MS - 14

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1. (a) What is freefall?
: It is the condition in which body falls freely in the centre of earth due to effect of gravitation.

(b) Write the name of any two equipments based on atmospheric pressure.
- Barometer
- syringe

(c) What is meant by alternative source of energy?
: It is the source of energy except fossil fuels.

d) At what condition does the convex lens form virtual and erect image?
: When object is between O and F

e) Why is nichrome wire is used in heater?
: because it has very high resistance, high melting point and doesn't react with oxygen.

f) Write the name of two elements of group VIIA of the modern periodic table.
: Flourine
chlorine

(g) Give an eg of endothermic reaction

: $CO_2 \xrightarrow{+\Delta} C + O_2$

h) What is meant by alkayine?
It is hydrocarbon having triple covalent bond between any two carbon.

i) BHC :- Benzene Hexa Chloride.

(j) What is the function of sensory nerve?
= It provides message implus from sense organs to brain.

k) Human - ~~22~~ 23 pairs
Pinus ; - ~~24~~ 12 pairs

(l) The reproduction where the meeting of male and female gamets is not required.

m) Uric acid :-
It is the byproduct remaining after breaking nutrients by kidney.

(n)
- curly hair / straight hair
- ~~curly~~ dimpal / non-dimpal

(o) ozone layers helps to prevent UV rays to entrer in earths surface.

Group:- B

2. Write any two diff

Nuclear fission	Nuclear fusion
- It is the process of changing heavy nucles in smaller nuclies is Nuclear fission	It is the process of changing smaller nuclies in heavy nucles.
- high temp and pressure is required	high temp and
- It is possile in earth	It isn't possible

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3. An iron nail sinks in water but floats in mercury. why.

= because the iron nail has ~~less~~ more density than of water and mercury has more density then of iron nail so it floats.

4. Define charger. Write two methods to increase the amount of current electricity by the generator.

= A charger is an electrical appliance, which is used to supply energy into a secondary cell by forcing an electric current through it.

- By increaning no of turns ~~fn~~ of coil
- Increasing the speed of magnet or coil.

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5. The ratio of primary coil and secondary coil in a step-up transformer is 1:4. If the input voltage of the transformer is 11 KV then calculate the output voltage.

Here,

$N_1 = 1$	$V_1 = 11$ KV
$N_2 = 4$	$V_2 = ?$

We have,

$$\frac{N_2}{N_1} = \frac{V_2}{V_1}$$

$$\frac{4}{1} = \frac{V_2}{11}$$

$$44 = V_2$$

$$\therefore V_2 = 44 \text{ KV}$$

6. Write the electronic configuration of chlorine on the basis of sub-shell. Write its period and group on the basis of electronic configuration.

∴ chlorine

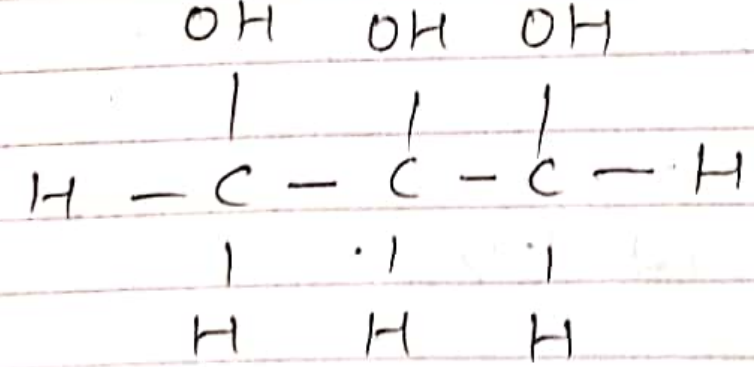
$1s^2 \quad 2s^2 \quad 2p^6 \quad 3s^2 \quad 3p^6$

Period :- ~~8th~~ 3rd

Group :- ~~8~~ VII

7. Write the structural formula and uses of glycerol.

2



$C_3H_5(OH)_3$

→ It is used in soap & cosmetics

→ It is used in preserving tobacco.

8. Write two ores of iron. Copper is used to make electric wire. why?

= Magnetite
Haematite

because copper is good conductor of electricity and it is ductile.

9. Why is catalyst used in the chemical reaction? eg.

= because it helps to decrease / increase the rate of chemical reaction.

e.g.

$$2H_2O_2 \xrightarrow{MnO_2} 2H_2O + O_2$$

10. Diff

Axon	Dendrites
- The longest brach of a neuron is called Axon.	The short branches of neturon are called Dendrites
- It transmits the implose collected to the cell body towards another neuron	It collects implises towards cell body.

11. What is external fertilization? any two parts of stamen.

=>

12. Egg of silkworm are kept in cold places. Why?

= to prevent them from hatching out.

13. Diff

Artery	Veins
- It carry blood away from the heart	- It carry blood towards the heart.
- It don't have values	It has values.

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11. Mention any four objectives of launching artificial satellites into the space.

:: To acquire exact information about earth, satellites and universe

. To facilitate transmission of radio and Tv waves over different parts of the world.

. To study overall weather patterns of the earth.

: For military uses and communication purposes, etc.

15.

Here,

$M_1 = n$ kg

$M_2 = 200$ kg

$d = 20$ m

$F = 3.335 \times 10^{-8}$ N

Now,

$$F = \frac{G M_1 M_2}{(d)^2}$$

$$3.335 \times 10^{-8} = \frac{6.67 \times 10^{-11} \times n \times 200}{(20)^2}$$

$$3.335 \times 10^{-8} = \frac{6.67 \times n \times 200}{400} \times 10^{-11}$$

$$3.335 \times 10^{-8} = 3.335 n \times 10^{-11}$$

$$n = \frac{3.335 \times 10^{-8}}{3.335 \times 10^{-11}}$$

$$n = \frac{3.335}{3.335} \times 10^{-8+11}$$

$$n = 1 \times 1000$$

$$\therefore n = 1000 \text{ kg}$$

16. Alcohol
Boiling :- 78°C
Freezing :- −114° C

Here,
$Q = 80\ kJ$
$m = 2\ kg$
$s = 10°C$
$dt = ?$

Now,
$Q = msdt$
$80 = 2 \times 10 \times dt$
$= dt$
$=$

17. Detergent is called soapless soap?

Diff:-

2 because it has clensing property like a soap but does not contain the chemicals that are found in soap.

Polyvinyl chloride	Bakelite
- A thermoplastic which is formed by polymerization of many vinyl chloride ($CH_2=CHCl$) molecule.	A therosetting plastic formed by prlymerization of formaldehyde and carbolic acid.

18. Sulphric acid is called strong acid where as acelic acid is called weak acid, why? Write one example of acidic salt and bassic salt.

= Acidic salt

→ $H_2SO_4 + 2NH_4OH \rightarrow (NH_4)_2SO_4 + 2H_2O$

Basic salt

→ $H_2CO_3 + Mg(OH)_2 \rightarrow MgCO_3 + H_2O$

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19. Layering is a type of vegetative propagation in which a portion of the areal stem grows root while still attached to parent body.

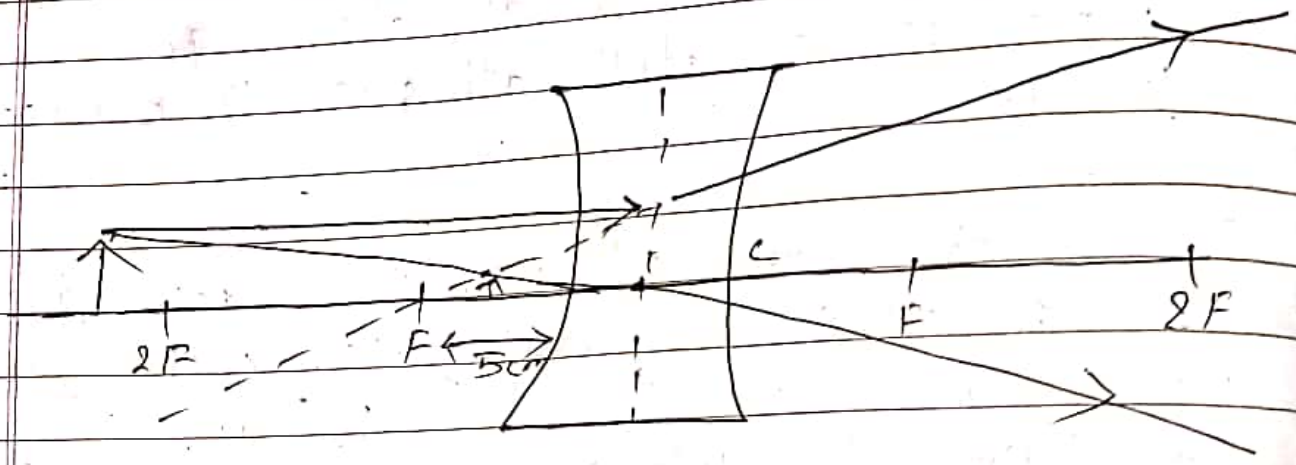
Two advantages of vegetative propagation.
- It is easy to grow and cultivate new plant.
- It helps to preserve and protect the rare plants.

20. 3 causes of air pollution:-
- Smoke and dust emitted by vechiles
- harmful chemicals emitted by industries.
- Developmental activities like construction, mining etc.

3 effects of air pollution
- Reduction in visibility
- Reduction in solar radiation
- Depletion of ozone layer
- Acid rain

Gr- 'D'

Q1.



Nature of image

- It is virtual
- It is erreet

Concave lens

Now, where, F = 5 cm ⇒ 0.05 m

Power (P) = $\frac{1}{F}$

$= \frac{1}{0.05}$

$= 20\ D$

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22. Ammonia gas

Laboratory preparation of ammonia gas

In laboratory ammonia gas is prepared by heating two parts of ammonium chloride (NH_4Cl) and one parts of Calcium hydroxide. [$Ca(OH)_2$]

$$2NH_4Cl + Ca(OH)_2 \longrightarrow CaCl_2 + 2H_2O + 2NH_3$$

Precaution:
1. The apparatus must be air tight
2. Ammonia

Physical properties

- It is colourless gas with a pungent smell.
- It is highly soluble in water
- It is lighter than air
- It is basic in nature.

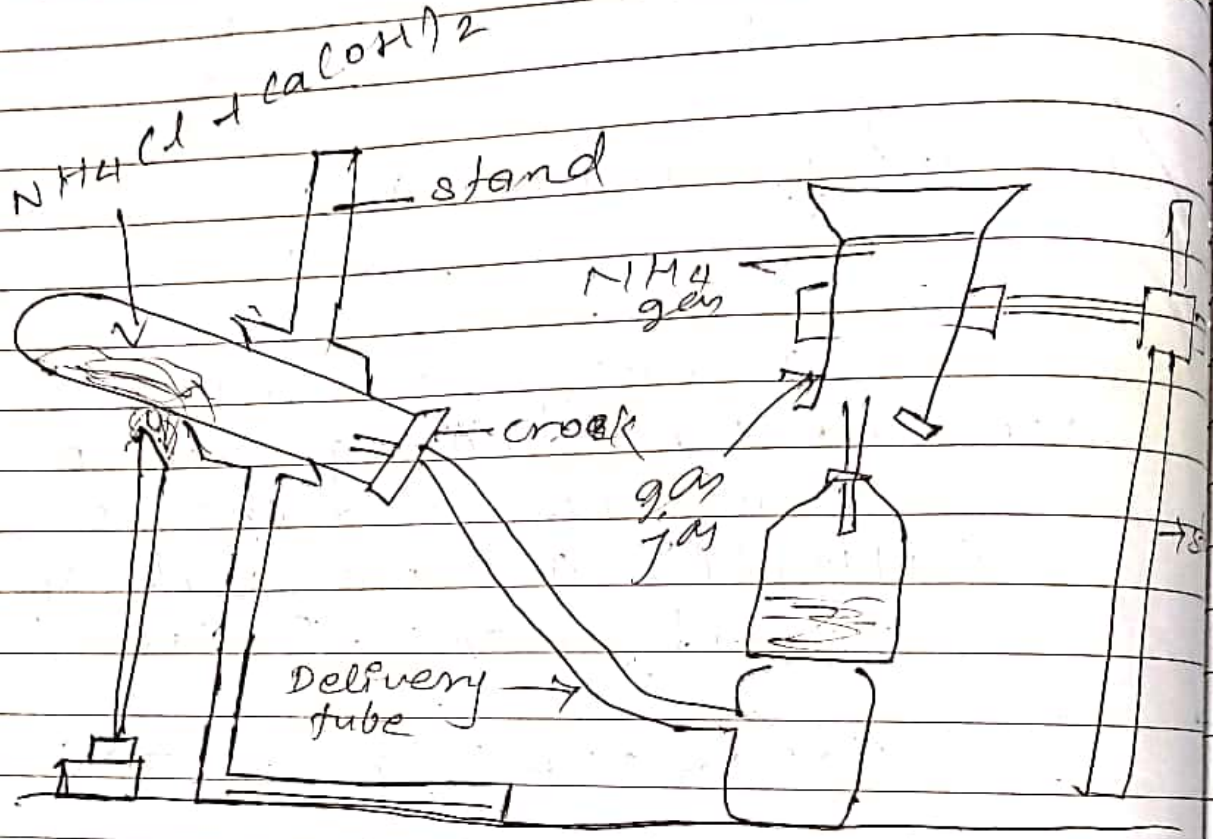

Fig :- Laboratory preparation of ammonia gas

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23. Mendel is known as the father of genetics, beause he was the first scientist to develop the theory of mechanism of heredity and variation

⇒	B	b
B	BB	Bb
b	Bb	bb

⇒ Genotype ration :- 1 : 2 : 1
⇒ Mohybrid cross

Use Blue ink

24. Dinosaur ~~Cenozoic~~ era

Importance of mineral oil
- It is used to generate electricity.
- It is used for domestic fuel.

G-A

1.a) Torcelin vaccum is the vaccum used in mercury barometer to measure atm pressure.

b) The fuel obtained from plant and animal.

(c) The ~~conse~~ converging and diverging capacity of the lens

a) switches and fuse are always connected in live wire. why?

: because switche is connected to fuse to prevent from overloading, short circuit.

(e) Why a narrow constriction is made near the bulb of clinical thermometer?

= because to reset the temperature of thermometer after using it. (to get exact reading)

(f) Fl. chlorine :-

$1s^2 \quad 2s^2 \quad 2p^6 \quad 3s^2 \quad 3p^6$

g) Combination reaction is the reaction where two reactants are combined to form single product.

h) Ores of aluminium — Bauxite, Felspar
" " iron — Haematite, Magnetite

(i) Properties of salts :-

- soluble in water

drones
Drones are developed?
Drones are developed by the unfertilized eggs.

Name the types of chromosome on the basis of their function.

Autosome chromosome – Growth & develop
Sex chromosome – sex determinatio

What is corpus callosum?
The bridge between left and right cerebrum to conduct respiration.

Name two organism in which asexual reproduction takes place by budding.
Hydra and Mushroom

Mutation is the choromozomal disorder which causes variation in off spring.

Two major chemicals responsible for ozone layer depletion Methane and Ethane

2. Both feather and coin will fall together and reaches the ground together because the resistance is not present in vaccum.

3. Define Specific heat capacity

Specific heat capacity is the amount of heat required to raise the 1 kg mass by 1° C.

because water has very high specific heat capacity so the heat there is no significance change in temperature.

4.

$m_s = 400\ g$

$m_d = 53\ g$

$mass = 400\ g - 53\ g$

$= 347\ g$

Now,

$W = 347 \times 10$

$= (3470/1000)$

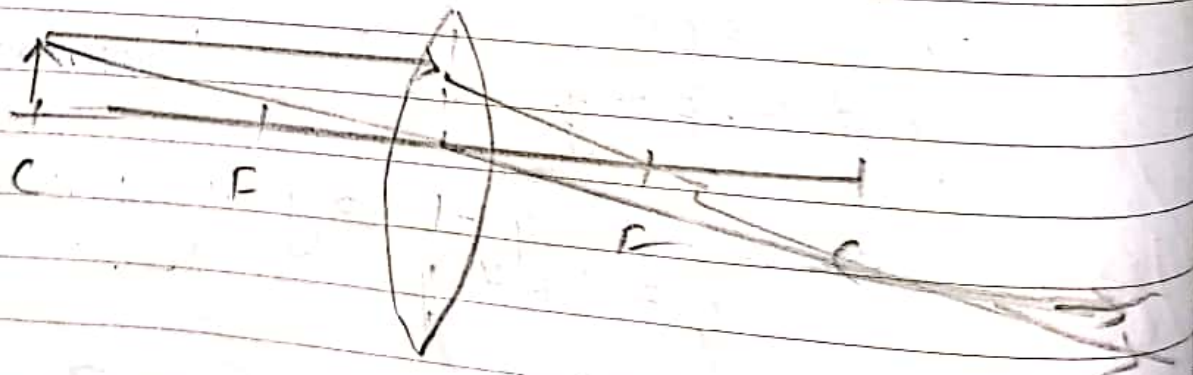
$= 3.47\ N$

5. What do you mean by long sightedness?
= The ability of only seeing only far objects is long sightedness.

6. IA elements goes on increasing order while moving from top to bottom in peridic table. Justify.

= ~~IA elements~~ because the atomic number goes on increasing because the and the force of attraction between the nucles and valance shell is ~~decreasing~~ increasing

H - 1
Li - 3
Na - 11
K - 19



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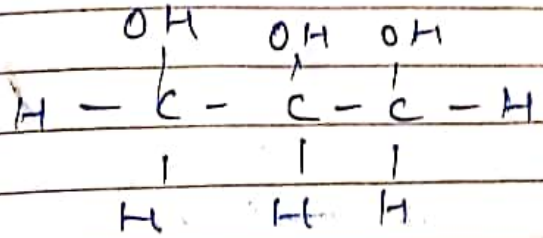
7.



8. because it has double covalent between any two carbon.

9. Diff between:-

Exothermic reactions	Endothermic reactions
It requires heat.	It don't require heat.

10.

10. Requirements of silk forming
-
-
-
-
-

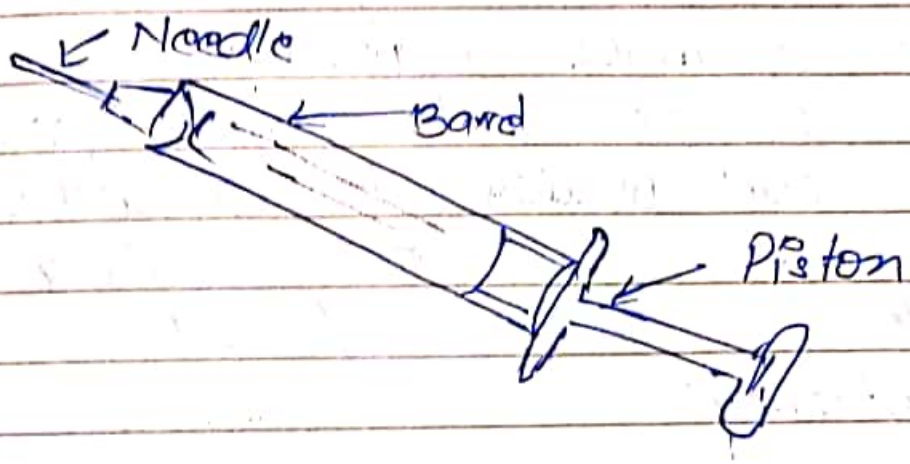
12. because vegetative propagation
- it is easy to grow new plant.
- it is economically supported

13. Adrenal Gland is called emergency gland because it prepares our body for fight or flight condition.

14. Two major events happened in mesozoic era
- Formation of hills & peaks
- Diminace of dinasour and extinction

15. A syringe consists of three parts. They are storage cylinder, piston and needle. In order to fill medicine into the syringe the needle is inserted in the container of medicine. When piston is pulled out it creates a partial vacuum inside the storage cylinder.

As a result, medicine moves into the storage cylinder in order to fill the vacuum. When the piston if the syringe is pushed in, medicine goes inside the body of patient due to high pressure into the storage cylinder.



16. Here,

Power (P) = 250 watt

$= \frac{250}{1000} = 0.25$ Kw

Time (T) = 30 m

$= \frac{1}{2}$ hr

Electricity consumed = PNT

$= 0.25 \times 1 \times \frac{1}{2}$

$= 0.123 \times 30$

$= 3.75$ units

17. How are ceramic material made?

2

1. Ceramics clay is blended with water
2. Then it is casted into desired shape
3. Then it is dried in the sun
4. Then it is heated in the furnance
5. The ceramics materials thus heated becomes porous. to remove pores fine salt powdered is sprayed over it in hot state. The coating is done by tin oxide / lead oxide (glazing)

18. magnesium ribbon burnt in air; forms magensium oxide

$2Mg + O_2 \rightarrow 2MgO$

If the magnesium oxide is mixed with water,

$MgO + H_2O \rightarrow Mg(OH)_2$

it forms Alkali

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19. The disorders which are caused by the change in the number or structure of chromosomes are called chrosome disorder.

The four major symptoms of Down's syndrome are

-
-
-
-

20. Uric acid is the byproduct remaining after breaking nutrients by kidney because there is less supply of onygen in body cells and formation of energy is less.

21.

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22. Answer:-

(i) $2NH_4Cl + Ca(OH)_2 \longrightarrow CaCl_2 + 2H_2O + 2NH_3$

(ii) To avoid the cracking.

(iii) Red litmos paper changes in blue colour.

(iv) to get dry ammonia gas

23.

M → / F ↓	R	r
R	RR	Rr
r	Rr	rr

(i) 2nd filial generation

(ii) RR ; phenotypic ratio :- 3:1

(iii) 50 % is hybrid.

~~24~~ The organism which is produced from the cross-fertilization of genetically different organisms is called hybird.

24. The broom shaped shining objects with bright head that revolves around the sun are called comets.
Tail is formed only when it reaches nearby the sun in course of revolution.

The Solar system is situated in the Milk way galaxy and is situated in one corner of the galaxy.
There are 10^11 stars in this galaxy. The closest galaxy to the Milky Way galaxy is Andromeda.

MSL2

Group - A

1) a) The force of attraction between two bodies of unit masses separated by unit distance is called gravitational constant

b) The pressure is equally transmitted perpendicularly to all sides pressure is applied on a liquid contained in a closed containes.

c) liquids used in maximum & minimum therometer are alcohol and mercury.

d) The process of adjusting the distance between the lens and the screen in order to produce a clear and distinct image is called focusing.

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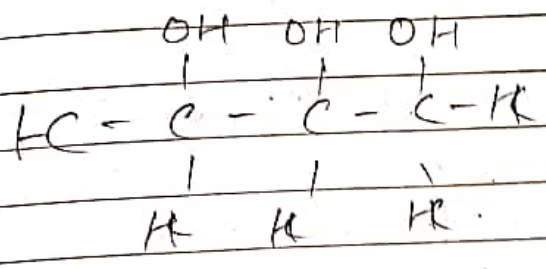
(e) Fuse is a safety wire which protects the electric appliances and electric circuit from damage which may occur due to overflow of electricity.

(f)



~~(C)~~ $C_3H_5(OH)_3$

(g) ~~Exother~~ Those reaction which doesn't need heat exothermic.

(h) Aluminium - 660° C
Silver - 960° C
Gold - 1063° C
Copper - 1083° C
Iron - 1500° C

D
A
P

(i) C_nH_{2n}

(j) The fluid found between duramater and piomater which protects the brain from electric shock and injury is called cerebrospinal fluid.

(k) The crystal found in acidic urine whose PH value is less than 5.5

l) A disease that occurs only in a particular type of sex (either male or female) is called Sex linked disease.

m) If the ovum is fertilized inside the body of a female, this is said to be internal fertilization.

n) It states that, "in a monohybrid cross between two organisms having a pair of contrasting characters on of the characters remain dominant and another recessive"

o) By looking different fossils of plants and animals

Q1 - B

2. because we know W = g and the value of g varies from place to place so the weight of a body is more at poles than at equator

polar ⇒ g = 9.83 m/s²

Equator ⇒ g = 9.78 m/s²

3. we know that liquid pressure P = hdg where density and height dema remain same but the gravity is different moon and earth.

(1/6 th)

4.

Nuclear Fission	Nuclear Fusion
- The process of changing heavy nucles to smaller nuclide is known as Nuclear Fission	- The process of charging smaller nuclee to heavy nucles is known as Nuclear Fusion.
- It is possible in earth	- It isn't possible in earth.

5. Why do animals sit round into a ball during winter?
= to lose loss heat from their body.

6.

XY_2

X^{++} Y^-

XY_2

X ⇒ IIA	Block — S
Y ⇒ VIIA	Block — P

7.

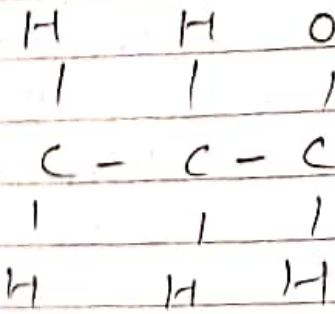
Acid	Base
- It turs blue litmus paper into red	It turns red into blue
- It has sour taste	It has bitter taste
- PH value below 7	PH value above 7

$1s^2$ $2s^2$ $2p^6$

8. Yes
$CaCO_3 + 2HCl \longrightarrow CaCl_2 + H_2O + CO_2$

$\Rightarrow$ $Ca(HCO_3)_2 + 2H_2SO_4 \longrightarrow CaSO_4 + 2H_2O +$

9.



C_3H_7OH [propyl alcohol]
[propanol]

10. two characters of quee bee.
→ It produces smell from its body.
→ Fertile female in bee hive.

11. ~~to~~ under
~~over~~ secretion → obesity, goiter
~~less~~ low
over secretion :- loss of body weight, excessive hunger.

12.

Simple layering	Compound layering
- It is a type done at one only part	It is done multiple times
- only new single plant is grown	many plants are grown at a time

13. Yes Pollution is a social and biological problem
= because it causes diffrent health related issues and causes irretation to many people.

$2CO_2$

14. The harmful effects of U.V rays to human are it causes skin cancer and mutation in organisms.

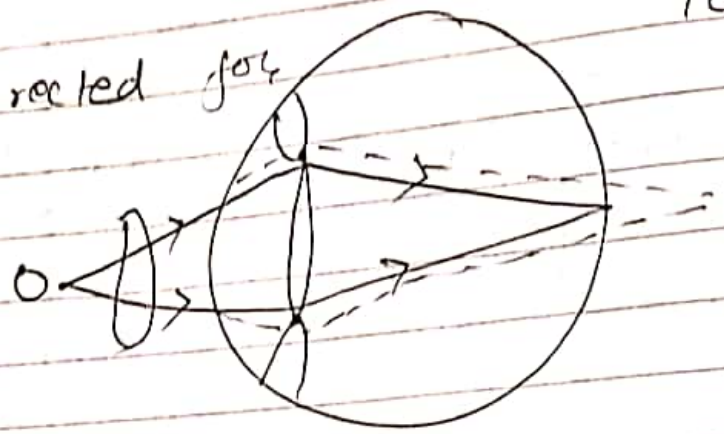
G-C

15.

16. The disability of a person to view far objects but can see near objects is called Myopia

long-sightedness

corrected for



17. i) Elements are arranged according to atomic number.

ii) A - Na
B - K
D - ~~Mg~~ Cl
E - Br

iii) B is more reactive because the force of attraction between nucleus and valance shell is increasing so B ~~is~~ is more reactive. and it is easy to lose electron by B than A.

18. The process of coating the ceramics with tin oxide or lead oxide is called glazing.

RBC :- Red Blood cell
because it helps to increse the refractive index of glass.

19. The circulation of the blood between the heart and the body cells is called sys.

The pressure exerted by the blood on the walls of arteries at the time of contraction of the muscles of the heart is called systolic pressure.

because blood contains platelets which helps in clotting of blood.

20.

Q1.

Electromagnetic induction	motor effect
- It converts mechanical energy into electrical energy.	It converts electrical energy into mechaincal energy.
- It uses electromagnet	It uses parmanet magnet

Here,
Primary voltage (V_1) = 220 V
Primary turs (N_1) = 770
secondary voltage (V_2) = 110V
Secondary turns (N_2) = ?

Now,

$$\frac{V_2}{V_1} = \frac{N_2}{N_1}$$

or, $$\frac{110}{\frac{220}{2}} = \frac{N_2}{770}$$

or, $\frac{1}{2} \times 770 = N_2$

N_2 = 385 turns

Power = Volt x Ampere
= 220 x 6
= 1320 watt
= 1.32 kW

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Now,

$E = PNT$

$= 1.32 \times 1 \times 24$

$= 31.68$ units

22. to avoid the glass from cracking.

$2NH_4Cl + Ca(OH)_2 \rightarrow CaCl_2 + 2H_2O + 2NH_3$

23. Dominant and Recessive Characters

Phenotype: Long wing drosophila — short wing drosophila

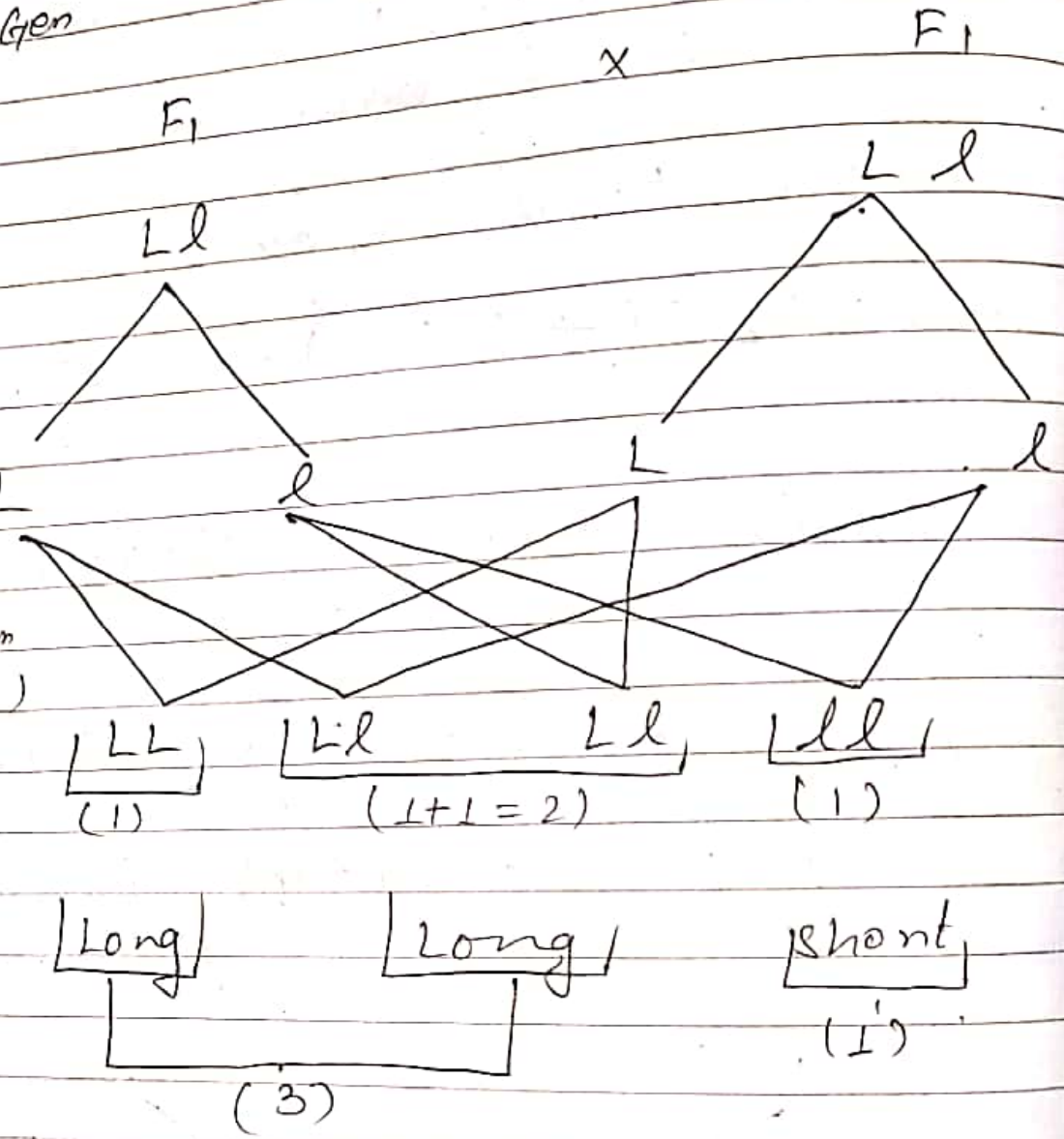
Genotype: L L — cross fertilization — l l

Gametes: L — l

L l

First filial gen
Genotypic
phenotype: Long wing drosophila

Self fertilization between F_1 Gen



24. The star which moves rapidly and emits radio waves is known as pulsar.

(a) Mars

(b)

(c) Comet

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G - A

1 a) The force acting on a freely falling object towards the centre of any heavenly body in each sec is called Gravity.

b. It states that the weight of liquid displaced by floating body is equal to its weight

c. The scarcity of energy is energy crisis.

d. Temperature is the average of kinetic energy possessed by each molecules of a body.

e. It helps to see far objects clearly.

f. It is a table in which the elements have been arranged in increasing order of atomic weights.

g. pH scale is a standard scale which is used to measure the strength of acidic or basic solution.

h. Bauxite $\Rightarrow Al_2O_3H_2O$
Magnetite $\Rightarrow Fe_3O_4$

i. Silica + sodium carbonate + calcium carbonate $\longrightarrow$ ordinary glass.

(j) To ~~collect~~ meet with queen bee.
To maintain temp in beehive.

(k) The disorders which are caused by change in the number or structure of chromosomes are called chromosome disorders.

(l) less number of WBC

(m) The transfer of pollen grains from anther to the stigma of a flower is called pollination.

(n) The process of maintaining the temperature of the earth by capturing UV radiation ~~is~~ is greenhouse effect.

(o)

4-B

2. because moon don't have atmosphere

3. because upthrust is acting on the football where U ∝ volume.

4. because the specific heat capacity of sand is less so it heats up faster and cools fast too.

5. to prevent oxidation.

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6. heat and light helps to breakdown a single reactant into two or many products.

7.
(i) P- block
(ii) Y's valency = 1

8. because gold is free state but iron is not found in free state.

9. because it has triple covalent bond between any two carbons.

10.

WBC	RBC
→ It helps to keep us immune	It helps to supply oxygen to different body parts.
→ Its lifespan is 15 days.	Its lifespan is 120 days.

11. less ~~Ie~~ → goiter, obesity
more → loss of body weight; excessive hunger.

12. It is a modern technique of vegetative propagation in which numbers of plantlets can be developed form a tissue of a plant by placing it in a suitable medium.

13.

Variation	Mutation
- The structural differences which provide individuality to every member of a species is called variation.	- The sudden heritable change in the genetic material of an organism
- It is seen in every generation.	- It is seen in only in some generation.

14. because the temperature of the troposphere varies according to height so it decreases as the height increases.

15.

16. Magnification of a lens is defined as the ratio of the height of image to the height of object.
Mathematically,

$$M = \frac{\text{height of image (I)}}{\text{height of object (O)}}$$

OR

$$M = \frac{\text{image distance (V)}}{\text{object distance (U)}}$$

Magnification of a lens is less than 1, means image is smaller than object. Magnification is equal to 1, means height of image is equal to the height of object. Magnification is greater than 1, means image is magnified.

17. because it has only one electron in valence shell. Sodium, because it has more force of attraction between nucleus and valance shell. It loses electrons faster.

18. Man made chemical substances which are added to the soil to increase crop production by supplying essential elements are called chemical fertilizer.

because it is non-biodegradable and it causes air pollution.

19.

20. Due to air pollution the plants don't get good chance to prepare food and their growth is insufficient.

G-D

21.

Filament lamp	Fluorescent lamp
• It converts 10% electric energy into light and 90% in heat energy	• It converts 30% electric energy into light and 70% into heat energy
• Average life is 1000 hrs	• Average life is 3000 hrs

Here,

Primary volt (V_1) = 220 V

Primary turs (N_1) = 990 turns

secondary volt (V_2) = 12 V

secondary turs (N_2) = ?

Now,

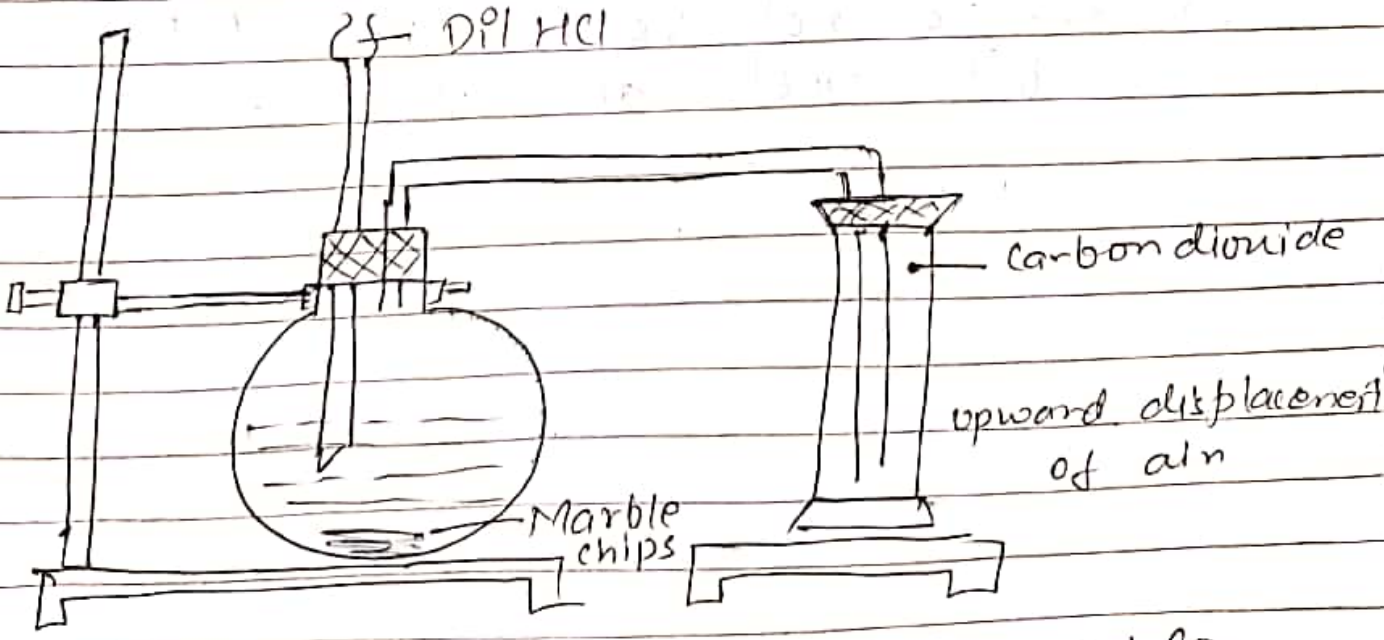
$$\frac{V_2}{V_1} = \frac{N_2}{N_1}$$

a, $$\frac{12}{220} = \frac{N_2}{990}$$

a, $$\frac{12^{6}}{220_{1}} \times 990^{9} = N_2$$

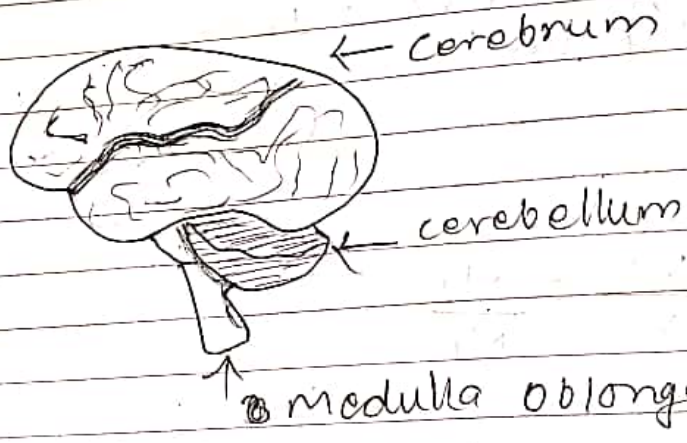
$$N_2 = 54 \text{ turns}$$

22.



$$CaCO_3 + 2HCl \longrightarrow CaCl_2 + H_2O + CO_2$$

23.



Functions of cerebrum

- controls mental activity
- It controls anger, emotion, will, speech
- Its controls feeling of love, hatred, admiration.

24.

(a) Stars have their own light but do not

(b) Stars do not revolve around Sun but comets does revolve.

MS1D

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G-A

(1) The freefall is defined as the fall of an object with the velocity of the acceleration due to gravity without any external resistance.

(2) The energy produced from the tides is known as tidal energy.

(3) SI :- Joule
CGS - Calorie

(4) The defect of vision where a person is n't able to near objects is called long-sightedness.

(5) The device which converts mechnical energy into electrical energy is called Generator.

(6) Organic acids - Lactic and citric acid.

(7) Those reaction which helps to neturalize the acidity of any thing is called Neutralization reaction.

(8) Ores of iron - Magnetite & Haematite

(9) Raw materials used in cement - Limestone, special type of clay and Gypsum

(10) The fertilizer which supply all the basic

nutrients are called NPK fertilizers.

11) The pressure exerted by the blood on the walls of arteries is called blood pressure.

12) A disease that occur in particular type of sex (either male or female) is called Sex Linked Disease.

13) The reproduction which takes place by the fusion of gametes (of male and females) is called sexual reproduction.

14) It states that, "in a monohybrid cross the characters remaining in pair do not intermix with each other, but are separated at the time of gamete formation."

15) The variation in the earth's global climate over a period of time is climate change.

~~16~~ Group:- B

16) No, if it was conduct on moon both will fall at same time because moon doesn't have atmosphere.

17) The 4 ways to be protected from the state of energy crisis.

- There should be political stability.
- Black market should be banned.
- Goverment should do timely check to the energy production areas.
- There should be proper management of means and resources.

(18) It means that 4200 J heat energy is required to charge the temperature of 1 kg of mass by 1°C.

Here,
amount of heat (Q) = ?
mass of water (m) = 5 kg
change in temp (Δt) = 20°C
Specific heat capacity (s) = 4200 J/kg°C
Now,
Heat energy (Q) = msΔt
= 5 × 4200 × 20
= 420000 J
∴ Q = 4.2×10^5 J

19.

Primary turns (N_1) = 2n
Secondary turns (N_2) = n
Primary volt (V_1) = ?
Secondary volt (V_2) = 220 V
Now,

$$\frac{V_1}{V_2} = \frac{N_1}{N_2} \text{ or, } V_1 = \frac{2n}{n} \times 220$$

$$= 440 \text{ V}$$

(20) MnO_2 works as a ~~prom~~ catalyst.

$2KClO_3 \xrightarrow{MnO_2} 2KCl + 3O_2$

(21) because

(22)

(23)

Alkane	Alkene
- It has single covalent bond	- It has double or triple covalent bond between any two carbon
- C_nH_{2n+2}	- C_nH_{2n}
- less reactive	- more reactive

24) The person disorders like male appearance but has breast of female and inferti le
- voice of female; etc.

(25)

Plasmodium :- Multiple Fission
planeria :- Regeneration

because grafting is aseroal, fast and consists of all the genetic charactors.

26)

Interal fertilization	Exteral Fertilization
- The fertilization takes place outside the body of the females.	- The fertilization takes place inside the female body.
- It needs external factors for fertilization.	It doesn't need external factors.

27) 4 effects of air pollution
- Problem in vision
- Greenhouse effect
- Acid rain
- Ozone depletion

28)

Imp
- operate vehicles, industries, factories
- genarate electricity
- Domestic fuel

G-C

(29) when a body is wholly or partially immersed in a liquid, its experiences an upthrust which is equal to the wight of the liquid displaced by it.

(30) Here,
mass(m) = 4 kg
$Q = 1000 \text{ J/kg}^\circ\text{C}$
$S = 80 \text{ KJ} = 8000 \text{ J}$
Initial temp. $(t_1) = 30^\circ\text{C}$
final temp $(t_2) = ?$

Now,

$$dt = \frac{Q}{m \times s}$$

$$t_2 - t_1 = \frac{1000}{4 \times 80}$$

$$t_2 - 30^\circ\text{C} = 200$$
$$t_2 = (200 + 30)^\circ\text{C}$$
$$t_2 = 230^\circ\text{C}$$

$$t_2 - t_1 = \frac{4 \times 8000}{1000}$$
$$t_2 = (32 - 30)^\circ\text{C}$$
$$t_2 = 2^\circ\text{C}$$

(31)
(32)
(33)
(34)

(31) physical properties of copper are

- reddish brown in colour
- good conductor of heat and electricity
- malleable and ductile

(32)

(i) $H-C \equiv C-H$

⇒ Ethyne

ii) CH_3OH

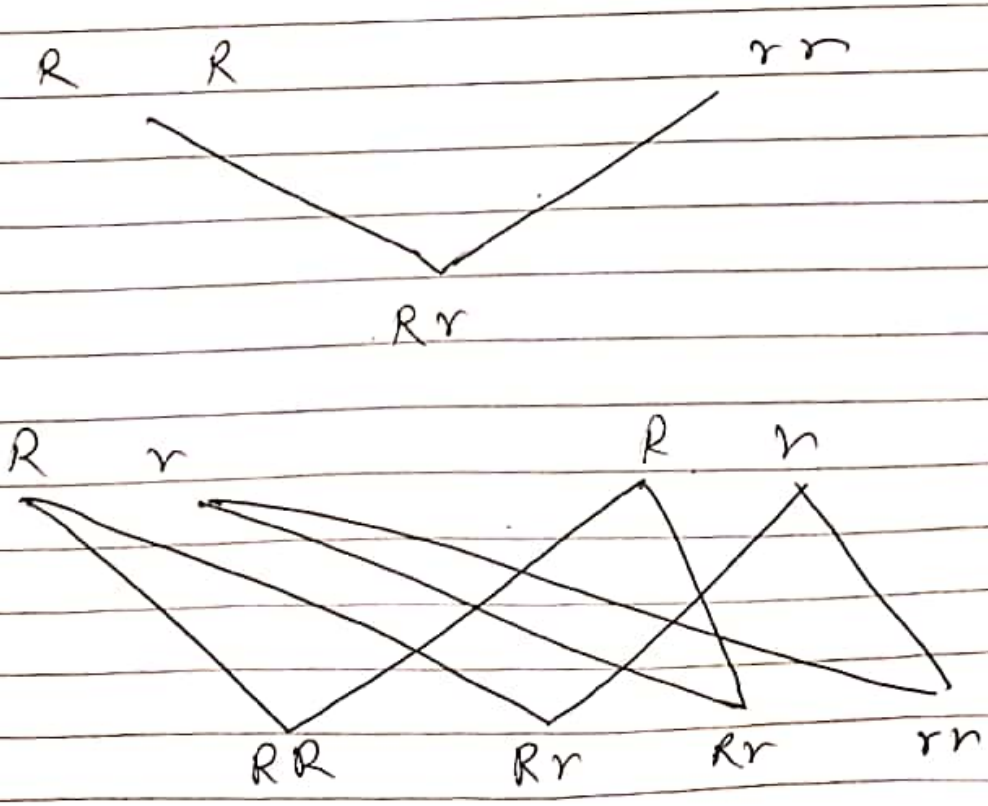
⇒ Methyl alcohol

- manufacture of formaldehyde.

33) Fonctions of medulla oblongata

- It controls vomiting, coughing, swallowing
- " " heatbeat, breathing and blood pressure
- " " relaxation and contraction of blood vessels.

34)



(a) Monohybrid cross

(b) 1 : 3

Group - 'D'

(35)

(a) It means that 910 amount of heat is required to raise the temperature of 1 kg mass by 1°C.

(b) A because $Q \propto dt$

(c) B $Q \propto dt$

(36)

a)

b)

c)

a)

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1) It states that, "the weight of liquid displaced by the floating body is equal to its weight."

2) The remiant material of plant and animal under soil in high temp and pressure are fossil fuel.

3) Heat equation; mathematically,

Heat equation — $Q = msdt$

- m — mass
- s — specific heat capacity
- dt — change in temp

4) The defect of vision where a person can only see ~~for~~ for objects but unable to see near objects clearly.

(5) The electric devices which helps to change the magnitute of cursent.

(6) The reaction where two reactions combine to form single product.

(7) The salt which has pH value 7.0

(8) Silver - Feldspar
Hamatite - Iron

(9) - Aircrafts
- utensils.

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(10) the hydrocarbon who have single covalent bond between carbon.

(11) Cocoon is the spherical outer covering formed by the sliva of silkworm.

(12) The flight where queen bee go to meet the drones for ~~for~~ reproduction.

(13) Frog –
onion –

14) The cross between single contrasting character is monohybrid cross.

15) CFC
- They absorbe heat
- They produce bad smell

G - B

(16)

Gravity	Gravitation
- It is denoted by "g"	It is denoted by "G"
- Its value is 9.8 m/s^2 in earth	Its value is 6.67×10^{-11} N/m^2 in earth.

(17) The egg has less density than of solution water so egg floats on solution water.

(18) Renewable sources Non-renewable sources

i) They can be regenerated in short time. They can't be regenerated in short time.

ii) It is more in amount It is less in amount

iii) e.g. solar, wind, tidal energy e.g fossil fuel, mineral oil natural gas etc

19) i. to prevent the overflow of current in form of heat.

20) Calcium is more reactive as calcium has the more force of attraction between nucles and valance shell. and it is easy to lose electron by calcium.

21) Exothermic Endothermic

- It doesn't require heat It does require heat
- It throws heat It uses heat

22) The salt which pH value is above 7.0 are acidic salt. e.g.

(23) Ethyne

because glycerol is formed of triple covalent bond.

(24)

Worker bee	Drone bee
- It is smallest bee in size	It is medium sized bee
- It's tail is v-shaped	It's tail is round.
- It has stinge	It don't have stinge

25) because

26)

Internal fertilization	External fertilization
- It takes place outside the body of female	It takes place inside the body of female
- external factors are needed	- Not needed

27) because different msg and impluses are transferred by them through blood to other parts of body.

28) Mesozoic era

- The evolution and development of birds, flowering plants.

Cenozoic era

The evolution and development of mammals like elephants, whale, sharp toothed tigers money.

(2) Formation of hills & peaks.

Expansion and breaking of rocks and formation of mountains.

G-C

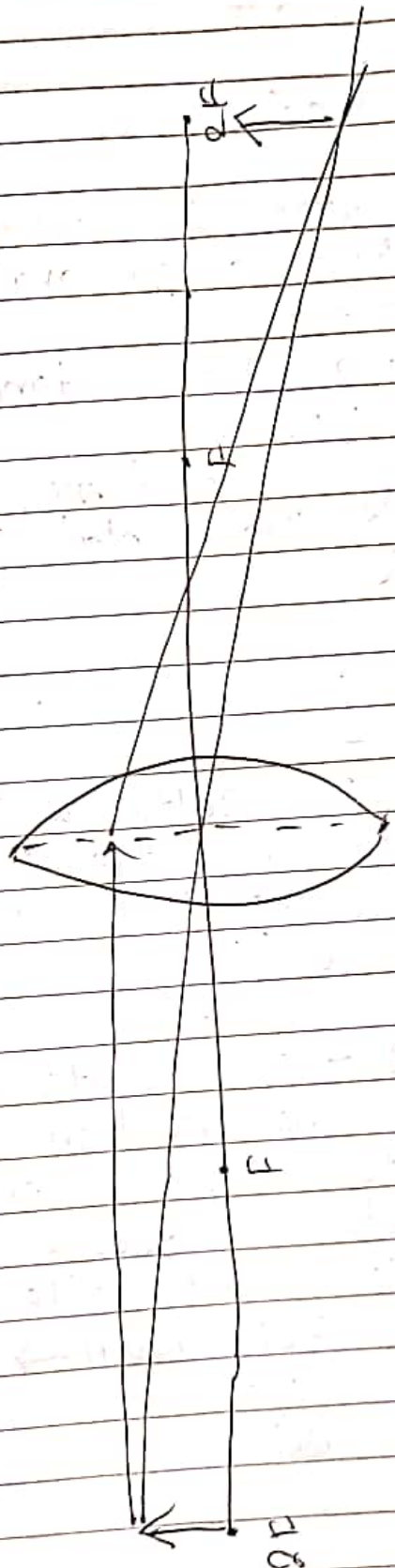
(29) Here,

Focal length(f) = 2 cm = 0.02 m

Power (P) : $\frac{1}{f}$

$= \frac{1}{0.02}$

= 50 D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Nature of image
- It is real.
- It is inverted.

(30) The three ways of increasing electricity produced from a generator or a dynamo are:-
+ By decreasing the distance between magnetic poles
+ By making more turns in the coil
+ By moving the metal in high speed.

(32)
a. Basic salt :-
The salts which are formed by the reaction between weak acids with strong base are called Basic salt

b. Neutral salt :- The salts which are formed by the reaction between strong acids with strong base or between weak acids with weak base are called neutral salts. $HCl + NaOH \rightarrow NaCl + H_2O$

c Concentrated acid :-

(33) Advantages of silk worm :-

* It helps to uplift the economic status
* It is a good source of income
- It helps people to be self-employed.

(34)

a. Tapeworm :- Regeneration

b. Plasmodium :- Multiple fission

c. Mucor :- Sporulation

d. Fern :- Sporulation

e. Yeast :- Budding

f. Potato :- Budding

G-D

(35)

(36) because, PVC melts on heating but bakelite don't so,

Compost fertilizer is better than chemical fertilizer because.

- It can be made easily at anywhere
- It helps to increase the fertility of soil.

(37) Artifical polymer — PVC, nylon, polyethene
Natural polymer — Rubber, strach, protein wool, silk

(37)
i. ~~Leukaemia~~ Anemia
ii. less number of platelets.

(38) because mars contain many greenhouse gase so it heats up and is Red in colour and saturn has cloud in the its around.

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star	planet
- It has its own light	It does not have its own light
- They are fixed in a place	They revolve around the sun.

~~Ans 3~~

Miss

(1) One pascal pressure is defined as pressure exerted in unit area when 1 N force is applied.

(2) Advantages of mineral fuel
- It helps to conduct different day to day activities.

(3) $Q = ms\,dt$

(4) The image which is imagnery is known as virtual image.

(5) The electrical device which converts AC into DC.

(6) The reaction which release heat is called Exothermal reaction

(7) The physical and chemical properties of element are periodic functions of their atomic weights.

(8) Hydrogen

(9) The heated mixture is obtained from the bottom of the rotary kiln in the form of red hot ball which is called cement clinker

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(10) Heartbeat

(11) In Larva stage

(12) Pancreas is called mixed gland because it secrets both enzyme and hormones.

(13) It is a modern technique of vegetative propagation in which number of plantlets can be developed from a small tissue of a plant by placing it in a suitable medium.

~~(14)~~

(14)