1. Which one of the following sources of energy is renewable?
   A. Kerosene
   B. Biogas from cowdung
   C. Coal
   D. Cooking gas from crude oil.

2. Which one of the following is the MAIN reason why the inside of a solar drier is painted black?
   A. To prevent rusting
   B. To make it last longer
   C. To make it absorb heat
   D. To decorate it

3. The image formed in a pinhole camera is
   A. upright and smaller than the object
   B. upside down and formed on the screen
   C. upside down and same size as the object
   D. upright and formed on the screen.

4. The box guitar high sound can be produced without changing the tension of the strings by
   A. plucking the strings hard
   B. increasing the length of the strings
   C. using thinner strings
   D. increasing the size of the box.

5. Below is an energy transformation:
   Chemical $\rightarrow$ electrical $\rightarrow$ heat $\rightarrow$ light.
   In which one of the following does the energy transformation shown take place when used to produce light?
   A. Geothermal
   B. Car battery
   C. Electric bulb
   D. Bicycle dynamo.

6. Flowers P, Q, R and S have the following characteristics:
   P: Large and loosely held anthers
   Q: Presence of nectar
   R: Strong scent
   S: Light pollen grains.
   Which two flowers are wind pollinated?
   A. P and S
   B. Q and R
   C. P and R
   D. Q and S

7. A fish is able to move EASILY in water because it
   A. has fins
   B. has hard scales
   C. is streamlined
   D. has gills.

8. Which one of the following plants stores food in the stem?
   A. Carrot
   B. Irish potato
   C. Sweet potato
   D. Onion

9. A food chain in a grassland is shown below:
   Grass $\rightarrow$ Grasshoppers $\rightarrow$ Frogs $\rightarrow$ Snakes $\rightarrow$ Secretary birds.
   Which one of the following would most likely happen immediately all snakes are killed?
   A. Frogs would decrease in number.
   B. Grasshoppers would increase in number.
   C. The amount of grass would increase.
   D. Secretary birds would decrease in number.

10. The diagram below represents a section of a heart of a mammal.

Which one of the following statements is TRUE?
   A. K carries blood into the heart whereas L takes it out.
   B. K has a thin wall whereas L has a thick wall.
   C. K carries deoxygenated blood whereas L carries oxygenated blood.
   D. K has valves whereas L has no valves.
11. The following are the activities which are carried out when comparing strengths of acids in fruit juices.
   (i) Counting the number of drops of each fruit juice required to change the colour.
   (ii) Adding the different fruit juices drop by drop in each of the bottle tops.
   (iii) Adding equal amounts of indicator in each of the bottle tops.
   (iv) Putting equal amounts of a wood ash solution into different bottle tops.

Which one of the following is the CORRECT order of the activities?

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

12. The diagram below represents a simple machine in use.

   The machine is an example of
   A. an inclined plane
   B. a wheel and axle
   C. a lever
   D. a pulley

13. The reason for using rollers when moving heavy objects on a floor is to
   A. make objects lighter
   B. avoid damaging the floor
   C. increase speed of moving objects
   D. reduce force that opposes movement.

14. The MAIN reason why the government conserves wildlife is to have
   A. meat from wild animals
   B. plant and animal products
   C. a balance of nature
   D. animals for export.

15. When an object is thrown up in the air it falls because it
   A. is pulled by the earth
   B. exerts pressure
   C. is resisted by air
   D. is as heavy as air.

16. The diagram below represents a weather instrument constructed by a group of pupils who made a mistake while constructing it.

   The mistake made during the construction was
   A. closing the mouth of the bottle
   B. using little amount of coloured water
   C. having the container with coloured water open
   D. having the scale reading from the bottom.
19. Which of the following planets are in the second, fifth and eighth positions respectively from the Sun?  
A. Uranus, Jupiter, Venus.  
B. Mars, Saturn, Neptune.  
C. Venus, Jupiter, Neptune.  
D. Earth, Saturn, Uranus.

20. The function of plasma is to  
A. fight germs  
B. combine with oxygen  
C. help in clotting of blood  
D. transport foods

21. Which pair of characteristics is common to lizard, toad, hawk and platypus?  
A. Lay eggs, breathe by lungs.  
B. Body temperature varies, breathe by lungs.  
C. Have scales, lay eggs.  
D. Body temperature varies, have scales.

22. The table below shows characteristics of four different fruits U, V, W and X.

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>Small and hairy</td>
</tr>
<tr>
<td>V</td>
<td>Long with lines of weakness</td>
</tr>
<tr>
<td>W</td>
<td>Brightly coloured with hard seed coat</td>
</tr>
<tr>
<td>X</td>
<td>Hollow and fibrous</td>
</tr>
</tbody>
</table>

Which one of the fruits is likely to be dispersed by exploding?  
A. U.  
B. V.  
C. W.  
D. X.

23. The diagram below represents a foot of a certain bird.

Which one of the following diagrams of beaks belongs to the same bird?

A.  
B.  
C.  

24. Which one of the following is a flower part?  
A. Sigma  
B. Pollen grains  
C. Style  
D. Filament

**CORRECTLY matched with its function:**

<table>
<thead>
<tr>
<th>Part of a flower</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sigma</td>
<td>Produces pollen</td>
</tr>
<tr>
<td>Pollen grains</td>
<td>Fertilize ovules</td>
</tr>
<tr>
<td>Style</td>
<td>Supports stigma</td>
</tr>
<tr>
<td>Filament</td>
<td>Supports stamens</td>
</tr>
</tbody>
</table>

25. A glass containing ice cubes was placed in the open. After some time the outer surface of the glass became wet. This shows that  
A. air contains water vapour  
B. ice melts to form water  
C. air is a mixture of gases  
D. air can be cooled.

26. Which one of the following is NOT required when finding the density of a regular solid?  
A. Spring balance.  
B. Ruler.  
C. Overflow can.  
D. String.

27. Which one of the following statements about water is TRUE?  
A. Water mixes with all liquids  
B. Water has definite size  
C. Water has definite shape  
D. Water is a good conductor of heat.
28. The BEST way of handling tin cans after using the contents is by
   A. burying them deep in the soil
   B. melting and moulding them into other products
   C. throwing them in the pit latrine
   D. throwing them in the river

29. Which one of the following pairs of levers has the position of load, fulcrum and effort as a forearm?
   A. Fishing rod and pliers
   B. Spade and shovels
   C. Bottle top opener and nutcracker
   D. Scissors and claw hammer

30. Which one of the following statements about a windsock is TRUE? A windsock
   A. measures speed of wind
   B. shows direction wind is blowing from
   C. shows strength of wind
   D. works the same way as a windvane

31. Which one of the following NEED NOT be the same when comparing capillarity in different types of soil?
   A. Diameter of the tubes
   B. Amount of each type of soil
   C. Torre allowed for the experiment
   D. Amount of water used

32. Which one of the following characteristics of sandy soil DOES NOT explain why water drains through it easily?
   A. Rough texture
   B. Large particles
   C. Large air spaces
   D. Shiny particles

33. Which one of the following drugs has similar effects to miraa (khat) when abused?
   A. Heroin
   B. Tobacco
   C. Mandrax
   D. Excessive alcohol

34. Which of the following correctly shows the path taken by urine from the kidneys?
   A. Ureter → urethra → bladder
   B. Urethra → ureter → bladder
   C. Ureter → bladder → urethra
   D. Urethra → bladder → ureter

35. Which one of the following groups consists of only plants with fibrous roots?
   A. Cowpeas, maize, wheat
   B. Rice, millet, maize
   C. Carrot, millet, wheat
   D. Cowpeas, rice, carrot

36. The component of air used in making plant food is
   A. 0.03%
   B. 0.97%
   C. 21%
   D. 78%

37. Which one of the following lists consists of only drugs of abuse that are prohibited in Kenya?
   A. Khat, tobacco, cocaine
   B. Cocaine, heroin, mandrax
   C. Bhang, beer, tobacco
   D. Cobblers glue, khat, beer

38. Which two of the following processes involve loss of heat to the surroundings?
   A. Melting and freezing
   B. Evaporation and condensation
   C. Freezing and condensation
   D. Melting and evaporation

39. The leaf of a cactus plant
   A. reduces water loss
   B. makes plant food
   C. stores water
   D. allows gaseous exchange

40. Which one of the following DOES NOT affect floating and sinking of an object?
   A. Size
   B. Shape
   C. Density
   D. Weight

41. Which one of the following soil components is LEAST affected when soil in a container is heated?
   A. Air
   B. Water
   C. Organic matter
   D. Mineral salts

42. Which one of the following insects DOES NOT undergo the stages of egg, larva, pupa and adult?
   A. Wasp
   B. Locust
   C. Bee
   D. Moth

43. Which one of the following substances will form a salt and water only when mixed with an acid?
   A. Ash solution
   B. Chalk powder
   C. Clover juice
   D. Magadi soda

44. Which one of the following pairs of substances will give the same colour when mixed with flour extract?
   A. Lemon juice and lime solution
   B. Aspirin solution and acetalin solution
   C. Lemon solution and aspirin solution
   D. Lime solution and acetalin solution
45. Sifting, pickling and sieving are some methods of separating mixtures. Which one of the following mixtures can be separated by all the three methods?
A. Maize and beans.
B. Sand and rice.
C. Maize flour and small pieces of iron.
D. Sugar and tiny pieces of glass.

46. Which one of the following is NOT a reason why drugs should be stored in a properly labelled container? To avoid
A. contamination
B. getting expired
C. getting spoiled
D. wrong usage

47. Which one of the following materials is magnetic?
A. Aluminium plate.
B. Steel razor blade.
C. Silver coin.
D. Copper ring.

48. The following are steps followed by pupils when making a certain tool.
(i) Flattening one end of a nail.
(ii) Fixing the flattened end into a piece of wood.
(iii) Cutting off the head of the nail.
(iv) Flattening and sharpening the exposed nail.

The tool is a
A. hammer
B. chisel
C. drill
D. saw

49. The diagram below represents a loaded wheelbarrow.

The effort needed to push the wheelbarrow can be reduced by increasing the length of the part between
A. P and R
B. Q and R
C. R and S
D. S and T.

50. The diagram below represents an arrangement of gear wheels.

When wheel H is rotated once, in a clockwise direction,
A. wheel G rotates three times anticlockwise and J twice anticlockwise.
B. wheel G rotates three times anticlockwise and J twice clockwise.
C. wheel F rotates once clockwise and J three times clockwise.
D. wheel F rotates once anticlockwise and J twice anticlockwise.