

Class - VIII

Subject - Science

28. (a) The causes of myopia are :-

- (i) excess curvature of the cornea
- (ii) elongation of the eye ball.

The causes of hypermetropia are :-

- (i) focal length of the lens decreases
- (ii) eye ball becomes smaller

(b) Optical aids

(a) Optical aids include lens and telescopic lens for the vision

(b) By using optical aids, the ~~vision~~ of problem with our eye is rectified and we are able to see

Eg :- lens of suitable focal length

Non Optical aids

(a) Non Optical aids includes tactual aid and auditory aid.

(b) Use of Non optical aids doesn't rectify the problem but gives us a replacement by use of other senses

Eg :- audiocassettes, Braille system

- (c) (i) cone shaped cells of the retina
 (ii) ciliary muscles

29. The steps involved in the extraction of metals are :-

(i) Concentration of the Ore :- By this step, the impure materials such as sand, salt, etc. are removed from the ore. ^{These} ~~are~~ ^{are} impurities are also known as gangue.

(ii) Reduction of the Ore :- This step involves the process of converting the metal ore into metals. We get the metals out of the metal ores.

(iii) Refining of the metal :- The metal obtained is not fully pure. It still contains impurities. The metal again is refined to get ~~it~~ its pure form.

(b) i) An alloy is a homogeneous mixture of two or more metals or metals and a non-metal.

(ii) Alloys are better than the metals in the following ways

* They give increase in strength. They are stronger than metal.

* Alloys are more resistant to corrosion than the metals.

30. The two types of synthetic plastics are:-

- thermoplastics e.g. polystyrene, PVC
- thermosetting plastics e.g. Bakelite, melamine.

Thermoplastics are the synthetic plastics having linear arrangement of molecules

Thermosetting plastics are the synthetic plastics having cross linked arrangement of molecules

The main characteristics of synthetic plastics are:-

(a) high tensile strength

(b) resistant to chemicals

(c) non biodegradable

(d) light weight

(e) not expensive

(f) wrinkle free.

(g) easy to wash

31. (a) Cell wall :- The outer covering of plant cell, bacteria cell which is fully permeable. They are absent in Animal Cell.
function :- It gives rigidity to the cells and also proper shape and size.

(b) Chloroplast :- They are type of plastids. They contain green pigment called chlorophyll which gives green colour to the leaves. They are absent in animal cell.
function :- They help in the synthesis of food in plants by the process of photosynthesis.

(c) Mitochondria :- They are known as the power house of the cell. They are long shaped structure present in the cell.

5

function :- They help in the production of energy for different activities of the cell.

Golgi Complex :- They are known as the storehouse of the cell. They are stacked one above the other.

function :- They store the secretions by the different organelles of the cell.

Ribosomes :- They are the smallest cell organelle of the cell.

5 ✓ function :- They help in protein synthesis.

Q2. The four main organs of the female reproductive system are :-

- (i) ovary ✓
- (ii) oviduct ✓
- (iii) uterus ✓
- (iv) vagina ✓

Ovaries :- They are the female sex organs of our bodies. They produce the female gamete called ovum/ova which fuses with sperm to form zygote.

Oviduct :- The ovum from the ovaries get transported to here it is the site of fertilisation. ovum fuses with the sperm over here in the oviduct.

5 Vagina :- It receives the semen and sperm from the male. It's the copulatory organ of our body.

2 mark Questions

17. (a) When the rubber sucker is pressed against the surface, the air rushes out side and hence it creates low pressure ~~in side~~ ~~the~~ between the rubber sucker and the surface. The air out side push the rubber sucker to the wall due to which it is difficult to pull a rubber sucker pressed on a surface as air always flows from high pressure to low pressure.

(b) We do not get crushed under the large atmospheric pressure acting on our body because the pressure inside our body balances the atmospheric pressure.

(c) School bags are provided with wide straps to carry them because this increases the surface area of contact and thus decreases pressure.

18. The three possible observations resulting from these chemical changes are :-

(a) A metal may get deposited over an anode. (electroplating)

(b) There may be formation of bubbles near the electrodes. (electrolysis)

(c) There may be a change in the colour of the electrolyte if there is a displacement reaction occurring.

19. Amplitude of a vibrating body is defined as the distance maximum displacement from the mean position of the vibrating body to either of its extremes.

frequency of a given vibrating body is defined as the number of ~~oscillations~~ oscillations completed within one second.

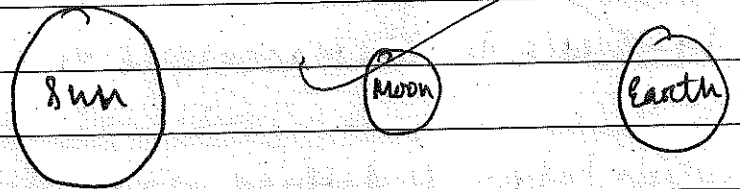
(b) Amplitude of the given body determines ~~the~~ loudness of the sound.
frequency of the given body determines the pitch of the sound produced.

20. On a full moon day,
Earth comes in between sun and moon.



On a new moon day,

Moon comes in between the sun and the earth



(b) On the day following the new moon day, the ~~is~~ brightness and size of the moon increases till full moon this is known as waxing. After that the size again decreases to new moon. This is known as waning.

21. It is rightly said that increasing use of fuels has a harmful impact on the environment.

(a) Release of carbon monoxide :- Incomplete combustion of the fuel releases carbon monoxide gas which when inhaled causes breathing problems ~~as~~ as it mixes with the haemoglobin to form carboxyhaemoglobin which prevents the transportation of O_2 to all the parts.

(b) Global Warming :- Combustion of fuel ~~has~~ releases CO_2 gas which traps the heat from the sun and results in the greenhouse effect, ~~the~~ which increases the temperature due to which ~~the~~ polar ice starts melting and there is an increase in the level of sea waters which cause flood.

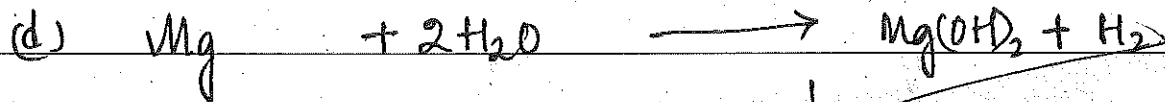
(c) Formation of smog :- The unburnt carbon particles when

Released to the atmosphere forms soot. This smoke in winter season combines with fog to form smog which is very harmful.

22 (a) Magnesium

(b) MgO (Magnesium Oxide)

(c) ~~When this~~ Take this white powder (MgO). Dissolve it in water. Then put the ^{red} litmus paper. You can see the red litmus paper changes to blue colour. Thus we can know that MgO is a base.



23 (a) Meena's father advised her not to wear nylon clothes while cooking because this forms a sticky beads. Nylon is a synthetic fibre, when burnt, it forms sticky beads which stick to our skin as it has a very low melting point.

(b) i) Synthetic fibres do not absorb sweat and hence are uncomfortable to wear in summer.

ii) Synthetic fibres when burnt, produce harmful chemicals.

24. Three methods for the purification of water are:-

- (a) filtration
- (b) boiling
- (c) chlorination.

Filtration :- The process of purifying water ~~the~~ through sand, gravel and charcoal is called filtration. At first, the water is made to pass through ~~to~~ gravel and charcoal. Then the water is passed through sand.

Boiling :- Boiling kills germs as the ~~the~~ germs can't tolerate the extreme heat.

Chlorination :- Water can be purified by adding chlorine tablets ~~at~~ or bleaching powder in required amount.

25. (a) Cholera : Disease causing micro-organism :- Bacteria
 Mode of transmission :- ^{intake of} water, ~~improper~~ dirty water
 prevention :- proper maintenance of ~~hygiene~~ ^{water} in the local ^{towers} and clean water. Intake of clean water.

27. (a)

Malaria : Disease causing micro-organism :- Protozoa
 Mode of transmission :- Insects (mosquito)
 prevention :- mosquito nets, ~~clean~~ surroundings
 mosquito killing sprays.

26. 1. (i) Thyroxin
 (ii) controls the metabolic rate of the humans

2. (iii) Pituitary gland

(iv) checks the proper growth and development of body

3. (v) Pancreas

(vi) Insulin

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winter
easy

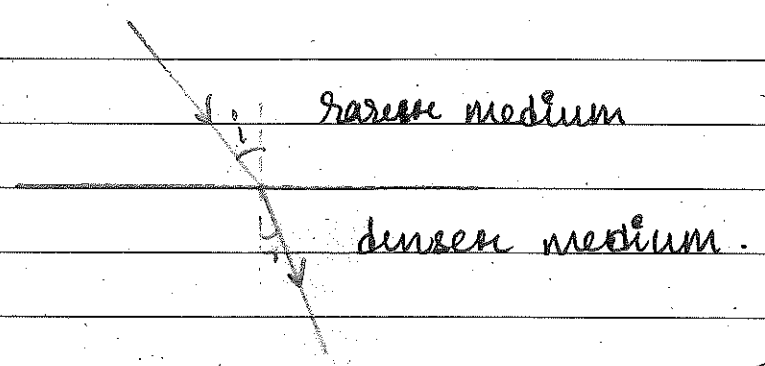
it is
we

we know

we will
synthetic
our

27. (a) ~~is~~ When a light ray propagates from one medium to the ~~rarer~~ medium, there is a change in the speed of light due to which the light ray bends. The rules are

(i) When light travels from a rarer medium to a denser medium, it bends towards the normal.

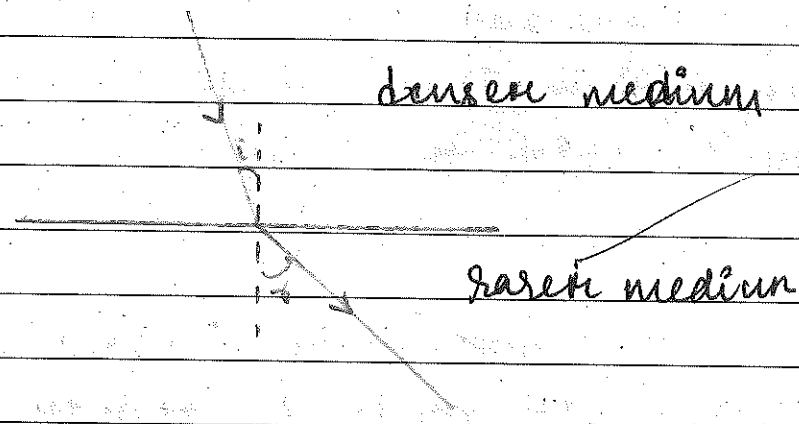


(ii) when the light travels from a denser medium to the rarer medium, it bends away from the normal.

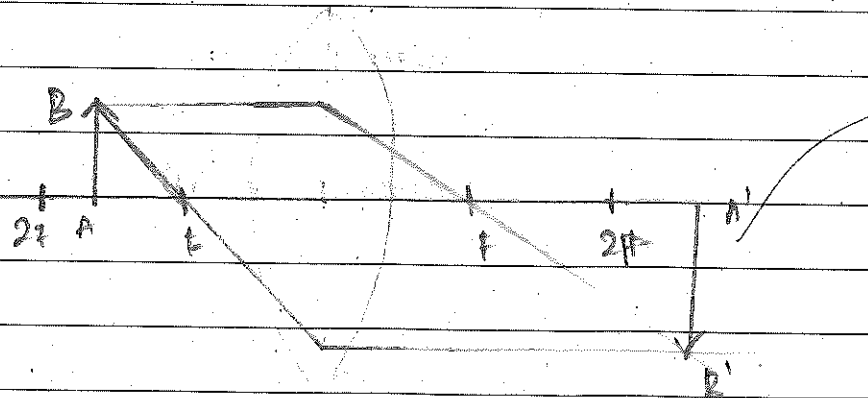
a
dirty water
water
of clean

ice
surroundings

body



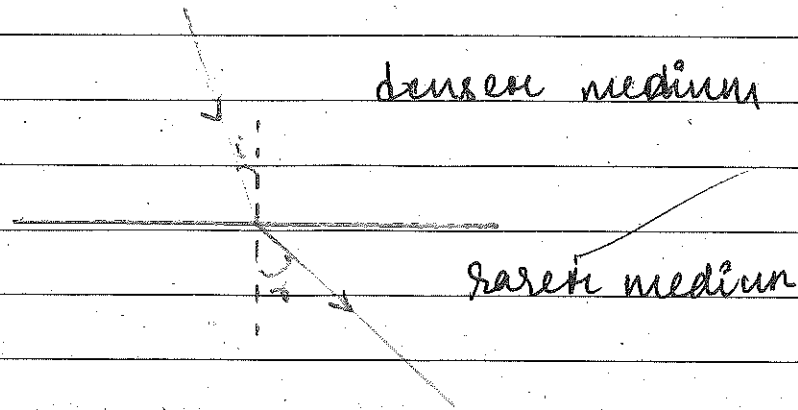
(b) (i) Between F and $2F$



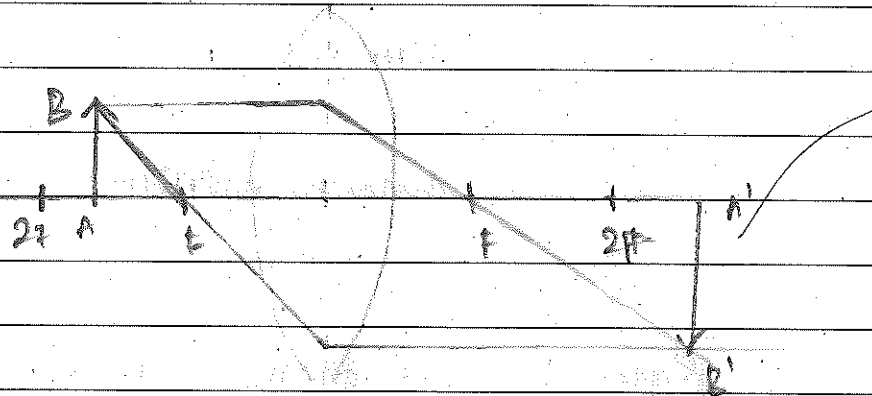
position :- beyond $2f$ at the other side

size :- magnified

nature :- real and inverted



(b) (i) Between F and $2F$

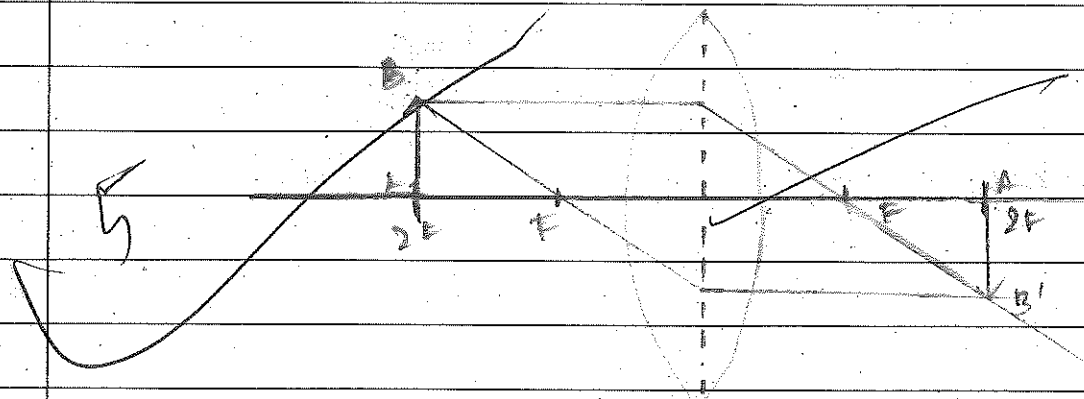


position :- beyond $2F$ at the other side

size :- magnified

nature :- real and inverted

ii) at the $2F$ point



Position : at $2F$ on the other side

Size :- same size as the object

Nature : Real and inverted

1. (a) hertz ✓

(b) spontaneous combustion ✓

(c) green revolution ✓

(d) hormones ✓

2. (a) ~~decreases~~ increases ✓

(b) ~~max~~ optical centre ✓

(c) non biodegradable ✓

(d) menopause ✓

3. (a) non contact force ✓

(b) Venus ✓

(c) embryo ✓

(d) Adolescence ✓

40. (a) Braille System is the coded language ~~used~~ based on the logical system usually by blind. It contains ~~dots~~ dots as letter which one memorizes

(b) Domestic sewage increases the growth of algae which decreases

amount of the oxygen ϵ in the water, which leads to the death of aquatic animals.

(e) The process of separating grains from cut crops is called as threshing.

(d) Binary fission is the type of asexual reproduction in Amoeba. The cell divides into two daughter cells. The nucleus also divides.

5 (a) The coating of the desired metal on the other metal through the ~~process~~ transfer of electric current by the method of electrolysis is called electroplating.

Copper

(b) Zinc is the anode (positive terminal)

Copper is the cathode (negative terminal).

6. Aim of the Activity :- To show that the combination of plane mirror and water acts as a prism.

Materials Required :- Bowl filled with water, small plane mirror

Procedure :- Take the plane mirror. Place it in the bowl of water. Take the bowl and place it near the window from where sufficient light enters. Adjust the bowl in such a way that reflected ray falls on the wall.

Observation :- We can see the band of ^{seven} ~~several~~ colours at the wall.

Conclusion :- The combination of water and plane mirror acts as a prism.

F Frogs puff their throat to produce the sound of croaking. They puff their throat.

Insects vibrate their wings to produce sound.

Thus frogs and insects use different ~~pro~~ methods for the production of sound.

8. (a) formation of colourful bands in Jupiter is due to

(i) its ~~the~~ cloudy atmosphere

(ii) ~~large~~ ^{strong} storms of atmospheric currents

(iii) presence of gases

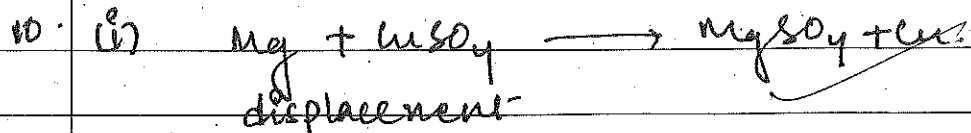
(b) Comets are visible when they come near the sun because, the extreme heat vaporises ~~the ice~~ a part of ice which forms the illuminated tail.

9. (i) We can boil water in a paper cup because when the paper cup containing water is heated, the water absorbs all the heat and hence the ignition temperature of the paper cup is not attained. The heat passes through the paper cup boils the water.

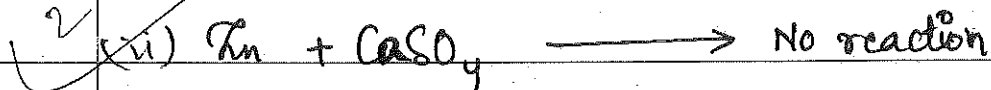
(ii) flame of burning candle ~~goes~~ goes off, when we blow over it strongly because

(i) ~~air~~ ^{air} lowers the ~~ignition~~ ^{ignition} temperature of the wax below its ignition temperature.

(iv) Carbon Dioxide acts as a fire extinguisher



This reaction takes place ~~due to~~ as magnesium being more reactive than copper displaces copper to form the compound.



This is because ~~copper~~ ^{Zinc} is less reactive than calcium and hence is unable to displace calcium.

11. Two methods to check the pollution of water caused by industries are:-

2 (i) The chemicals eliminated from the industries are the harmful chemicals. Some chemicals can be added to them to precipitate the harmful chemicals.

(ii) Laws enforced by the government should be very strict and the industries should be warned not to dispose their waste in water bodies.

12. (a) The implement used for weeding are :- khurpa (trowel) harrow.

(b) One beneficial effect of transplantation :-

(i) Farmers can selectively cultivate only healthy plants.

13 (a) Food Preservation is defined as preserving or handling the food to stop the growth of microorganisms or prevent the growth of micro-organisms.

(b) Two uses of fungi like yeast are :-

(i) Fermentation :- Yeast converts through anaerobic respiration produces CO_2 . This CO_2 makes the dough or batter full. This is known as fermentation.

(ii) Alcoholic Beverages :- Yeast converts the sugar in cereals and fruits into alcohol.

through fermentation.

14. On the basis of cell number, organisms can be classified as :-

i) Unicellular Organisms

ii) Multicellular Organisms.

Unicellular Organisms are the organisms made up of a single cell. A single cell performs all the activities of the organism. eg. Amoeba

Multicellular organisms are the organisms made up of many cells. Here a group of cells perform a particular function. These cells may perform different functions. eg. Human

15. Two conditions under which the reproductive pattern of external fertilization and external development succeeds :-

* Male and female should produce sperms and ova at the same time

(ii) They should produce a large ^{number} of gametes.

(iii) There should be the presence of iodine in water.

16) The voice of the boys get deeper when they reach puberty.
Two possible reasons are :-

(a) The voice box gets bigger

(b) The voice box gets longer and thicker

Larynx?