# THE SIPRO PRE-PLE SET 1 INTEGRATED SCIENCE MARKING GUIDE -2023

| NO | CLASS LEVEL | CORRECT ANSWER | WRONG ANSWER | MARKING POINT | TECHNICAL ADVICE/ COMMENT |
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| 1. | P.5 | Nitrogen fixing bacteria | Spherical bacteria | Types of bacteria that fix Nitrogen in the soil | Go through useful and harmful bacteria. |
| 2. | P.6 | To let in inhaled air/To create space for inhaled air. | To get space | Creation of space | Revise the behaviour of respiratory organs practically. |
| 3. | P.7 | Plane mirrors form virtual images while pin hole cameras form real images.Plane mirrors form erect images while pinhole cameras form inverted images. | Plane mirrors' images are real while pinhole cameras' images are not real | Images in cameras and plane mirrors | Discuss the characteristics of images formed in plane mirrors and cameras. |
| 4. | P.6 | Conifers /coniferous plants | Spore produce /cones | Structure of a conifer and use of a cone | Break down the groups of non-flowering plants with their examples. |
| 5. | P.6 | Stores seeds | Stores food | Seed storage | |
| 6. | P.6 | By feeding its calf on colostrum /milk produced by its mammary glands /By allowing the calf to suckle. | By licking it with its tongue | Importance of colostrum | Go through uses of colostrum to a calf. |
| 7. | P.5 | Both store their food in swollen roots /Both are root tubers. | Both reproduce by means of seeds | Food storage in root tubers | Discuss propagation of root tubers and stem tubers. |
| 8. | P.5 | Centrifuging method /Floating the wax method / pressing the honey method. | Use of fire cutting method | Methods of extracting honey from a comb. | Use clear demonstrations to show methods of honey extraction. |
| 9. | P.6 | Amphibia /Amphibian class/Amphibians | Fish/Reptiles | Characteristics of amphibians | Discuss the five classes of vertebrates with examples and characteristics. |
| 10. | P.3 | Soil erosion leads to soil exhaustion (infertility) | Washes away top soil | Dangers of erosion | Go through control of poultry vices. |
| 11. | P.4 | Tapeworm | Hook worm | Worms got through eating under cooked meat | Take learners through the structures of intestinal worms. |
| 12. | P.4 | Ringworm /Eczema /Athlete's foot/swimmer's itch | Candidiasis | Fungal skin diseases | Review through dangers and uses of fungi to humans. |

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| 13. | P.5 | Poultry provide eggs which are a source of proteins when eaten /provide meat eaten to get proteins. | Poultry kill germs | Importance of poultry in nutrition | Discuss the poultry diseases, parasites and vice. |
| 14. | P.2 | It reduces hiding places for dangerous insects and animals /Removes habitats for mosquitoes. | It removes tall grass which can injure people | Role of slashing tall grass | Go through the relevance of each activity involved in promoting sanitation. |
| 15. | P.7 | Glowworms/Fireflies | The sun/moon | Living things which emit light. | Discuss uses of light. |
| 16. | P.5 | M =48g volume = 12cc<br>D = Mass /D = 48g/ D =4g/cc<br>Volume 12cc | D=MXV<br>= 48 x 12cc<br>=576kg/cc | Calculating Density when mass and volume are given | Engage the learners into calculations on mass, density and volume. |
| 17. | P.1 | Soap contains chemicals that damage the tongue/ chemicals in soap damage the tongue. | Soap kills germs | Dangers of soap in the mouth | Demonstrate how a dental floss is used and promotion of oral hygiene. |
| 18. | P.4 | By hardening off /gradual removal of shed | By watering crops | Removal of shed | Practically discuss the crop growing practices. |
| 19. | P.7 | Biogas conserves wood fuel /Bio gas prevents air pollution. | Biogas is quick | Advantages of using biogas | Energy resources /resources that conserve the environment. |
| 20. | P.5 | Perches keep birds busy/Enable birds to make exercises hence controlling boredom. | Perches improve feeding in birds | Importance of hanging perches | Show the difference between hanging perches and greens and their relevance. |
| 21. | P.7 | Static electricity | current electricity | Types of electricity | Go through each type of electricity. |
| 22. | P.4 | The pupil reduces in size. | The pupil enlarges | Behaviour of the pupil in much light | Discuss the process of accommodation in the eyes. |
| 23. | P.5 | Container **Q** | Container **P** | Factors that allow heat loss | Provide a variety of experiments on heat gain and heat loss. |
| 24. | P.5 | Container Q has a wider surface area for heat loss. | It has less hot water | allow heat loss | Train children on proper question interpretation. |
| 25. | P.7 | Because of refraction | Wrong perception | Effects of refraction | Review parts and law of reflection. |
| 26. | P.4 | Chalk dust is a non-magnetic material (substace) /chalk dust can't be attracted by a magnet. | Chalk dust is not a magnet | Definitions of non-magnetic materials | Discuss the examples of magnetic objects. |
| 27. | P.4 | Wind helps in pollination /seed dispersal | Wind helps in winnowing | Uses of wind to plants | Go through ways living things benefit from non-living things. |

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| 28. | P.6 | Crustaceans | molluscs | Groups of arthropods | Discuss the classification table of invertebrates |
| 29. | P.4 | Flowers are usually hermaphrodites / Their stamens usually grow taller than the styles (pistils) /some flowers remain closed until pollination has occurred /pistils and stamens usually mature at the same time. | They have bright petals | Features that enable flowers pollinate themselves. | Use real flowers Explain concepts on pollination types. |
| 30. | P.6 | Some plant seedlings are sold to get money/Some plants are sources of food / Some plants are sources of timber / Some plants are sources of raw-materials for making paper /clothes /boats | Plants help rain formation | Economic importance of plants | Discuss the dangers of some plants |
| 31. | P.5 | Queen bee | Drone bee / worker bee | Types of bees | Use well and clearly drawn structures of bees. |
| 32. | P.6 | Eating while talking leads to choking | It causes cough | Bad eating habits | Discuss bad eating habits and their dangers |
| 33. | P.6 | Sorting | Soaking | Steps in cleaning clothes. | Go through the importance of each activity |
| 34. | P.6 | Regular dipping kills ticks /Acaricides kill ticks on cattle. | Kills germs | Importance of dipping cattle. | Go through cattle pests and control. |
| 35. | P.4 | Mercury measures the highest temperatures while alcohol measures the lowest temperatures in a place. | Mercury is sensitive to heat while alcohol is not | How a six's thermometer operates. | Discuss the structure of each weather instrument and how it operates |
| 36. | P.6 | A spur is used for protection | For scratching soil | Use of a spur to fowls. | Discuss parts of a chicken. |
| 37. | P.6 | fruits | Nectar | Classification of birds | Go through the various groups of birds. |
| 38. | P.6 | Perching birds | Fruit eaters | | |
| 39. | P.2/P.4 | Heat dehydrates fish /drains moisture which would enable bacteria to multiply / It creates a tough layer of smoke which does not allow bacteria to multiply. | Heat kills some bacteria | Role of smoking in fish preservation | Discuss the different methods of food preservation and how they operate. |

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| 40. | P.7 | Both are spread through having unprotected sex with an infected person /through sex deviations with infected ones /Both are STDs | Both spread through sharing clothes. | Spread of venereal diseases among people. | Cite out the signs and symptoms of STDs and their control measure. |
| **SECTION B** | | | | | |
| 41. | P.1 | a)proteins /grow foods<br>ii)vitamins/mineral salts /glow food | i) carbohydrates<br>ii) Lipids | Importance of classes of food<br>Causes of poor feeding and control of poor feeding. | Use several simple common foods to help the candidate master foodstuffs and classes of food to which they belong. |
| | | b)Strong wind /floods/ drought / storms /lightning | -Ignorance /poverty | | |
| | | c)Educating parents on nutrition /using irrigation farming /using mechanized agriculture to grow enough food crops /Government should provide poor people with foodstuffs. | Buying food | | |
| 42. | P.5 | a)i)M-Budding (ii)N-cell division / Binary fission. | i)cell division<br>ii)Budding | Reproduction in bacteria and fungi.<br>Dangers of bacteria | Help candidates categorize the unicellular kingdoms of living things. |
| | | b)Yeast | bacteria | | |
| | | c)They cause diseases /food poisoning /make food go bad. | They spread diseases. | | |
| 43. | P.4 | a) Reduces competition /pests / spread of disease among perennial crops | It removes some branches. | Advantages of pruning and tools used. | Demonstrate crop growing and their importance using a school garden. |
| | | b) Pruner /secateur | prunner | | |
| | | c)Crop rotation /pruning infected parts /planting diseases resistant crops /uprooting infected crops | Spraying | | |
| 44. | P.5 | a)i) conduction<br>ii) convection | i)Convection<br>ii)radiation | Use of methods of heat transfer | Demonstrate the methods of heat transfer and their importance in daily life. |
| | | b)Heat loss causes condensation of water vapour /makes water vapour change to liquid state. | It makes it evaporate | Effects of heat loss on vapour. | |
| | | c)Hot cooking oil causes scalds while hot charcoal causes burns on the skin | Both cause burns. | | |

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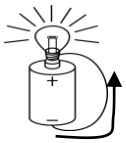
| 45. | P.7 | a)Dry cell | Direct current | Simple circuit and energy changes | Encourage the candidate to make experiments and use of each component of a circuit. |
| | | b)Electrical to heat /Heat to light | Heat/Electricity /Light | | |
| | | c)  |  | Flow of current | |
| 46. | P.4 | a)Swollen belly /diarrhoea / vomiting of worms/stool with worms /loss of weight /anaemia | Stomach pain fever | Intestinal | Use animated pictures of intestinal worms and state their effects in detail. |
| | | b)Malnutrition /stunted growth | Loss of weight/itching | Effects of worms | |
| 47. | P.6 | a)i) It causes body poisoning | It makes one take more drugs | Dangers of drug misuse and buying drugs from shops. | Go through drug abuse and misuse in a detailed way. |
| | | b)It leads to taking of wrong medicine /overdose /under dose /body poisoning | Shops are so expensive | | |
| | | c) Shopkeeper may sell fake drugs /give wrong prescriptions /sell expired drugs /sell spoilt drugs /have poor drug storage. | | | |
| 48. | P.4 a) | a)To keep delicate weather instruments | For decoration | Structure of a Stevenson screen and how it operates. | Revise through weather instruments in a detailed way. |
| | | b) i)It is white /It is painted white<br>ii) It has holes (Louvers) | i)Has louvres<br>ii)painted white | | |
| | | c) Enables a farmer to plan for harvesting and planting activities | Helps to know weather changes in future. | | |
| 49. | P.7 | a)i) skin (ii) kidney | Liver | Importance of excretion and organs | Go through excretory organs and how they operate |
| | | b)Reduces poison levels /Removes harmful wastes before they become toxic /keeps the internal environment constant | Removes wastes | | |
| | | c) Kidney failure /kidney stones | Bilharzia | | |
| 50. | P.1 | a) i) For scrubbing the skin | For bathing | Use of sponge. | Demonstrate the use of each component used to promote personal hygiene. |
| | | ii) Kills germs /Removes dirt on the body | Mopping the house | Use of items that promote personal hygiene. | |
| | | b) Combing hair/ ironing clothes / Trimming hair /Trimming finger nails | | | |

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| 51. | P.7 | a)i) Oxygen (ii) carbon dioxide<br>b) Organism K gets food /organism K gets herbal medicine | Gets food<br>Get oxygen | Interdependence between plants and animals | Go through components of a food chain. |
| 52 | P.3 | a)Changes in weather /changes in seasons /placement changes /changes in growth /changes in the sky / adolescence changes | Drought /floods /thunder | Natural changes | Drought /flood/lightning and earthquakes are natural causes of changes but not natural changes. |
| | | b)By conserving swamps /By constructing proper drainage systems /By controlling swamp pollution /By dredging water channels/constructing large water channels | By planting trees | Control measures for floods in the environment | |
| 53. | P.7 | a)i)Inclined planes /slopes<br>ii) pulleys | i)ladder<br>ii) single fixed pulley | Group of simple machines | Discuss the groups of simple machines in a detailed way. |
| | | b)Machine **M** | Machine **L** | Simple machine that changes the direction of force | |
| | | c)Machine **M** changes the direction of force | Machine **M** uses less effort | Change in the direction | |
| 54. | P.6 | a) Use of stem cuttings / marcotting / budding /layering / grafting | Suckers /bulbs | Artificial vegetative propagation method | Carry out several practices on the artificial methods of vegetative propagation |
| | | b)i)There is quick maturity in plants/ Desirable and good characteristics are easily maintained/The young plant obtains water and mineral salts from the parent plant/A single parent plant is used in propagation. | Plants can colonise new areas easily. | | |
| 55. | P.6 | i)produce sperms<br>ii) produce ova<br>iii) it's where fertilization takes place<br>iv) stores manufactured sperms. | Produce ova<br>Produce sperm stores sperms<br>It's where fertilization takes place | Uses of parts of the reproductive system. | Go through parts of the reproductive system and their importance in the process of reproduction. |