1. Which one of the following pests attack seedlings?
   A. Stalk borers B. Aphids
   C. Cut worms D. Weaver birds

Answer - C
Reasoning
- Pests are harmful insects or animals. Pests destroy growing crops and stored crop produce. Seedlings are young crops which have just been transplanted or germinated from seeds. The crop pest which destroys seedlings is cutworm. They cut the young stems at the base. Stalk borers makes holes in maize stems. Aphids suck sap from the leaves while weaverbirds eat grain in the field. This gives the correct answer as C.

2. Which one of the following pairs of vessels is CORRECTLY matched with the type of blood they carry?

	Oxygenated blood	Deoxygenated blood
A.	Aorta	Pulmonary artery
B.	Vena cava	Pulmonary vein
C.	Pulmonary artery	Vena cava
D.	Aorta	Pulmonary vein

Answer - A
Reasoning
- Blood vessels are paths through which blood flows around the body. Blood vessels carry oxygenated blood (blood rich in oxygen) and deoxygenated blood (blood rich in carbon dioxide). Blood vessels which carry oxygenated blood are Aorta and Pulmonary vein.
- Blood vessels which carry deoxygenated blood are Vena cava and pulmonary artery. The blood vessels which are correctly matched with the type of blood they carry are Aorta and Pulmonary artery. This gives the correct answer as A.

3. Which one of the following pairs of parasites attacks both poultry and rabbits?
   A. Mites and lice B. Lice and ticks
   C. Mites and fleas D. Ticks and mites

Answer - A
Reasoning
- Parasites are animals that fully depend on other animals for survival. Parasites obtain food from other animals. Parasites are either external or internal. Examples of external parasites are ticks, fleas, mites, lice e.t.c Examples of internal parasites are tapeworm, round worms, liver flukes, e.t.c From the choices given, ticks do not attack poultry. Fleas are not common in poultry but common in rabbits. The common parasites in poultry and rabbits are mites and lice. This gives the correct answer as A.

4. Which one of the following statements about a bean seed is NOT CORRECT?
   A. The radicle develops into a shoot and plumule into a root.
   B. The micropyle allows air and water to enter the seed.
   C. The hilum is a scar where the seed was attached to the fruit wall.
   D. The radicle emerges from the seed before the plumule during germination.

Answer - D
Reasoning
- The parts of a bean seed are: testa, cotyledon, hilum, micropyle, radicle and plumule. The testa protects the inner parts of the seed. The cotyledon stores food. Hilum is a scar where the bean seed was attached to the fruit (pod). The micropyle allows water and air to enter the seed during germination. The radicle grows into a root while the plumule grows into a shoot. It is not correct to say the radicle develops into a shoot and plumule into a root. This gives the correct answer as A.

5. The following are some characteristics of flowers:
   (i) Small in size
   (ii) Scented
   (iii) Long feathery stigma
   (iv) Produce fewer and large sticky pollen grains

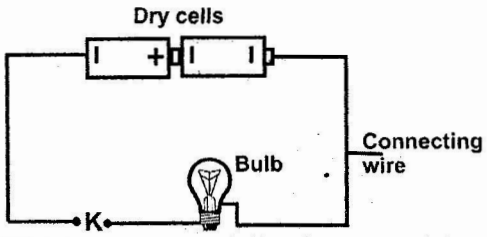
   Which one of the following pairs of characteristics is for a wind pollinated flower?
   A. (i) and (iv) B. (ii) and (iv)
   C. (ii) and (iii) D. (i) and (iii)

Answer - D
Reasoning

Insect pollinated flowers	Wind pollinated flowers
- Large flower parts - Bright coloured petals - Produce scent - Produce nectar - Sticky pollen grains - Small and firm stigma	- Small flower parts - Dull petals - No scent - No nectar - Light powdery pollen grains - Long feathery stigma

- Pollination is the transfer of pollen grains from the anthers to the stigma. The agents of pollination are wind and insects. From the table above characteristics of a wind pollinated flower are: small in size and long feathery stigma. This gives the correct answer as D.

6. The diagram below represents a set up that can be used to investigate good and poor conductors of electricity.



Which one of the following materials when used to connect wires at position K would make the bulb light?

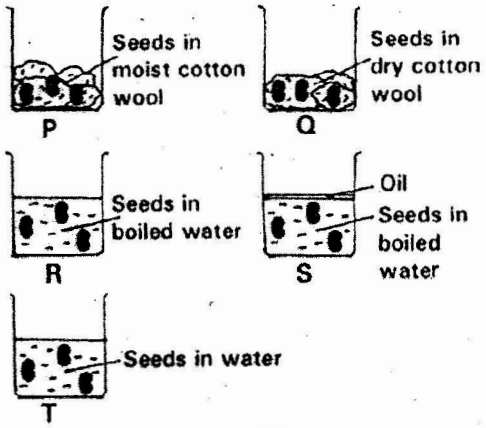
A. Piece of thread
B. Razor blade
C. Piece of glass
D. Cellotape

Answer B

Reasoning:

Good conductors of electricity are materials which allow electricity to pass through them. Examples are metals, graphite and carbon rod. Poor conductors of electricity are materials which do not allow electricity to pass through them. Examples are wood, glass, rubber, plastic, cloth, paper, etc. from the choices given a good conductor of electricity is razor blade. When placed at K it will make the bulb to light. A piece of thread, piece of glass and cellotape are all poor conductors of electricity. This gives the correct answer as B.

7. The diagram below represents a set up used by pupils to investigate conditions necessary for seed germination.



Germination occurred in _____.

A. Q, S and T
B. P and Q
C. P, R and T
D. R and S

Answer - D

Reasoning

- Germination is the process where seeds start growing into a new plant. For a seed to germinate it needs water, oxygen and warmth. From the investigation germination will not occur in Q because it lacks water and in S because it lacks oxygen. Germination will therefore occur in P, R and T. All the conditions necessary for germination are present. In set up R after boiling the water, the water was not covered with oil to prevent oxygen from entering the water. When the water cools, oxygen will dissolve in the water making the seeds to germinate. This gives the correct answer as C.

8. Which one of the following is an adaptation of plants in wet areas?

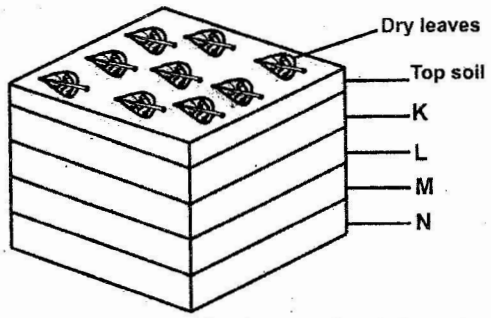
A. Fleshy leaves
B. Fewer leaves
C. Thick barks
D. Broad leaves

Answer - D

Reasoning

- Plants that grow in wet areas are called hydrophytes. Adaptations are features of a living thing (plants or animals) that enable it to survive in its habitat. Hydrophytes e.g water lilies, e.t.c have adaptation which increases the rate of transpiration since they grow in areas with a lot of water. These plants have broad leaves to increase the rate of transpiration. Fleshy leaves, fewer leaves and thick barks are adaptations of plants that grow in dry areas (xerophytes). This gives the correct answer as D.

9. The diagram below represents an arrangement of materials in a compost manure heap.



In the diagram the layer of ash is represented by

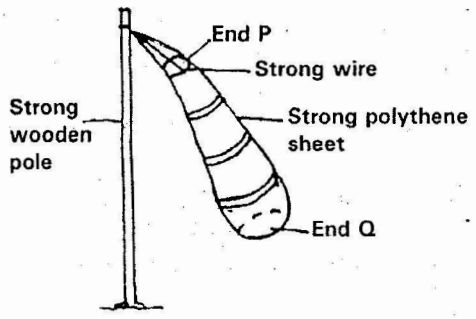
A. K
B. L
C. M
D. N

Answer A

Reasoning

- When making a compost manure heap, it is advisable to have a layer of ash. Ash is important because it adds some minerals such as potassium and phosphorus to the manure. The layer that represents ash is K. Layer N is made of maize stalks, layer M contains grass, leaves and kitchen refuse while layer L contains farm yard manure. This gives the correct answer as A.

10. The diagram below represents a windsock that was constructed by pupils.



Which one of the following is a reason why the instrument could not work?

A. The sock is made up of a strong polythene sheet.
B. End Q is larger than end P.
C. A strong wire was used to make end P.
D. A long, strong wooden pole was used to suspend the sock.

Answer - B

Reasoning

The diagram represents a windsock. A windsock measures strength of wind and also shows the direction where wind is blowing. When constructing a windsock both ends should be open. The mouth should be wider than the froth. From the diagram End P is the mouth while End Q is the froth. The instrument cannot work when the mouth is smaller than the froth. This gives the correct answer as B.

11. Which one of the following pairs consists only of materials that would not sink in water even when their shape is changed?

A. Wax and wood
B. Wood and aluminium
C. Aluminium and glass
D. Glass and wax

Answer A

Reasoning

Sinking occurs when an object goes down and settles at the bottom of a container with water. Factors that affect sinking and floating are material, weight, density and shape. Aluminium and glass are sinkers. They can float when their shape is changed. Wood and wax are floaters. Changing their shape will not make them sink. This is because their densities are less than that of water (1g/cm3). This gives the correct answer as A.

12. Which one of the following components of air is NOT CORRECTLY matched with its use?

	Component of air	Use
A.	Nitrogen	Used by plants to make proteins.
B.	Carbon dioxide	Manufacture of soft drinks.
C.	Oxygen	Manufacture of plant food.
D.	Inert gases	In electric bulbs.

Answer C

Reasoning

- Air is a mixture of gases. It has Nitrogen, Oxygen, Rare gases and Carbon dioxide. Each gas has its own use. Nitrogen is used by leguminous plants to make proteins. Carbon dioxide is used in manufacture of soft drinks like soda, making plant food, making fire extinguishers. Rare gases are used in making electric bulbs. Oxygen is used in germination, burning and respiration. It is not used in the manufacturer of plant food. This gives the correct answer as C.

13. Which one of the following pairs of diseases are infants immunized against at the 9th month after birth?

A. Tuberculosis and polio.
B. Tetanus and whooping cough.
C. Hepatitis B and diphtheria.
D. Measles and yellow fever.

Answer D

Reasoning

- Immunization is the process of giving a vaccine to boast the immunity of the body against diseases. Infants are given vaccines at different ages. At birth diseases prevented are tuberculosis and polio. At 6 weeks, 10 weeks and 14 weeks diseases prevented are Diptheria, Whooping cough, Tetanus and Polio. At 9 months diseases prevented are Measles and yellow fever. It is therefore correct to say at the 9th month after birth infants are immunized against Yellow fever and Measles. This gives the correct answer as D.

14. The chart below represents a weather record for five days.

Day	Morning	Afternoon
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

Key

Sunny, Calm, Cloudy, Rainy, Windy

Which one of the following statements is TRUE about the weather chart?
Whenever it was _____.

A. sunny in the morning, it was windy in the afternoon
B. cloudy in the morning, it was sunny in the afternoon
C. calm in the morning, it was sunny in the afternoon
D. windy in the morning, it rained in the afternoon

Answer - A
Reasoning

- From the weather chart it is wrong to say:
  (i) Whenever it was cloudy in the morning, it was sunny in the afternoon. This is because Tuesday was cloudy in the morning and in the afternoon it was rainy and calm.
  (ii) Whenever it was calm in the morning, it was sunny in the afternoon. This is because on Thursday it was calm in the morning and in the afternoon it was rainy and windy.
  (iii) Whenever it was windy in the morning, it rained in the afternoon. This is because Monday and Friday morning, it was windy in the morning and it only rained on Monday afternoon and not Friday afternoon.
- From the above explanation, it is therefore correct to say whenever it was sunny in the morning, it was windy in the afternoon. On Monday, Wednesday and Thursday, it was sunny in the morning and windy in the afternoon. This gives the correct answer as A.

15. Which one of the following statements is TRUE about some levers when in use?
    A. In a crowbar, the load is between the effort and the fulcrum.
    B. In a crowbar, the effort is between the load and the fulcrum.
    C. In a wheelbarrow, the fulcrum is between the load and the effort.
    D. In a spade, the effort is between the load and the fulcrum.

Answer D
Reasoning:
Levers are machines used to lift heavy objects. Levers are divided into three groups. The first group of levers has fulcrum between the load and effort. Examples are claw hammer, lid opener, scissors, see saw, beam balance and crow bar. The second group of levers has load between the fulcrum and effort. Examples are wheelbarrow, door hinge, nut cracker and human foot. The third group of levers has effort between the fulcrum and load. Examples are fishing rod, spade, charcoal tongs, arm, etc. it is therefore correct to say in a spade, the effort is between the load and the fulcrum. This gives the correct answer as D.

16. Which one of the following statements is NOT TRUE about HIV/AIDS?
    HIV/AIDS may be spread by _____.
    A. sharing of unsterilised razor blades.
    B. coming in contact with other people's body fluids.
    C. shaking hands and hugging infected persons.
    D. transfusing unscreened blood.

Answer A
Reasoning

- HIV and AIDS is spread from an infected person to a healthy person through: Sexual intercourse, blood transfusion, exchange of saliva (kissing), mother to child during birth and sharing of cutting and body piercing tools such as razor blades, needles, e.t.c. It is therefore NOT true to say HIV and AIDS can be spread by shaking hands and hugging infected persons. This gives the correct answer as C.

17. Which of the following planets are in the fifth and seventh positions from the sun respectively?
    A. Mars and Saturn.
    B. Jupiter and Uranus.
    C. Jupiter and Saturn.
    D. Mars and Uranus.

Answer - B
Reasoning

- Plants are heavenly bodies which go round the sun. Each planet has its own orbit. The order of planets from the first to the last is: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto.
- From this arrangement the fifth planet is Jupiter while the Seventh planet is Uranus. This gives the correct answer as B.

18. In the human body water is absorbed in the
    A. large intestines B. small intestines
    C. stomach D. rectum

Answer - A
Reasoning

- Digestion of food occurs in the alimentary canal. It starts with the mouth and ends with the anus. Absorption of water takes place in the large intestines (colon). The small intestine (ileum) completes the process of food digestion and absorbs digested food. The stomach has enzymes which digest

proteins. The rectum stores faeces. This gives the correct answer as A.

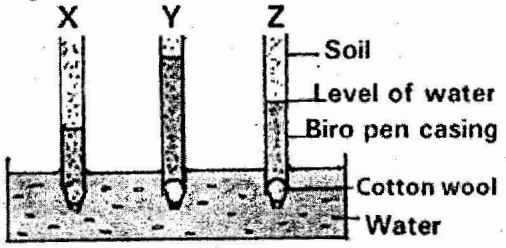
19. Which one of the following pairs consists only of substances that are in the state of matter?
    A. Oil and water vapour.
    B. Wax and glue.
    C. Ice and water.
    D. Air and water vapour.

    Answer D

    Reasoning

    - Matter is anything that occupies space and has weight. Matter exists in three states. These states are solids, liquids and gases. Wax and ice are solids. Glue, oil and water are liquids. Air and water vapour are gases. It is therefore correct to say that substances in the same state are Air and water vapour. This gives the correct answer as D

20. Pupils investigated capillarity in different types of soil. Their results were as shown in the diagram below.



From the results the soil samples **X, Y** and **Z** are most likely to be _____.

	X	Y	Z
A.	Clay	Loam	Sand
B.	Sand	Clay	Loam
C.	Clay	Sand	Loam
D.	Sand	Loam	Clay

Answer B

Reasoning

- Capillarity is the rate at which water rises through a sample of soil. Capillarity is determined by size of soil particles. Clay soil has the highest capillarity, it has small particles while sandy soil has the lowest capillarity since it has large particles. From the diagram soil X is sand, Y is clay and Z is loam. This gives the correct answer as B.

21. In an experiment to investigate a certain component of soil, water was added to garden soil in a glass container. The component of soil investigated was _____.
    A. air
    B. mineral particles
    C. living organisms
    D. organic matter

    Answer A

    Reasoning

    - Soil contains water, air, animals, humus and mineral salts. To investigate the presence of air in soil, water is poured or added to dry soil in a glass container. This will produce bubbles showing air is escaping. This gives the correct answer as A.

22. Which of the following organs in the human body both produce sex cells?
    A. Ovary and uterus
    B. Testis and penis
    C. Ovary and testis
    D. Penis and vagina

    Answer - A

    Reasoning

    - The human sex cells are sperms and ova. The sperms are the male sex cells and they are produced in the testis. The ova are the female sex cells and they are produced in the ovaries. It is therefore correct to say sex cells are produced in the ovary and Testis. This gives the correct answer as C.

23. Tapeworms in livestock are found in the_____.
    A. large intestines
    B. stomach
    C. lungs
    D. small intestines

    Answer - D

    Reasoning

    - Tapeworms are internal livestock parasites. In livestock they are found in the small intestines. In the small intestines there is plenty of food nutrients which they feed on. The tapeworms attach themselves to the wall of the small intestines and feed on the nutrients from the food which is finally digested in the small intestines. This gives the correct answer as D.

24. Which one of the following mixtures can be separated by winnowing?
    A. Flour and husks.
    B. Maize and millet.
    C. Rice and sand.
    D. Millet and husks

    Answer D

    Reasoning

    - Winnowing is using wind to separate mixture. One of the substances is lighter than the other substance in the mixture. The lighter substance is blown off by the wind leaving the heavier one. From the mixtures given winnowing will separate millet and husks. Husks are lighter than millet. They will be blown by wind leaving behind millet. Flour and husks are separated by sieving, maize and millet by sieving, rice and sand by picking. This gives the correct answer as D.

25. Which one of the following groups of sources of energy consists of only sources that have chemical energy?
    A. Charcoal, kerosene, food.
    B. Dynamo, drycell, firewood.
    C. Biogas, hydroelectric power generator, matches.
    D. Geothermal, generator, cooking gas, car battery.

Answer A

Reasoning

Chemical energy is found in substances such as food and fuels. Chemicals energy is stored energy in food and fuels. Examples of fuels include; firewood, charcoal, kerosene, petrol, diesel and coal. Chemical energy is also present in dry cells and wet cells. Dynamo has mechanical energy. Hydroelectric power generator has kinetic energy while geothermal generator has kinetic energy. Chemical energy is present in charcoal, kerosene, food, dry cell, firewood, biogas, cooking gas and car battery. This gives the correct answer as A.

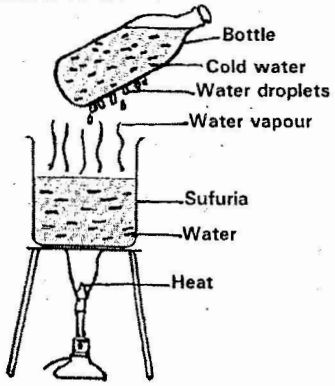
26. Which one of the following groups of machines consists of inclined planes only?
    A. Ladder, spade, crowbar.
    B. Staircase, ladder, a road winding up a hill.
    C. Spade, staircase, ladder.
    D. A road winding up a hill, craw hammer, crowbar.

Answer B

Reasoning:

Inclined planes are machines which make work easier by increasing the effort distance. Inclined planes are also called slopes. Examples of inclined planes are ladder, road winding up a hill, wedges, stair case and screw nail. A group that has inclined planes is choice B. spade, crowbar, claw hammer are examples of levers. This gives the correct answer as B.

27. The diagram below represents a set up that is used to demonstrate a certain process.



The process investigated is _____.

A. evaporation
B. freezing
C. condensation
D. convection

Answer C

Reasoning: The diagram is being used to demonstrate the changes of state. The processes taking place are evaporation and condensation. When the water is heated, it evaporates. The vapour reaches the bottle with cold water and changes to liquid a process called condensation. The final process being investigated is condensation. This gives the correct answer as C.

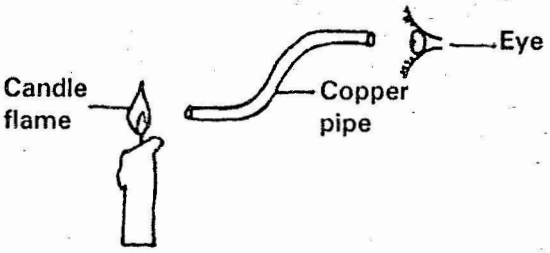
28. Which one of the following is NOT a method of conserving energy? Using _____.
    A. a wind mill to pump water
    B. biogas for cooking
    C. solar panels to produce electricity
    D. a traditional jiko for cooking

Answer D

Reasoning:

- Energy conservation means protecting our energy sources, preserving them, restoring those destroyed and managing our energy well. Through energy conservation, we are able to spare sources of energy for future use. We can conserve energy by using it sparingly, using energy efficient devices and using renewable energy. From the choices given using a traditional jiko for cooking does not conserve energy since it uses more charcoal encouraging more trees to be cut for burning charcoal. Wind mill, biogas and solar panes are all renewable sources of energy. This gives the correct answer as D.

29. The diagram below represents a set up that is used to investigate a certain aspect of light.



The aspect investigated is _____.
    A. light travels in a straight line
    B. refraction
    C. reflection
    D. passage of light through materials

Answer A

Reasoning:

Light energy is produced when things are burnt. Light energy affects our sense of sight. The diagram is demonstrating how light travels. Light travels through a straight line. Since the copper pipe is not strainght the person will not see the light. It is correct to say the aspect being investigated is light travels in a straight line. This gives the correct answer as A.

30. Presence of blood in urine and faeces in human beings may be a sign of _____.
A. typhoid B. bilharzia
C. malaria D. cholera
Answer - B
Reasoning
- Diseases spread through contaminated water are called water-borne diseases. These diseases are cholera, typhoid, and bilharzia. The disease which is characterised by presence of blood in urine and faeces in human beings is bilharzia. This gives the correct answer as B.

31. Which one of the following pairs of birds have their beaks adapted to the same type of feeding?
A. Chicken and duck
B. Sunbird and chicken
C. Eagle and hawk
D. Hawk and duck
Answer - C
Reasoning
By observing beaks of birds one is able to know the food the bird eats. Chicken feed on grains, Ducks are filter feeders, Sunbirds feed on nectar. Eagle and Hawk are flesh feeders. It is therefore correct to say an Eagle and a Hawk feed on the same type of food. This gives the correct answer as C.

32. Which one of the following methods of preserving food is both modern and traditional?
A. Salting B. Using honey
C. Smoking D. Drying
Answer D
Reasoning
Food preservation is the process of storing food properly for a certain period of time. Methods of preserving food are either traditional or modern. Traditional methods of preserving food are smoking, drying, use of low temperatures, use of honey and use of ash. Modern methods of preserving food are drying, use of low temperatures, freezing and canning. From the choices given drying is both modern and traditional. This gives the correct answer as D.

33. Which one of the following deficiency diseases is caused by lack of calcium in the diet?
A. Anaemia B. Kwashirokor
C. Rickets D. Marasmus
Answer C
Reasoning
Deficiency diseases are caused by poor feeding habits. They are as a result of not eating a balanced diet. The meals we eat should have proteins, carbohydrates, vitamins and mineral salts. Examples of deficiency diseases are Kwashiorkor – lack of proteins, Marasmus, Anaemia - it is caused by lack of iron, Goiter, Rickets, Scurvy, Beriberi, Pellagra, Night blindness, e.t.c Rickets lack of calcium and marasmus lack of enough food. This gives the correct answer as C.

34. Which one of the following statements is NOT TRUE about commercial feeds for animals?
A. They are given mainly for protection against diseases.
B. Some are given as the only feed.
C. They are given mainly to increase production.
D. Some are given together with other feeds.
Answer - B
Reasoning
Commercial feeds are animal feeds which are bought from the shops. They are also called concentrates. They include dairy meal, chick mash, broilers mash, salt lick, finishers mash, e.t.c Commercial feeds are given to animals to protect them from diseases since they are rich in vitamins and mineral salts. They are also given to increase production e.g. dairy meal for milk production and layers mash for egg production. They are also given as a supplement of pasture and fodder. It is therefore not true to say commercial feeds (some) are given as the only feed. This gives the correct answer as B.

35. Which one of the following pairs of components of the environment do all animals depend on directly?
A. Soil and plants
B. Air and water
C. Soil and air
D. Mineral salts and water
Answer - B
Reasoning
- Environment is the surrounding of a living thing. Major components of the environment are plants, animals, soil, air and water. The components of the environment that all animals depend on directly are Air and water. Animals breathe in air rich in oxygen. They

Reasoning

- Deficiency diseases are caused by poor feeding habits. They are as a result of not eating a balanced diet. The meals we eat should have proteins, carbohydrates, vitamins and mineral salts. Examples of deficiency diseases are Kwashiorkor, Marasmus, Anaemia, Goiter, Rickets, Scurvy, Beriberi, Pellagra, Night blindness, e.t.c Rickets lack of calcium and marasmus lack of enough food. This gives the correct answer as C.

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C. Soil and air
D. Mineral salts and water

Answer - B

Reasoning

- Environment is the surrounding of a living thing. Major components of the environment are plants, animals, soil, air and water. The components of the environment that all animals depend on directly are Air and water. Animals breathe in air rich in oxygen. They also need water for various body activities such as digestion and transport. This gives the correct answer as B.

36. Which one of the following foods is CORRECTLY matched to its group?

	Food	Food group
A.	Groundnuts	Energy giving
B.	Eggs	Protective
C.	Carrots	Energy giving
D.	Bananas	Body building

Answer A

Reasoning

- Food is anything we eat to grow, get energy and protect the body against diseases. This gives three basic food groups - body building foods (proteins), energy giving foods (carbohydrates) and protective foods (vitamins).
- Groundnuts are a rich source of oil which gives us energy. Eggs are a rich source of proteins which is body building. Carrots give us vitamin A which is protective. Bananas are a rich source of carbohydrates and vitamins. Energy giving and protective. It is correct to say groundnuts are energy giving. This gives the correct answers as A.

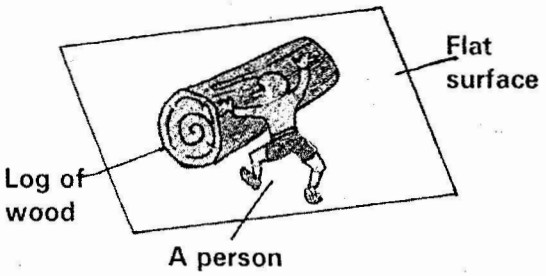
37. Which one of the following animal feeds provide a diet of proteins and carbohydrates?
A. Clover and Lucerne
B. Sunflower seeds and barley grains
C. Sunflower seeds and maize grains
D. Lucerne and maize grain

Answer - D

Reasoning

- Proteins are body building foods while carbohydrates are energy giving foods. Leguminous plants such as Lucerne, clover, Desmodium are rich sources of proteins. Gasses and cereals are a rich source of carbohydrates. Sunflower seeds are a source of fats and oil. It is correct to say Lucerne and maize grains are rich in proteins and carbohydrates respectively. This gives the correct answer as D.

38. The diagram below represents a person pushing a heavy log of wood along a flat surface.



Which one of the following changes would make the person push the log more easily?
A. Smearing oil on the flat surface.

A magnet is a piece of iron or steel that attracts thing made of iron or steel. Things that a magnet attracts are called magnetic materials. Those that are not attracted are called non-magnetic materials. From the materials given magnetic materials are staple pins, scissors, metallic bottle top, knife, ball bearing, razor blade, hacksaw and steel wool. Non magnetic materials are silver coin, marble balls, copper coin and aluminium plate. A group with magnetic materials is choice A – staple pin, scissors, metallic bottle top. This gives the correct answer as A.

41. Which one of the following practices pollutes soil, air and water?
    A. Use of all farm chemicals
    B. Burning of tyres and plastics
    C. Dumping of industrial waste
    D. Use of artificial fertilizers

    Answer - A

    Reasoning

    - Pollution is making the environment (water, air and soil) harmful to plants and animals. Pollution is caused by introducing harmful substances called pollutants into the environment. A practice that will pollute soil, air and water is the use of all farm chemicals (pesticides, herbicides and inorganic fertilizers). This gives the correct answer as A.

42. If medicine remains after taking the prescribed dose, it is advisable to _____.
    A. keep and use it later
    B. dispose of the medicine
    C. continue taking until it is finished
    D. give it to someone with the same sickness

    Answer B

    Reasoning

    - Medicines are drugs which are used for treating known diseases preventing diseases and reducing pain. Medicines for treating diseases are called curative drugs. Medicines for preventing diseases are called vaccines while medicines for reducing pain are called pain killers. Medicines should be used properly as instructed by the doctor. Medicines that remain after taking the prescribed dose should be disposed by destroying them. This gives the correct answer as B.

43. Which one of the following is most likely to cause damage to corrugated iron sheets on buildings? Gases from _____.
    A. aerosol sprays B. burning farm wasters
    C. industries D. sewage

    Answer - C

    Reasoning

    - Corrugated iron sheets are damaged by acid rain. Acid rain is produced when waste gases from industries such as sulphur dioxide and carbon dioxide are released into the air and dissolve in rain producing acid rain. The acid rain starts corroding the iron sheets exposing them to water which leads to rusting. It is therefore correct to say from industries damage corrugated iron sheets on buildings. This gives the correct answer as C.

44. Which one of the following diseases CANNOT be prevented by maintaining proper hygiene?
    A. Typhoid B. Bilharzia
    C. Cholera D. Malaria

    Answer - D

    Reasoning

    Hygiene means rules of cleanliness. Hygiene practices include proper disposal of human wastes (faeces) washing hands after visiting the latrine, washing fruits and vegetables properly, covering food, proper cooking of food, e.t.c. Diseases which can be prevented by carrying out all these practices are typhoid, bilharzia and cholera. These diseases are called water borne diseases. Malaria is spread by the female Anophtes mosquito. It is a vector borne disease. This gives the correct answer as D.

45. The beginning of energy transformations in a radio that uses dry cells is_____.
    A. electrical B. magnetic
    C. chemical D. sound

    Answer C

    Reasoning:

    Energy is ability to do work. Energy transformation occur when one form of energy changes to another form of energy. Energy can only be realized when it is changed to another form e.g. electricity changing to heat and light. Energy changes occur in electric circuits, food we eat, radio etc. Dry cells in a radio have chemical energy. The chemical energy changes to electrical then magnetic then kinetic and finally sound. It is therefore correct to say the beginning of energy transformation in a radio that uses dry cells is chemical. This gives the correct answer as C.

46. The diagram below represents a safety sign when dealing with electricity.

    DANGER

    HATARI

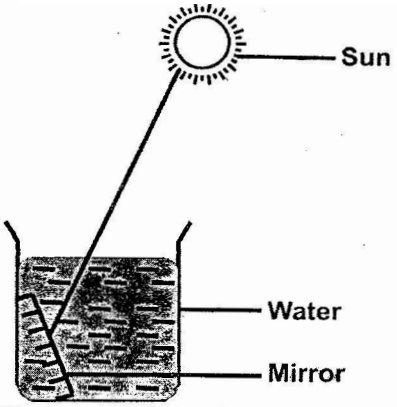
    The sign means _____.
    A. do not insert objects into electric socket
    B. do not use appliances with damaged plugs or wires
    C. do not plug in many electrical appliances
    D. do not get near

    Answer D

    Reasoning:

    Electricity is a form of energy which can be very dangerous when poorly handled. When dealing with electricity is advisable to observe various safety precautions as this will prevent injuries and even death from electricity. The diagram shown is a warning sign found on electricity transformers. It warns us not to get near the transformer since it is very dangerous and one can easily electrocuted leading to death it is therefore correct to say the diagram is a sign that means do not get near. This gives the correct answer as D.

47. The diagram below represents a set up used to investigate a certain aspect of light.



The aspect being investigated is _____.

A. reflection of light
B. making a rainbow
C. refraction of light
D. how light travels

Answer B

Reasoning: From the diagram, the aspect being investigated is how to make a rainbow. When light lands on the mirror in the water the light is broken down into seven colours which form a spectrum. This spectrum forms a rainbow. From the diagram refraction is not easy to be observed as the rays from the mirror will not be noticed bending as they come out of the water. This explanation gives the correct answer as B.

48. Which one of the following is a reason why a glass container is likely to break if hot water is poured into it?
    A. Sudden expansion of the inner side of the glass wall.
    B. Sudden expansion of air in the container.
    C. Sudden contraction of the outer side of the glass wall.
    D. The fact that the heated water had expanded.

Answer A

Reasoning:

Expansion is increase in size as a result of heating matter. A glass is likely to break if hot water is poured into it because of sudden expansion of the inner side of the glass wall. This is because glass is a poor conductor of heat. It will not conduct the heat to the outer side of the glass wall making it also expand. Because of the difference the glass breaks. (the inner wall increases in size and the outer wall does not). This gives the correct answer as A.

49. On a see-saw a small boy can lift a big boy when
    A. the small boy stands on it
    B. the big boy moves closer to the fulcrum
    C. the two boys interchange positions
    D. the two boys move equal distances away from the fulcrum

Answer B

Reasoning:

A see saw has a Y- shaped tree trunk with a long strong pole placed across it. It is used for balancing different masses. When children are balancing one another, the heavier one should sit near the fulcrum while the lighter one sits far away from the fulcrum. This gives the correct answer as B.

50. The following are steps followed when investigating the force required to lift a load using a fixed pulley but not in their correct order:
    (i) Tie the load with a string
    (ii) Pass the string with the load through the pulley on the support
    (iii) Pull the spring balance and measure
    (iv) Fix the pulley on the support
    (v) Tie the spring balance at the end of spring

    The CORRECT order of steps to be followed is _____.

    A. (ii), (i), (iv), (v), (iii)
    B. (i), (ii), (iv), (v), (iii)
    C. (v), (i), (ii), (iv), (iii)
    D. (iv), (i), (ii), (v), (iii)

Answer D

Reasoning:

A pulley is a machine that makes work easier by changing direction of force. It is easier to lift a heavy object by applying force towards the ground and not against the ground. A pulley has a wheel with a groove through which a rope moves. The correct steps followed when investigating the force required when using a pulley are:

i) Fixing the pulley on the support
ii) Tying the load with a string
iii) Passing the string with the load through the pulley on the support
iv) Tying the spring balance at the end of the string
v) Pulling the spring balance and measure

This gives the correct answer as (iv), (i), (ii), (v), (iii) choice D.