

# उत्तराखण्ड विद्यालयी शिक्षा परिषद्, रा

केन्द्र संख्या की मुहर केन्द्र व्यवस्थापक के हस्ताक्षर न  
 हार्दिकूल केन्द्र संख्या- 2409 

नोट-केन्द्र के नाम की मुहर उत्तरपुस्तिका के किसी भी भाग पर न लगाएं।

परीक्षार्थी द्वारा भरा जायेगा-

अनुक्रमांक (अंकों में)- 

2	2	0	9	2	6	3	0
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अनुक्रमांक (शब्दों में)- दो करोड़ बीस लाख न्याने हज़ार  
 विषय- विज्ञान 6: से सो तीस

प्रश्नपत्र संकेतांक- 

2	3	3	(H01)
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परीक्षा का दिन- 3 Thursday

परीक्षा तिथि- 31/03/2022

कक्ष निरीक्षक द्वारा भरा जाय-

केन्द्र संख्या- 

2	4	0	9
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परीक्षा कक्ष संख्या- 

2	3
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उपरोक्त सभी प्रविष्टियों की जाँच मेरे द्वारा सावधानीपूर्वक कर ली गयी है।

कक्ष निरीक्षक का नाम- PINKI GOSWAMI

दिनांक- 31/03/2022

हस्ताक्षर कक्ष निरीक्षक- 

प्रमाणित किया जाता है कि मैंने इस उत्तरपुस्तिका का मूल्यांकन समुचित प्रश्न-पत्र संकेतांक तथा मूल्यांकन निर्देशों के अनुसार किया है। प्राप्तांकों का मुखपृष्ठ पर अग्रसारण कर प्राप्तांकों एवं प्राप्तियों के योग का मिलान कर लिया गया है। एवार्ड ब्लैक में प्राप्तांकों की अंकना कर उनका पुनः मिलान भी कर लिया है। किसी भी प्रकार की त्रुटि के लिए मैं उत्तरदायी हूँ।

परीक्षक के हस्ताक्षर एवं संख्या.....

1. अंकेक्षक के हस्ताक्षर एवं संख्या.....

2. अंकेक्षक के हस्ताक्षर एवं संख्या.....

## सन्निरीक्षा प्रयोगार्थ

सन्निरीक्षा पूर्व अंक-

सन्निरीक्षा पश्चात् अंक-

त्रुटि का प्रकार-

दिनांक-

हस्ताक्षर निरीक्षक-



# Answer - 1

(क)

(iv) 10

(ख)

(ii)  $CaOCl_2$

(ग)

(i)  $3 \times 10^8 \text{ ml/s}$

(घ)

(ii) mitochondria

(ङ)

(i) ohm

(च)

(iii) Ozone



Answer - 2



Answer - 3

$$u = 25 \text{ cm}$$

$$F = ?$$

$$F = \frac{R}{2}$$

$$F = \frac{25}{2}$$

$$F = 12.5 \text{ cm}$$

Answer - 4

Two method of contraception are as following -:

(In Man) Condom - : This is temporary method. It is used during intercourse.

(In woman) Tubectomy - : This is permanent remedy. In this fallopian



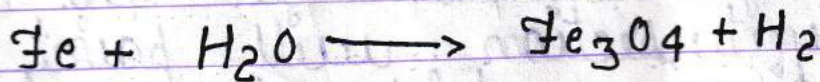




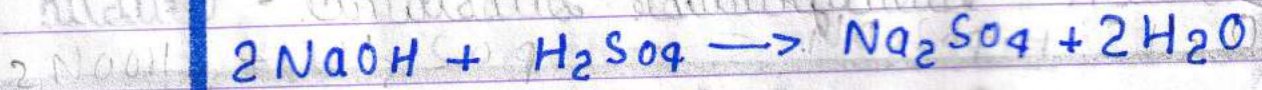
It is used in hospital for setting fracture of bone.

## Answer - 8

(क)



(ख)



## Answer - 9

Self pollination

Cross pollination

The transfer of pollen grain from anther to stigma of same

The transfer of pollen grain from anther to stigma of another flower



flower is called self pollination

is called cross pollination.

• Produces limited amount of pollen grain

Produces large amount of pollen grain.

## Answer - 10

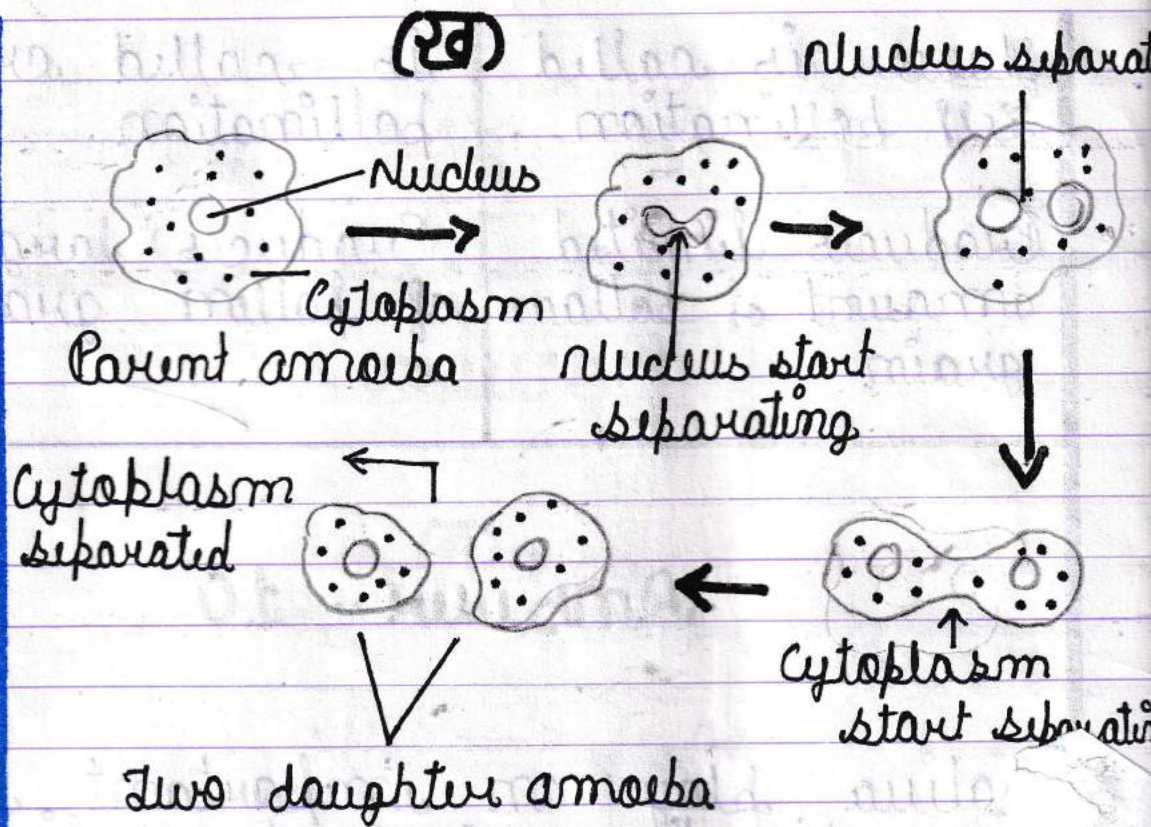
Saliva play an important role in digestion of food. Saliva contains 99.5% of water in it. Saliva contain water, mucus, and Ptylin in it. With the help of water food become moisten. With the help of mucus food become greasy. Ptylin converts maltose into sugar.

## Answer - 11

(क)

Xylem





## Binary fission in Amoeba

### Answer - 12

Find : which have higher resistance

$$R_1 = ?$$

$$P_1 = 60 \text{ W}$$

$$V_1 = 240 \text{ V}$$

$$R_2 = ?$$

$$P_2 = 40 \text{ W}$$

$$V_2 = 240 \text{ V}$$

$$R_1 = \frac{V_1^2}{P_1}$$

$$R_1 = \frac{240 \times 240}{60}$$

$$R_1 = 960 \text{ ohm}$$



$$R_2 = \frac{V_2^2}{P_2}$$

$$R_2 = \frac{240 \times 240}{40}$$

$$R_2 = 1440 \text{ ohm}$$

Hence,  $R_2$  has higher resistance

$$R_2 > R_1$$

## Answer - 13

(क)

Ohm's law

According to the ohm's law the current flowing through the conductor is directly proportional to its potential difference.

$I \propto V$

$V \propto I$

$$V = I \times R$$

$$R = \frac{V}{I}$$

$I =$  Current

$V =$  potential difference

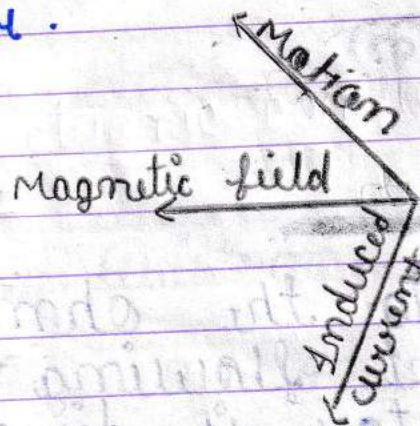
$R =$  Resistance

$$I = \frac{V}{R}$$



(2)

According to the Fleming's right-hand rule, Hold the thumb, fore finger and middle finger of your right hand. Point the thumb in the direction of motion and forefinger in the direction of magnetic field, then automatically the centre finger will point you the direction of induced current. Keep remember that finger should be perpendicular to each other.



Right hand of Fleming

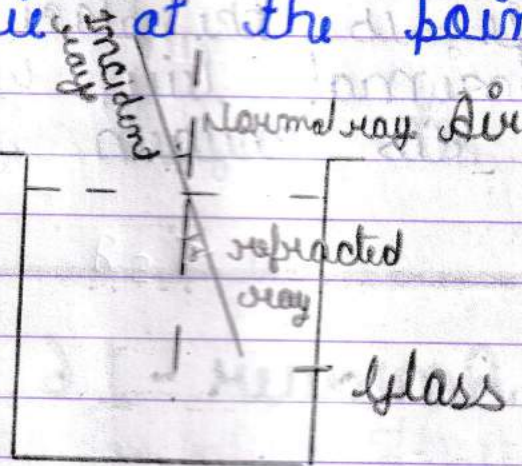
Answer - 14

Laws of refraction of light



## 1. First Law of refraction of light

The incident ray, the normal ray all lie at the same point of normal and refracted ray also lie at the point of normal



## 2. Second law of refraction of light (Snell's law of refraction)

The sine of angle of incidence to the sine of angle of refraction is constant for given pair of media

$$\frac{\sin i}{\sin r} = \text{Constant}$$

Answer - 15

We should conserve forest and wild life because of the



following reason -

- Forests provide us wood for making furniture.
- Wild life is the place where wild animal live. Wild life provide us oxygen for breathing.

Answer - 16

(क)

Electronic configuration

X - 2, 8, 2

Y - 2, 8, 7

(ख)

Element	Period	group
X	3	2
Y	3	17



(d)

metal - x

Non-metal - y

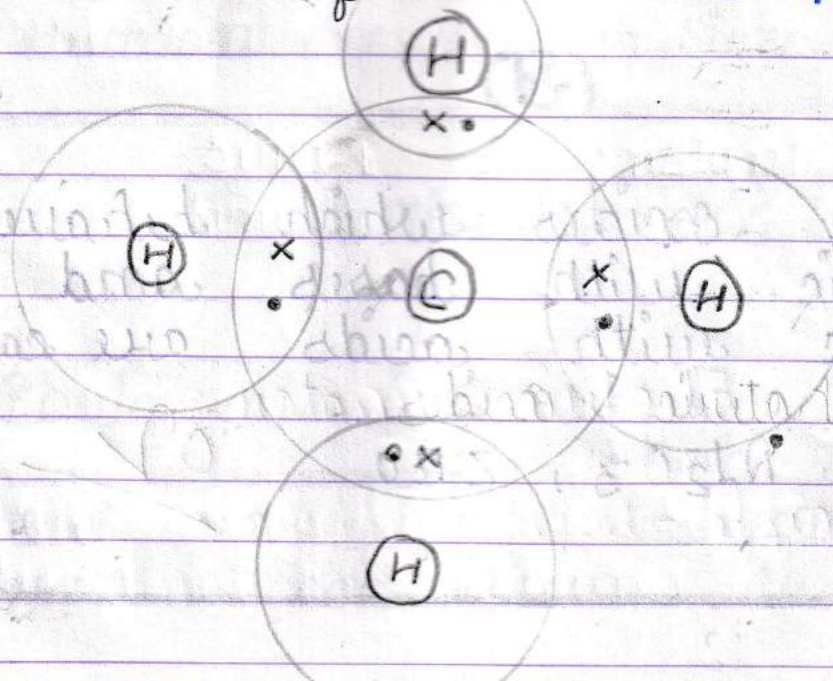
Answer - 17

(e)

Covalent Bond - : The sharing of electrons between element is called covalent bond.

Electron dot structure of methane

Molecular formula -  $CH_4$





(ख)

Ionic compounds have high melting point because they form from anion and cation. So they have strong force of attraction. So, they have high melting point.

Answer-18

(क)

Bromine ( $Br_2$ )

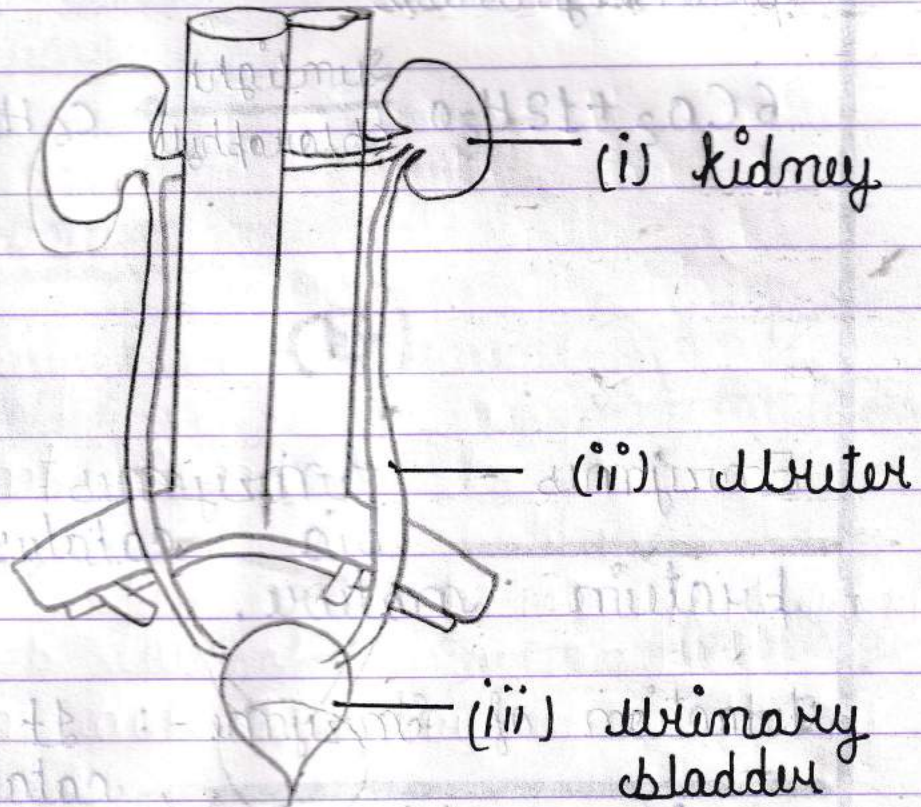
(ख)

Those oxides which behave acidic with bases and basic with acids are called amphoteric oxides.

Ex -  $Al_2O_3$ ,  $ZnO$



## Assignment - 20



Human excretory system

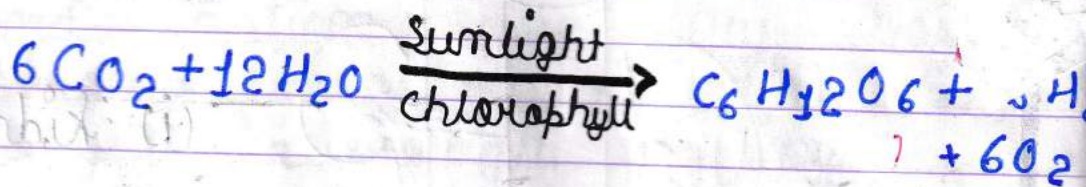
## Assignment - 21

Photosynthesis - : It is the process which is carried out by plants to make their own food from carbon dioxide



and oxygen in the presence of sunlight and chlorophyll.

Balanced chemical equation of photosynthesis



(ख)

Enzymes - Enzymes are the bio catalyst of a protein nature.

Function of Enzyme - : It acts as various biological catalyst reaction.

Answer - 22

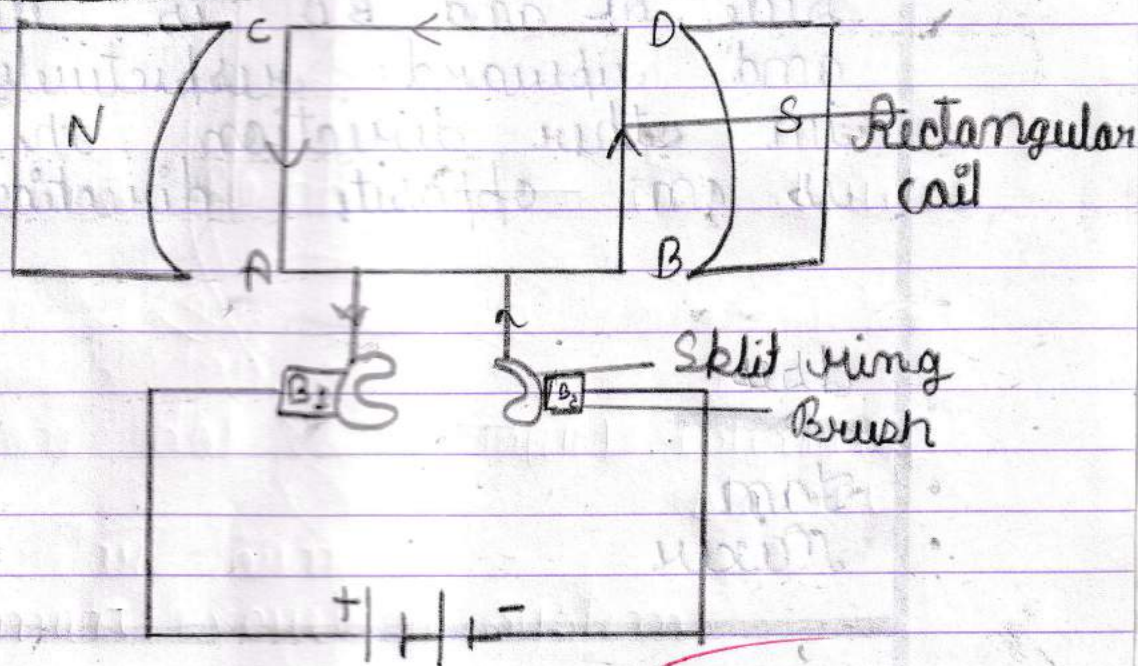
Electric meter

Principle - : A meter works the principle that



When current is passed through a rectangular coil which is placed between strong magnetic field, then the rectangular coil will rotate continuously.

### Construction



At first take a rectangular coil of insulated copper wire. Place the rectangular coil between strong magnetic force. Join commutator with rectangular coil. Press  $B_1$  and  $B_2$ , it will reverse the direction of current



Then the motor will start working on its principle

### Working

In the rectangular coil, place it in strong magnetic force. The direction of force on side AC and BD is downward and upward respectively and in other direction, the force is in opposite direction.

### Uses

- Fan
- Mixer

In Next Notebook



## Answer - 23

$$U = -34 \text{ cm}$$

$$\text{(height of } U) h = 4 \text{ cm}$$

$$F = 20 \text{ cm}$$

$$\text{Position} = ?$$

$$\text{Nature} = ?$$

$$\text{Size} = ?$$

$$\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$$

$$\frac{1}{20} = \frac{1}{v} + \frac{1}{30}$$

$$\frac{1}{20} - \frac{1}{30} = \frac{1}{v}$$

$$\frac{3-2}{60} = \frac{1}{v}$$

$$\frac{1}{60} = \frac{1}{v}$$

$$v = 60 \text{ cm}$$

Position -: Image will form beyond centre of curvature.

Nature -: Real and inverted



Size

$$m = \frac{v}{u}$$

$$m = \frac{60}{-30}$$

$$m = -2$$

$$m = \frac{h'}{h}$$

$$-2 = \frac{h'}{4}$$

$$\boxed{-8 = h'}$$

Size : Enlarged and '-' sign shows  
that image is downward.

Answer - 24

Ecosystem is the geographical area where living things and non living things live together

to form bubble of life.

Two major component are following -



Biotic component  
Abiotic component

(i) Biotic component - : Biotic component are composed of living things. Biotic component are

Producer - : These organisms which make their own food.

Consumer - : The organisms which consumes other for food.

(ii) Abiotic component - : Abiotic component are non-living things composed of  
Ex -  $CO_2$ ,  $N_2O$  and proteins, carbohydrates.

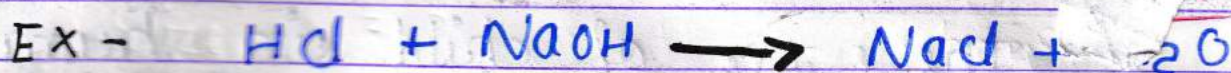
Answer - 25

(F)  
Oil and fat containing food items are flushed with nitrogen it is because to prevent them from oxidising and to prevent them from foul smelling.



(ख)

The reaction which takes place between acid and base to form salt and water is called neutralization



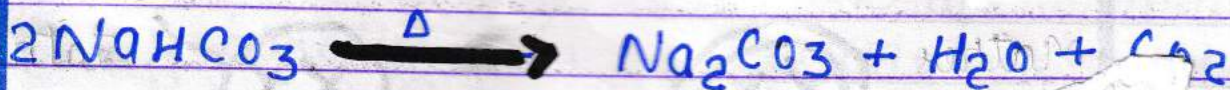
Answer - 26

(क)

(i)



(ii)



Answer - 27

(ख)

The copying of DNA in reproduction is necessary or important because copying of DNA ensures that



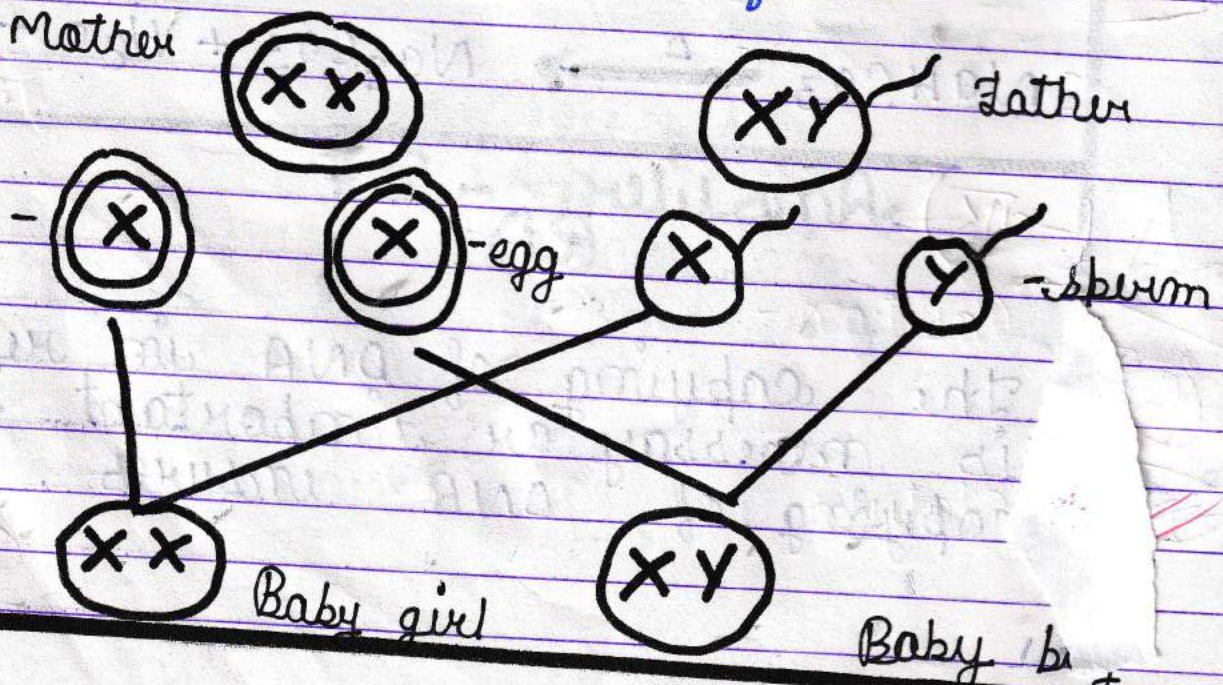
daughter cell produces at the end of cell division equal amount of DNA.

(7)

The sex of child in human is determined through chromosomes. There are total  $44 + XY$  chromosomes same in man and  $44 + XX$  chromosome in woman.

When  $XY$  sperm of man get fused with  $X$  <sup>egg of ovary</sup> ~~sperm~~ of woman then baby boy forms.

When  $X$  sperm of man fuse with  $X$  <sup>egg</sup> ~~ovary~~ of woman then baby girl forms.



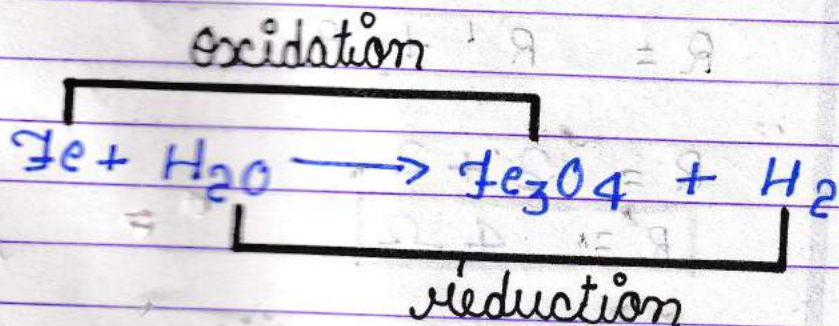


## Answer - 26

(2)

The reaction in which oxidation and reduction occur together in an equation is called Redox reaction

Ex -

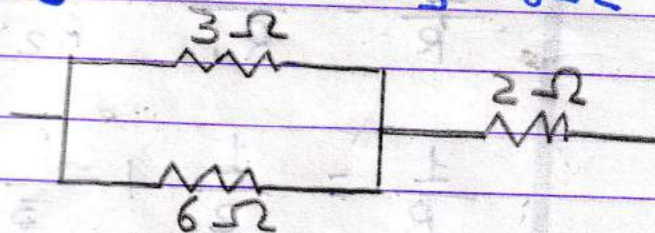


## Answer - 28

(i)

4  $\Omega$  when  $R_3$  and  $R_2$  are connected in parallel and  $R_1$  connected in series.

$$R_1 = 2\ \Omega \quad R_2 = 3\ \Omega \quad R_3 = 6\ \Omega$$



$$\frac{1}{R'} = \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R'} = \frac{1}{3} + \frac{1}{6}$$



$$\frac{1}{R'} = \frac{2}{6} + \frac{1}{6}$$

$$\frac{1}{R'} = \frac{3}{6}$$

$$R' = \frac{6}{3} \quad R' = 2$$

$$R = R' + R_1$$

$$R = 2 + 2$$

$$R = 4 \Omega$$

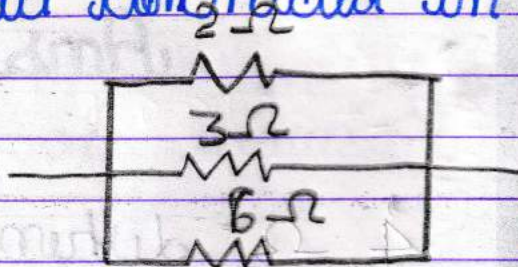
(ii)

1  $\Omega$  when all connected in parallel

$$R_1 = 2 \Omega$$

$$R_2 = 3 \Omega$$

$$R_3 = 6 \Omega$$



$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R} = \frac{1}{2} + \frac{1}{3} + \frac{1}{6}$$

$$\frac{1}{R} = \frac{3 + 2 + 1}{6}$$

$$1 = 6$$

$$R = 1 \Omega$$



# Answer - 29

(क)

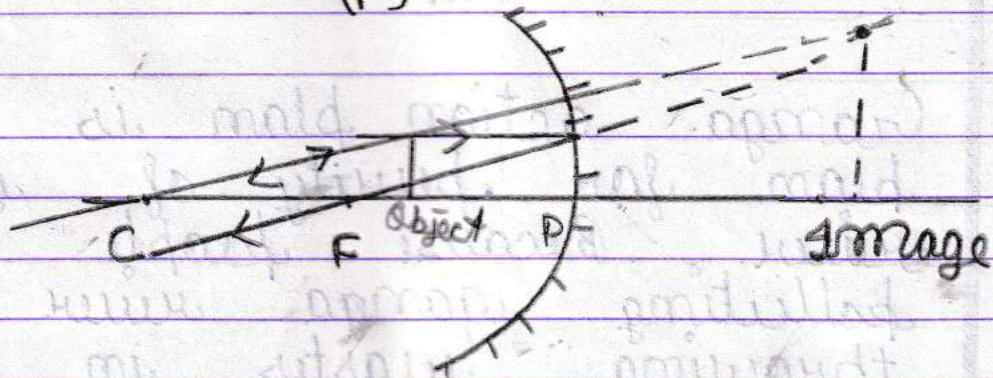
Formula -  $P = 1/f$  in meter  
SI unit - Diopter Diopter

(ख)

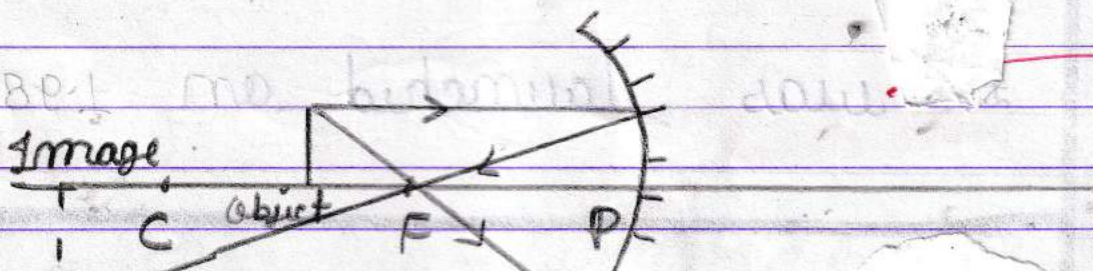
Danger signals are red in colour because red colour has high wavelength.

(ग)

(i)



(ii)





## Answer - 30

(क)

We need to use our resource carefully because of the following reason - :

- Resource are limited, so we should use our resource carefully.
- Resource are exhaustible, so we should use our resource carefully.

(ख)

Ganga action plan is the plan for purity of Ganga river. Because people are polluting Ganga river by throwing wastes in Ganga river.

It was launched in 1985.



## Answer - 19

The advantages of sexual reproduction over asexual reproduction are following -:

So new organisms produce in less time

- The terror of sexual disease is not happen.
- Meiosis does not occur in this type of reproduction.