Date: ............................................ Day:..............................

**Name**

Saima Sultan

**Roll No**

26808 - Saima Sultan - 036

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**Section - II**

**QN08:-**

**(d)**

15, 15, 16, 16, 16, 17, 17, 18, 19

**Mean:-**

Mean is the average of a data.
It is obtained by:-

$$Mean = \frac{Sum \ of \ observations}{Total \ no. \ of \ observations}$$

$$= \frac{15 + 15 + 16 + 16 + 16 + 17 + 17 + 18 + 19}{9}$$

$$= \frac{149}{9} = 16.55$$

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## Median:-

Median is the central most tendency of data organised in ascending & descending order.

15, 15, 16, 16, 16, 17, 17, 18, 19,

Median = 16

## Mode:-

Mode is the most repeated value in a given data set.

15, 15, 16, 16, 16, 17, 17, 18, 19

Mode = 16

## Range:-

Range is the difference between the highest value and the lowest value in a data set.

Range = Max value - Min value

$$= 19 - 15 = 4$$

$\longleftrightarrow$

## (b)

Total numbered cards containing numbers

(i) $= 1, 2, 3, \dots, 12$

Probability $(8) = ?$

Probability $(E) = \dfrac{\text{No. of possible outcomes}}{\text{Sample space}}$

$$P(8) = \dfrac{\overset{2}{\cancel{8}}}{\underset{3}{\cancel{12}}} = \dfrac{2}{3} \;\;\;\;\; \cancel{\phantom{X}}$$

**(ii)**

$P(\text{Even number}) = ?$

$$P(\text{Even no.}) = \dfrac{\overset{1}{\cancel{6}}}{\underset{2}{\cancel{12}}} = \dfrac{1}{2}$$

**(iii)**

$P(\text{perfect square}) = ?$

$$P(\text{Perfect square}) = \dfrac{\overset{1}{\cancel{3}}}{\underset{4}{\cancel{12}}} = \dfrac{1}{4}$$

**(iv)**

$P(\text{Negative number}) = ?$

$$P(\text{Negative number}) = \dfrac{0}{12} = 0$$

**(v)**

$P(\overset{\text{one}}{\text{number}} < 13) = ?$

$$P(\text{one number} < 13) = \dfrac{\cancel{12}}{\cancel{12}} = 1$$

$\longleftrightarrow$

**(a)**

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1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J K L M N

15 16 17 18 19 20 21 22 23 24 25 26
O P Q R S T U V W X Y Z

2 18 15 20 8 5 18
B R O T H E R

$2\cdot 15 \downarrow$  $18- \downarrow$  $-8 \downarrow$  $20-1 \downarrow$  $8+6 \downarrow$  $5+12 \downarrow$  $18-17 \downarrow$
$=17$  $14 = 4$  $=7$  $=19$  $=14$  $=17$  $=1$

17 4 7 19 14 17 1
Q D G S N Q A

19 9 19 20 5 18
S I S T E R

$19+15 \downarrow$  $9- \downarrow$  $19 \downarrow$  $20-1 \downarrow$  $5+6 \downarrow$  $12+12 \downarrow$
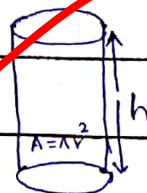$=8$  $14= 21$  $-8=11$  $=19$  $=11$  $4 \downarrow$

H U K S K D

← ————————→

## QNo7:-
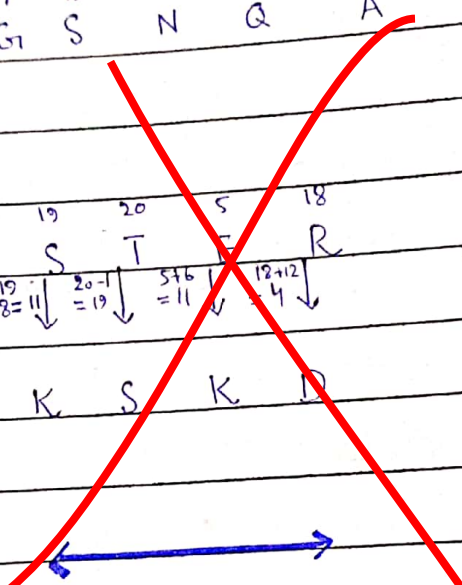
### (d)

radius of cylinder = 10cm = 0.01m

height of cylinder = 36cm = 0.36m

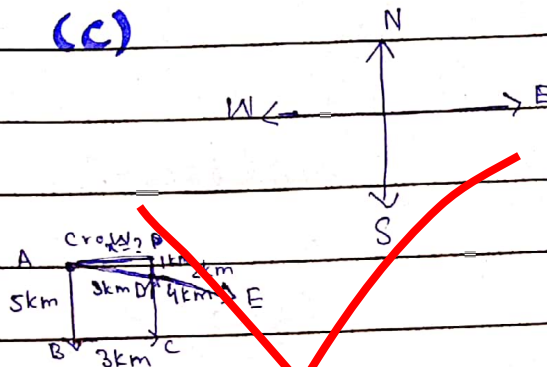Volume of cylinder = ?

Volume of cylinder = A×h

$$= \pi r^2 h$$

Scanned with CamScanner

$$V = (3.14)(10)^2(36)$$
$$= (3.14)(100)(36)$$
$$= 11304 \ cm^3$$

⟷

**(c)**



Total Distance travelled by the crow

from initial point $= \overrightarrow{AD} + \overrightarrow{DE}$

$$= 3km + 2km = 5km$$

⟷

**(b)**

| Persons : | Sugar(kg) : | Days |
|-----------|-------------|------|
| 30 | 40kg | 10 |
| 80 | 320kg | x |
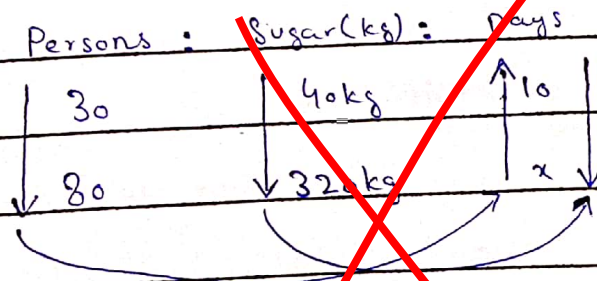
$$\frac{30}{80} : \frac{40}{320}$$

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## Section-I

## QNO2:-

## (b)

## Vitamins:-

Vitamins are the substances that are required by the body in small portions only in order to carry out its daily activities.

## Types of vitamins:-

There are two types of vitamins i.e. fat soluble and water soluble vitamins.
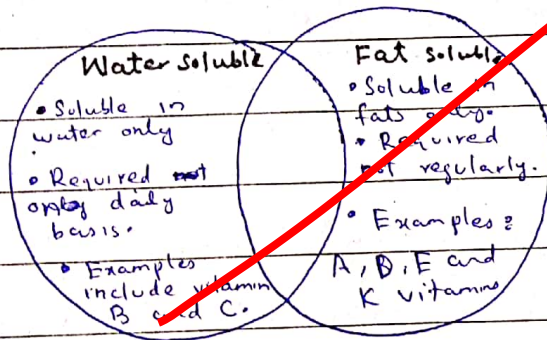
## Fat solu'

| Fat Soluble | Water soluble |
|---|---|
| • Fat soluble vitamins are those which dissolve in fats only. | • Water soluble vitamins are those which are soluble in water only. |
| • These vitamins are not required on daily basis. | • These vitamins are required by the body on daily basis. |
| • Examples of fat-soluble vitamins include A, D, E and K. | • Examples of water-soluble vitamins include vitamin C and B complex. |

Water Soluble
• Soluble in water only
• Required not only daily basis.
• Examples include vitamin B and C.

Fat soluble
• Soluble in fats only.
• Required not regularly.
• Examples : A, B, E and K vitamins

## Sources of vitamins :-

| Vitamin | Sources |
|---|---|
| A | Carrots, spinach, fortified juices, kiwi etc. |
| D | Milk, cheese, etc |
| E | |

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| | |
|---|---|
| K | ? |
| C | Citrus fruits ( lemon , oranges etc). |
| B(complex) | Seeds , beef liver etc. |

c)

# Structure of Eye:

Eye:-

Eye is the sensory organ of the human body. It is responsible for vision.

Components of Eye:-

Eye has many components which include cornea , iris, pupil , lens, retina, optical nerves, sclera and choroid etc. The functions of different parts are given below:-

Cornea :-

It is the transparent layer of eye . It is responsible for bending

light waves.

2) Iris:-

It is the pigmented muscle which controls the movement of pupil.

3) Pupil::

It is the small hole of eye and from it, light enters the eye.

4) Lens::

It is responsible for focusing light onto the retina.

5) Retina::

Retina is the most sensitive and innermost part of the eye and it is responsible for image formation. When light strikes the retina, it makes the image of the object.

6) Optic nerve::

There are also optic nerves in the eye and their function is to carry the information of image and transfer it to the brain.

7) Sclera::
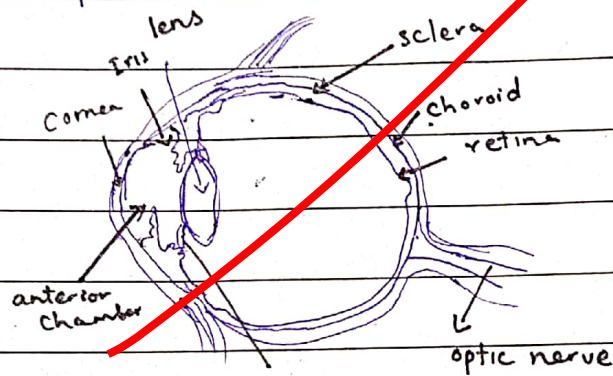
It provides protection to the eye

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from foreign agents or particles etc.

## 8) Choroid:

Choroid is the reddish zone in the eye . and it is responsible for the nourishment of eye and it is composed of capillaries.



## Q.NO3:-

e                    c)

## Semi-conductors:-

Semi conductors are those substances which have conductance (between conduc$^x$) partially.

## Brain of computers:-

Semi-conductors are called brain of computer because the chips used in

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computers for storing information and transporting it etc. are made up of them.

## Examples:-

Pure semi-conductors include Silicon and Germanium.

## Dopping:-

The conductivity of semi conductors can be increased drastically through dopping phenomenon. Dopping is the process in which a small fraction of impurity is added to the semi-conductor to increase their conductivity.

## Types of Dopping:-

There are two types of dopping.

(i) P-type (in this proton is added as impurity)

(i) N-type (in this electron is added as impurity)

## Applications of semi-conductors:-

Semi-conductors have myriad applications in kelectronics. In fact, the branch of
modern
electronics revolves around semi-conductors.

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Some of the applications of semi-conductors include:-

**1) Used in** smartphones, TVs (LCDS and LEDS), computers (laptops, desktops etc).

**2) Used in** smart watches, medical equipments, satellites for communication purposes etc.

**3) Used in**

| Applications of semi-conductors |

↓

| Satellites (for sending and receiving info) |

↓

| smartphones, TVs (LCDs and LEDs) |

↓

| Medical equipments, computers, smart watches |

←——————————→
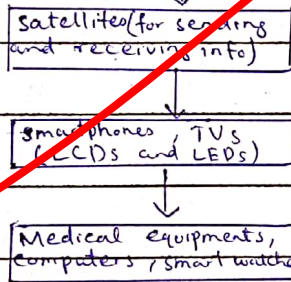
**Q.No3:-**
**(d)**

**Eclipse:-**

It is the phenomenon in which one object obstructs the light of the other object.

For eclipse formation, there must be a syzygy.
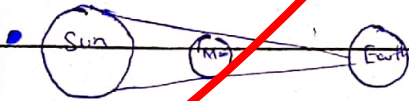
## Syzygy:-

It is the one-line configuration of three bodies (sun, moon and earth).

## Types of eclipses:-

There are two types of eclipses i.e. solar and lunar eclipse.
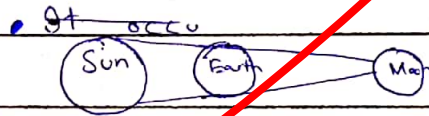
| Solar eclipse | Lunar eclipse |
|---|---|
| • It occurs when the moon comes in between the earth and the sun. | • It occurs when the earth comes in between the sun and the moon. |
| •  | • It occu  |
| • Solar eclipse is visible from all parts of the earth. | • Lunar eclipse cannot be observed from all parts of the earth. |
| • It occurs after many years. | • It occurs (after) a year. many times in |



**Solar eclipse**
• Moon comes in between the earth and sun.
• Does not occur frequently.
• Visible from all parts of the earth.

**Lunar eclipse**
• Earth comes in between the sun and moon.
• Occurs frequently.
• Cannot be observed