes place														
45	<table><tr><td>Step</td><td>Purpose</td></tr><tr><td><u>Sorting</u></td><td>Separating clothes according to washing needs</td></tr><tr><td>Soaking</td><td><u>Helps to soften and dissolve dirt in clothes</u> <u>Removes stains from clothes</u> <u>Removes dirt from clothes</u></td></tr><tr><td><u>Rinsing</u></td><td>Removing dirty soapy water from clothes</td></tr><tr><td>Ironing s</td><td><u>Kills germs in clothes</u> <u>Kills some vectors or parasites like lice in clothes</u> <u>Removes folds or creases from clothes</u></td></tr></table>	Step	Purpose	<u>Sorting</u>	Separating clothes according to washing needs	Soaking	<u>Helps to soften and dissolve dirt in clothes</u> <u>Removes stains from clothes</u> <u>Removes dirt from clothes</u>	<u>Rinsing</u>	Removing dirty soapy water from clothes	Ironing s	<u>Kills germs in clothes</u> <u>Kills some vectors or parasites like lice in clothes</u> <u>Removes folds or creases from clothes</u>			Science at home and in the community	C
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46	An electromagnet is a temporary magnet made by using electric current flowing through the solenoid			Electricity and magnetism	A										
a)	An electromagnet is a temporary magnet got by passing electric current through a magnetic material An electromagnet is a temporary magnet made using electricity An electromagnet is a temporary magnet made by passing a direct current through a magnetic material														
Ab)	Steps 1 ✓ Wind the copper wire on the iron nail ✓ Connect one end of the copper wire to the positive terminal and another end to the negative terminal of the dry cell			Electricity and magnetism											

	<ul style="list-style-type: none"> ✓ Move the iron nail closer to the pins and they will be attracted by the iron nail Steps 2 <ul style="list-style-type: none"> ✓ Wind the copper wire around the iron nail. ✓ Arrange the dry cells correctly and connect one end of the copper wire to the positive terminal and one end to the negative terminal ✓ The iron nail get magnetized and attract the pins when moved close 			
47	Animal urine // Chicken droppings // Goat droppings // Seed residues // Animal dung // Chicken dropping // Banana peelings // Sweet potato peeling		Energy resources in the environment	C
a)				
b)	To prevent methane gas from escaping To prevent the entry of oxygen		Energy resources in the environment	
c)	Biogas is quick Biogas does not pollute the environment Biogas discourages deforestation Biogas produces neat work Biogas reduces cutting trees for wood fuel	used for cooking used for lighting used for heating	Energy resources in the environment	
48	Face mask	Masks	Communicable diseases and worm infestations	A
a)				
b)	Covid 19 // Pneumonia // Ebola // Tuberculosis // Whooping cough // Pertussis // Influenza		Communicable diseases and worm infestations	
c)	Washing hands regularly // By Ironing item K Avoid sharing item K // Wearing item K correctly Holding strings of item K while wearing Washing item K with soap and clean water after use Holding item K with clean hands		Communicable diseases and worm infestations	
49	Guitar // Bow harp // Adungu // Violin // Tube fiddle // Banjo // Viol		Sound energy P.6	C
a i)	// Sitar // lyre// cello // Sitar			

ii)	Drum // Xylophone // Shakers // Bell // Rattles // Maracas // Thumb pianos // Brass band // Triangle // Hand drum // lambourine // hand drum		Sound energy P.6	
49 b)	Physical method or Mechanical method Magnetic method Electromagnetic method (Mnemonic: PEM // MEM)	Notation and Writing methods Recording Note: The above are ways of writing pieces of music	Sound energy P.6	
50 a)	Social insects		Animals in our sub county or division	C
b)	Some insects are source of food Some insects help in pollination of flowers of farmers crops Some insects are sold for money Some insects like termites improve on soil aeration Some insects provide honey to people			
c)	Deforestation // Bush burning // Swamp drainage Spraying using insecticides			
51 a)	Cloudy weather // cloudy		Weather changes in the environment	C
b)	Provides heat that helps in evaporation of water Provides heat that causes evaporation	Sunshine provides heat that helps in evaporation		
c)	By afforestation // By planting trees // Reafforestation		Weather changes in the environment	
d)	It causes draught // it causes famine It leads to destruction of the vegetation			
52 a)	A vaccine is a chemical substance which is introduced to the body to make it produce antibodies against disease causing germs A vaccine is a substance introduced in the body to boost it's immunity.		Immunization	A

	<p>A vaccine is a medical substance introduced into the body of a healthy person to make the body immunity produce antibodies against disease causing germs</p> <p>A vaccine is a medical substance introduced into the body to make it produce antibodies against certain diseases</p>			
b)	Polio vaccine is administered orally.			
c)	<p>To prevent them from becoming harmful.</p> <p>To prevent spoilage.</p> <p>To prevent vaccine contamination.</p> <p>To maintain the strength of vaccines.</p> <p>To maintain their effectiveness</p>		Immunization	
d)	<p>By spreading information about immunization.</p> <p>By taking young children for immunization.</p> <p>By acting drama about immunization.</p> <p>Acting poems about immunization.</p> <p>By sensitizing people about immunization programs.</p> <p>By reminding parents to take their children for immunization.</p>		Immunization	
53	i) Freezing	Evaporation	Resources in the environment	C
a)	ii) Condensation		p.6	
b)	<p>Leads to water pollution</p> <p>Leads to soil exhaustion</p> <p>Leads to loss of soil fertility.</p> <p>It causes displacement of people</p> <p>Leads to death of aquatic animals</p> <p>Leads to destruction of food crops</p> <p>Leads to rotting of food crops</p> <p>It causes leaching of plant nutrients</p>		Resources in the environment	
54 a)	Biceps // Triceps		Muscular and skeletal system	C
b)	Muscles join bones in the body.			

	<p>Muscles aid // help in body movement.</p> <p>Muscles enable people to perform heavy activities.</p> <p>Muscles protect the organs they surround.</p> <p>Cardiac muscles help the heart to pump blood.</p> <p>Muscles store heat inform of fats.</p> <p>Muscles of the uterus help to push the baby out during giving birth</p> <p>Muscles maintain the body posture.</p> <p>Muscles of the eye control the amount of light entering the eye</p> <p>Muscles determine the body shape.</p> <p>Muscles store oxygen by the help of the myoglobin.</p> <p>Diaphragm and intercostal muscles aid in the breathing.</p>			
c)	<p>Correct posture promotes the proper growth of bones.</p> <p>Correct posture prevents back and chest pain.</p> <p>Correct posture aids digestion of food.</p> <p>Correct posture promotes proper working of body organs.</p> <p>Correct posture strengthens the muscles of the stomach, intestines and diaphragm.</p> <p>Correct posture helps the skeletal system to develop straight and upright.</p> <p>Correct posture prevents deformation of bones.</p>		Muscular and skeletal system	
55 a)			Light energy P.7	A
b) I)	Reflected ray			
ii)	Both are equal // Both angle m and y are equal			