

Solution 10th science Sample paper 2018-1

1. Ans. The air passage or trachea is made up of cartilaginous rings that prevents the air passage from collapsing during exhalation.

2 Ans. (i) pituitary gland produce Growth hormone (ii) The thyroid gland produce thyroxine

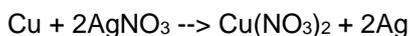
4. Ans. The insecticides are non-biodegradable substance which accumulates in the body of consumers or human beings through food chain. This phenomenon is called Bio-magnification

This cause serious health problems. The range of accumulation is different in different trophic levels. It is detected in higher concentration at the top consumer level which include Humans.

5. Ans. Alchoho-Ethanol-- C_2H_5OH

Acid-Butanoic acid-- C_3H_7COOH

6. Ans. Displacement reaction occurs and copper sulphate(which gives the bluish green colour) is formed along with free silver. The reaction is...



7. Ans:

(i) acids present in lemon react the coating of copper oxide or basic copper carbonate present on the surface of tarnished copper vessels and form neutral salt. This make them shining red-brown again.

(ii) Only some bases are soluble in water are called alkalis. For example NaOH, KOH etc. Therefore it is said that all alkalis are bases but all bases are not alkali

iii). When a honey-bee stings a person, it injects an acidic liquid into the body which causes pain and irritation. Thus, rubbing a mild base like baking soda solution on the stung area gives relief, as it neutralizes the acidic liquid injected by the bee.

8. Ans. (a) Bile makes the food alkaline for action of pancreatic juice.

Bile breaks fat into simpler forms for the action of lipase. This is called emulsification.

(b) Pepsin breaks down proteins into peptones. Trypsin breaks down proteins and peptones to peptides.

Or,

Ans. The centre of reflex action is spinal cord.

The afferent fiber or sensory fiber enters the spinal cord through the dorsal root and carry the impulse from the effectors organ to spinal cord. The efferent fiber or motor fiber passes through the ventral root and carries impulses away from the spinal cord to the effectors organ. The adjustor neuron in spinal cord communicates between afferent and efferent neuron.

9. Ans. To perform the activity you need to follow the following steps:

Get a battery, two magnets of different sizes and magnetic intensities, an aluminium rod, connecting wires, stand, Now arrange the above mentioned articles as shown above.

When the arrangement has been made keep the rod still in air and switch on the current.

See diagram of NCERT

Observation: Nothing happens.

Now bring the magnet with lower magnetic intensity closer to the aluminium rod.

Observation: The rod deflects. Closely observe the velocity of the rod.

Inference: A current carrying conductor in magnetic field experiences force.

Now steady the rod and bring the both the magnets closer together (to ensure that the magnetic field is greater than in the previous case).

Observation: The rod moves towards the magnet only this time it is faster as it was earlier.

Inference: The above is possible only and only if the force acting on the rod is more than in the previous case. Because since the body will be starting with zero velocity it will move faster only if its acceleration is more and since acceleration more the force acting on it is more. Thus, force acting on a current carrying conductor placed in a magnetic field increases with the increase in the field strength.

OR,

Ans. Difference between solar energy and fossil fuel;

- 1) Burning fossil fuel leaves residue while solar energy has no residue.
- 2) Solar energy is renewable source of energy while fossil fuel is a non-renewable source energy.
- 3) Use of solar energy causes no pollution while fossil fuel energy pollutes the environment on use.

10 Draw a diagram of human excretory system and label kidneys, ureters on it.

See NCERT

11. An element of group 15 has atomic number 15. Write the number of shells in its configuration. Write its configuration and find its Valency. Examine if this element will have metallic properties or not?

Ans. Three shells k,l,m ; 2,8,5 ; Valancy = 8-5=3 ,Metallic character

Or, Ans. a) Electronic configuration→2,8,8,2 b) Name of element→Calcium c) Valency→2

12 Ans. Planaria has special cells which are capable of creating other body cell in sequence under appropriate conditions.

Regeneration is a type of asexual reproduction in which an organism has the ability to generate lost or damaged body parts. If Planaria is cut into small pieces, then each piece develops into a new individual.

OR,

Sexual reproduction involves the action of DNA copying that creates variations .

Sexual reproduction involve transfer of gene from parents to the offspring This lead to similarities amongst the two.

13. Ans.(a) Both fertilise egg cells (b) both are non-motile, steady so the sperm have to meet to them
(c) Pollen tube carry pollen grain to ovary. Fallopian tube is tube where fertilization takes place inside mother body.

14. Ans. (a) ethanoic acid or acetic acid or vinegar and functional group is carboxylic acid
(b) litmus test or ester test (c)CO₂ is formed (d) we can identify it by lime water test when we pass CO₂ from lime water the solution gets milky

15. See NCERT

Five marks question

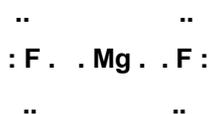
16. Ans. a. See NCERT

(b) This is because they travel in same direction in curve or circular path. $I = P/V = 1.5 \times 1000w/220 = 6.81A$
Hence, the current drawn by the electric oven is 6.81 A, which exceeds the safe limit 5A of the circuit. Fuse element of the electric fuse will melt and break the circuit.

17. Ans. The compound formed is MgF₂. Bond formed is ionic

Properties: (i) It is a white crystalline salt. (ii) The compound is transparent over a wide range of wavelength.

(iii) Are inert to organic chemicals and many acids.



18 Ans. In plants:-Tips of the plants; in human:-Pituitary Gland

When a unidirectional light falls on the shoot, the auxin moves from the lighter to the darker side of the plant stem. This movement increase the concentration of the auxin towards the darker side and hence the greater growth resulting in the bending of the stem towards the light. This type of movement is known as phototropism.

19 Ans.(a).Speed of light in Rock salt is $1/1.54$ times speed of light in vacuum.

(c) Light travelling faster in glass because speed of light is reciprocal of refractive index .

Velocity of light in diamond = $3 \times 10^8 \div 2.47 = 1.2 \times 10^8 \text{m/s}$

Velocity of light in glass = $3 \times 10^8 \div 1.54 = 1.9 \times 10^8 \text{m/s}$

Difference is $0.7 \times 10^8 \text{m/s}$

20 .Ans.(l). given : $f = 10 \text{ cm}$, $m = -2$; $v / u = -2 \Rightarrow v = 2u \Rightarrow v = -2u$ -----(1)

according to lens formula ,

$1/v - 1/u = 1/f \Rightarrow 1/v - 1/u = 1/10$ -----(2)

substitute (1) in (2) $-1/2u - 1/u = 1/10 \Rightarrow -1 - 2 / 2u = 1/10 \Rightarrow -3 / 2u = 1/10 \Rightarrow -30 = 2u \Rightarrow u = -30/2 \Rightarrow u = -15 \text{ cm}$

Therefore, object should be placed 15 cm away from the lens

(ii) Power of accommodation is the ability of the eye lens to adjust its focal length by relaxation or contraction of colliery muscles.

The distance at which we are able to see objects clearly without strains called near point of the eye.

The farthest point up to which the eye can see objects clearly is called the far point of the eye.

Near point is 25 cm.

Far point is infinity.

21.Ans: Ans: (a) Pollen tube – Carries male germs cell ; Style – Carries pollen tube

(b) Fission in Amoeba – Binary fission ; Plasmodium – Multiple fission

(c) Fragmentation – Simple multicellular organisms ; Regeneration – Complex multicellular organisms

(d) Bud of Hydra - Budding ; bud of Bryophyllum - Vegetative propagation

(e) Vegetative propagation – Formation of new plants from leaves, root and stem

Spore formation – reproduction by spores

21. Ans. Copper sulphate - Blue colour ; Ferrous sulphate - light green colour

Sodium sulphate - Colourless Barium chloride - Colourless

23 .Ans V is proportional to I

24. Ans. The correct sequence is :

1.Carefully pull out the thin membranous transparent layer from lower epidermis.

2.Drop it in the water in a Petridish and add a drop of Safranin stain.

3.Transfer the stained peel to the clean glass slide and add a drop of glycerine.

4.Cover the material with the cover slip.

25. A. It has an irritating pungent smell. b. homogeneous solution is formed.

(c) CO_2 gas is evolved which turns lime water milky

(d) Red litmus doesn't show any change.so it is acidic in nature. (But Blue litmus turns red)

26.Ans. Yes, the parental identity is lost by Amoeba. In binary fission parents amoeba splits up into two daughter amoebae and the shapes of the respective amoebae will not be similar to that of the parent amoeba

27. Ans.(a) ----(iii) (b) ----(iv) (c) ----(i) (d) ----(ii)