

Date: 14.03.2023 (Tuesday)

# GSA Mock

## PART-2 Section-2

### General Instructions

Q No: 6

Ans:

a)

Identify the series:

4, 18, 20, ...

Solution:

1. Give numbering to headings
2. Do not write lengthy paragraphs. Write medium sized paragraphs with headings.
3. Do not use table for comparison and contrast questions. Give small paragraphs with headings instead.
4. Draw figures/diagram/flowchart/map in every question.
5. Start new question from fresh page.
6. Explain the steps in your mathematical calculations.
7. Do not forget to write the unit of your answer while attempting mathematics questions.
8. Do not use lead pencil. Only blue and black colours are allowed.

b)

Tahir's investment = 15,000 for a year

Umar's investment = 30,000 for 7 months

Usman's investment = 45,000 for 4 months

Profit of year = 406,000

Solution =

Profit of year = 406,000

Profit per month =  $\frac{406000}{12} = 33,833.33$

Tahir : Umar : Usman

15,000 : 30,000 : 45,000

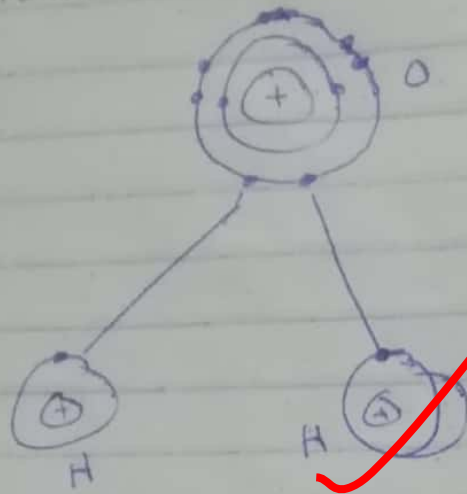
15 : 30 : 45

3 : 6 : 9

1 : 2 : 3

Covalent Bond  $\Rightarrow$   
Mutual sharing of electron between  
two atoms.

$O_2 =$   
 $R = 8$



The bond between Oxygen and Hydrogen  
to form water molecules.

Q No. 5

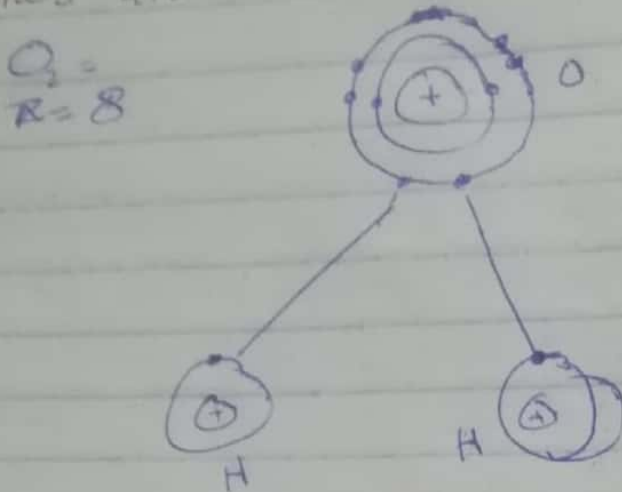
d) Artificial Intelligence

AI is a modern technology. It works  
on data through Machine Learning. The  
data is saved into device for recognize  
Through data, the device recognize and  
show the data with respect to some new  
data.

Robotics  $\Rightarrow$

It is a modern technology. It is used  
to form Robots. These Robots for function  
to perform some specific tasks.

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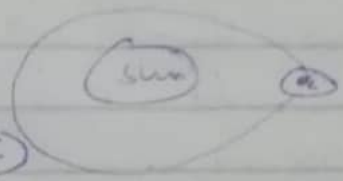
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### c) Revolution

#### Rotation of Earth $\Rightarrow$

It is an orbital motion of Earth. Earth revolves around the sun. Earth revolves ~~around~~ anticlockwise. Due to this revolution seasons are changed. Earth takes 365.25 days to revolve around sun to complete one cycle.



#### Rotation of Earth $\Rightarrow$

It is a spinal motion of Earth around its own axis. Due to this motion days and nights enter change. It takes 23 hr 56 minutes 41 seconds to complete one cycle around itself. Approximately 24 hours.

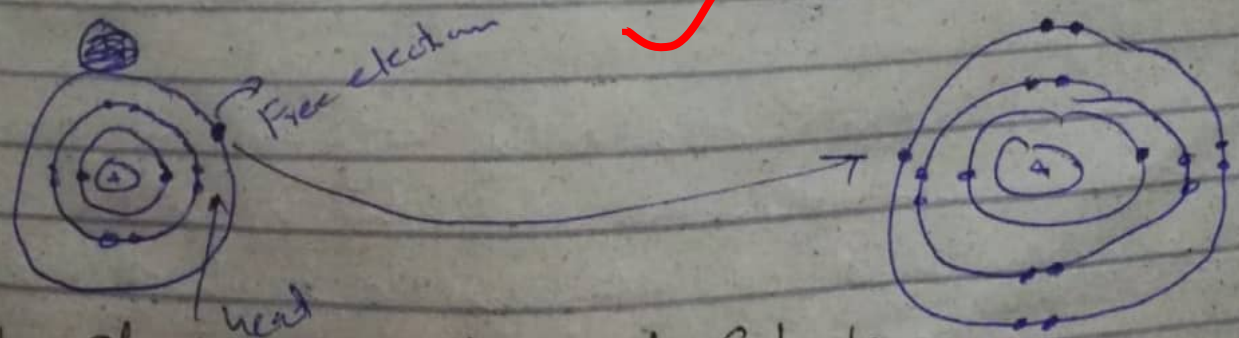
### d)

#### Ionic Bond $\Rightarrow$

Complete transfer of one electron from one atom to another atom.

Na  
 $Z = 11$

Cl  
 $Z = 17$



The bond <sup>is</sup> between Na and Cl to form table salt

## Part - 2 Section - 1

Q No. 2

b)

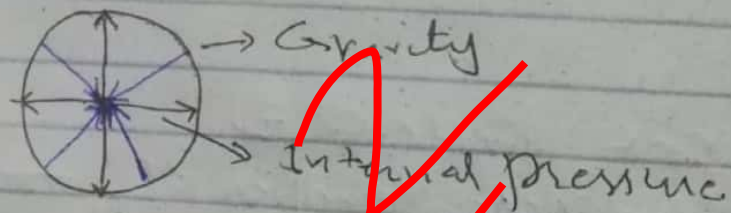
Black Hole  $\Rightarrow$

It has high density and it attracts things towards itself with high gravity even light can not escape from it.

Formation of Black Hole  $\Rightarrow$

It is also known as collapse (collapse of star).

There are two types of forces that are in any star.



When force of gravity and Internal pressure are in balance then the star collapses and converted into smaller size due to high gravity.

By this process density of that star increases and due to which gravity increases and it absorbs at high level  $g \sim d$

$$2y = 60$$

$$y = 30$$

Put the value of  $y$  in eq (2)

$$2x + 4y = 160$$

$$2x + 4(30) = 160$$

$$2x + 120 = 160$$

$$2x = 40$$

$$x = 20$$

$$\text{LADOO} = 30 \text{ kg}$$

$$4x + 2y = \text{box } 1 \text{ kg}$$

$$4(20) + 2(30)$$

$$\text{Box } 1 = 20 \text{ kg}$$

A

①)

$$A = \{2, 3, 5, 7\}$$

$$U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$A' = \{???\}$$

Solution

$$A' = U - A$$

$$A' = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} - \{2, 3, 5, 7\}$$

$$A' = \{1, 4, 6, 8, 9, 10\}$$

Sugar for barfi = 15

Flour for ladoo = Flour for Barfi  
2 : 4  
1 : 2

1 + 2 = 3 parts

$$\text{Flour for ladoo} = \frac{1}{3} (160) = 53.3$$

$$\text{Flour for Barfi} = \frac{2}{3} (160) = 106.6$$

Sugar for ladoo =  $x$

Sugar for barfi =  $y$

So,

$$4x + 6y = 260 \rightarrow (1)$$

Flour for ladoo =  $x$

Flour for Barfi =  $y$

$$2x + 4y = 160 \rightarrow (2)$$

Multiply 2nd eqn = with 2

$$2(2x + 4y = 160)$$

$$4x + 8y = 320 \rightarrow (3)$$

Subtract (1) from (3)

$$\begin{array}{r} 4x + 8y = 320 \\ + 4x + 6y = 260 \\ \hline 2y = 60 \end{array}$$

b)

14 observations = 26, 12, 14, 15, X, 17, 9, 11,  
18, 16, 28, 20, 22, 8

Arithmetic Mean = 17

Find X = ???

Sol.

$$\text{Mean} = \frac{\text{Sum of observations}}{\text{Total Number of observations}}$$

$$17 = \frac{26 + 12 + 14 + 15 + X + 17 + 9 + 11 + 18 + 16 + 28 + 20 + 22 + 8}{14}$$

$$17 \times 14 = 216 + X$$

$$X = 238 - 216$$

$$X = 22$$

*A*

c)

4kg sugar + 2kg flour = 1kg laddoo

6kg sugar + 4kg flour = 1kg barfi

Solution  $\Rightarrow$

Sugar for laddoo : Sugar for barfi

4

: 6

2

: 3



D)

Jogging track = 2000 meters

Covered = 25%

Left = ???

Solution:

Total track = 2000 m

Cover = 25%

25% of total track =

$$\frac{25}{100} (2000) = 500$$

Covered = 500 m

So remaining =

Total - Covered

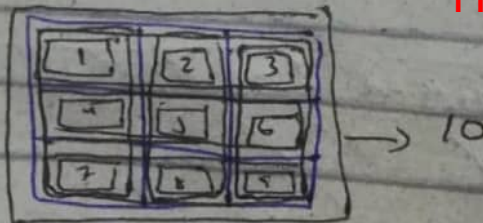
2000 - 500

1500 meters

Q No: 8

a) How many squares are there

How?



There are ~~10~~ 14 squares

$$1 + 2 + 3 = 6$$

$$1 + 2 + 3 = 6 \text{ parts}$$

$$\text{Profit pr month} = \frac{40,6000}{12} = 33,833.33$$

$$\text{Tahira's share} = \frac{1}{6} (40,6000) = 67,666.67$$

$$\text{Umed's share of 7 months} =$$

$$7 \times 33,833.33 = 236,833.31$$

$$\frac{2}{3} \times (236,833.31) = 78,944.437$$

$$\text{Usman's share of 4 months} =$$

$$4 \times 33,833.33 = 135,333.32$$

$$\frac{3}{6} \times (135,333.32) = 67,666.66$$

*[Signature]*

C) BROTHER is written as QDGSNQA, so  
SISTER is written as ?

Solution =

From the given code, Each letter of Brother is written as one step backward in a reverse way so following this coding sister is written as

SISTER  $\rightarrow$  QDSRHR

*[Signature]*