

Date: 3.2.2024

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Paper: General Science and Ability

## SECTION II

### Ability Portion

Q. No: 08

(C)  
Jumbled spell

i) Th<sup>o</sup>rsi =

ii) GNDREA = Grandes

iii) Schamot = Stomach

iv) Onlndo = London

v) Hi<sup>o</sup>daly = Holiday

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(B)  
Number series

i) 4, 16, 36, 64, 100, 144

ii) 30, 29, 27, 24, 20, 15



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(2)

iii) 1, 7, 15, 25, **37**, 51

iv) 0, 2, 6, 12, 20, 30, **42**

v) 48, 24, 72, 35, 108, **52**.

(D)

The age of Saras =  $x$

The age of Sara mother =  $6x$

The age of Ali =  $2x$

After three years the sum of their ages = 72

The present age of Sara, her mother and brother Ali?

The age of Sara =  $x + 3$  — (i)

The age of her mother =  $6x + 3$  — (ii)

The age of Ali =  $2x + 3$  — (iii)

sum up all of these ages

$$x + 3 + 6x + 3 + 2x + 3 = 72$$

$$\Rightarrow 9x + 9 = 72$$

$$\Rightarrow 9x + 9 - 9 = 72 - 9$$



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(3)

$$\Rightarrow 9x = 63$$

$$\Rightarrow \frac{9x}{9} = \frac{63}{9}$$

$$\Rightarrow x = \frac{63}{9} = 7$$

$$x = 7$$

(1) So the present age of Sara is = (7)

(2) The present age of Sara's mother =  $6x$

$\Rightarrow$  put the value of "x".

$$6(7) = (42)$$

(3) The present age of Ali =  $2x$   
put the value of 'x'

$$2(7) = (14)$$





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(4)

Q. No: 06

(a)

i) Received votes of candidate  
 $A = 15000$

ii) Received votes of candidate  
 $B = 10,000$

iii) Received votes of candidate  
 $C = 8000$

The percentage of total votes  
of the winning candidate?

$$\begin{aligned} \text{Total votes} &\Rightarrow 15000 + 10,000 + 8000 \\ &= 33,000 \end{aligned}$$

We know that;

$$\frac{\text{obtain votes}}{\text{total votes}} \times 100$$

$\Rightarrow$  putting the values in the formula.

$$\frac{15000}{33,000} \times 100 = \frac{1500}{33} = 45\%$$



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(5)

So, the Percentage of total votes of the winning candidate is = 45.45%

(B)

The ratio of a Triangle is = 3:4:5

Find each angle = ?

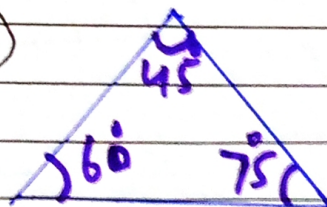
We know that from the ratio = 3:4:5 = 3+4+5 = 12

We also know that the ~~angle~~ sum of internal angle of a Triangle =  $180^\circ$

$$i) \text{ First Angle} = \frac{3}{12} \times 180 = 45^\circ$$

$$ii) \text{ Second Angle} = \frac{4}{12} \times 180 = 60^\circ$$

$$iii) \frac{5}{12} \times 180 = 75^\circ$$





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(b)  
(c)

In a sports group of boys = 4

In one, the group of girls = 6

If, there are = 102 girls

Then how many boys are required = ?

We know that in each group there are six girls so,

$$\frac{102}{6} = 17 \text{ group of girls}$$

So, similarly 17 group of boys will be

$$17 \times 4 = 68$$

So, if there are 102 girls then

**68** boys will be required.

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(7)

(D)

The ratio of the present  
ages of A & B = 6:7

After 5 years the ratio  
will = 7:8

So, we know that

$$6:7 = x \quad 6+7 = 13$$

After five years

$$\frac{6}{5 \times 13} = \frac{8x}{8} \Rightarrow x = 10$$

The age of A = 10 year

$$\text{The age of B} = \frac{7}{5 \times 13} = \frac{5x}{8}$$

$$x = \boxed{\quad}$$
$$6:7 :: 7:8$$

$$6 \times 8 = 7 \times 7$$

$$48 = 49$$

After five years

$$48 + 5 = 49 + 5$$

$$\boxed{A = 53 \text{ years}} = 54 \text{ years}$$

$$\boxed{B = 54 \text{ years}}$$



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## SECTION-I

Q. NO: 2 (A)

How volcanos are erupted:

Volcanos are erupted from the mantle portion of inside of the earth. Where the temperature is high. Inside the earth rock is present in the form of magma. When it is erupted into the surface of earth is called lava.

i) The causes of the eruption of lava:

a) Plate Tectonic

The surface of earth is comprised of 7 major plates. Which are moving 0.4 inch per year. Plate Tectonic does a movement in the form of convection, diversion and collide form. Due to which the a space created between the two plates and lava erupted into the surface of earth.

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b) The conversion of water into steam at the active site of volcano:

In the world there are some active sites of volcano. For example Hawaii in Italy is an active site. When the rain water accumulated at the vertex of volcano. That water goes inside the earth where it convert into steam and resulted to erupt magma into the surface of earth in the form of lava.

c) Weak Surface of earth

When there is a weak surface of the earth which cannot endure the pressure exerted by magma ~~and~~ on the surface of earth. As a result, magma comes into the surface of earth and lava erupted.

d) Oceanic - Continental Conversion Moment:

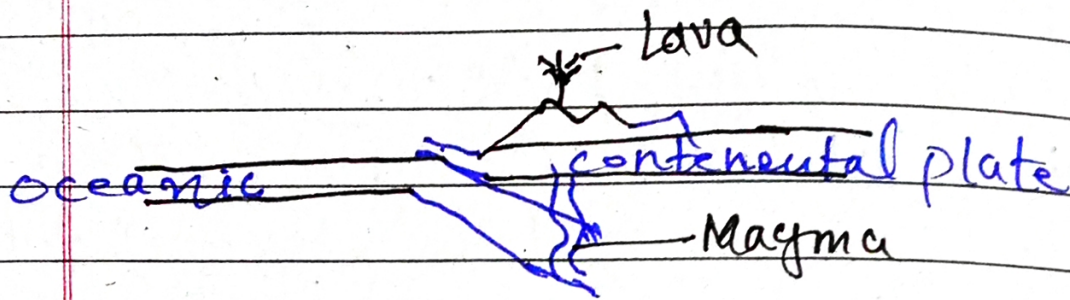
Oceanic plate is less dense as compare to continental plate.



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When both the plates converge with each other. The oceanic plate goes inside while the continental plate upward and lava erupted.



(6)

## Five Sources of Renewable Energy:

### i) Renewable Energy:

Renewable energy is the form of energy which can be replenish after its use. It is created naturally after its use and cannot be run out.

### ii) Sources of Renewable Energy:

## a) Solar Energy:

Solar energy is one of the fundamental source of renewable energy. which is obtain directly from the sun radiation. It can be save in the batteries and also can be use directly. It is widely use in the domestic, industries and day to day use.

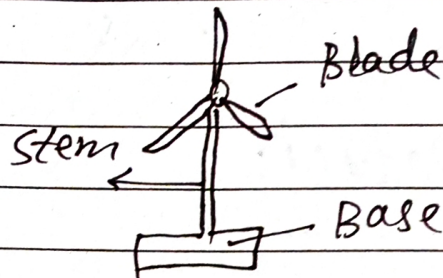


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## b) Wind Energy

Wind is another source of the renewable energy. In which energy are created from the wind. It rotates the blade of a machine and energy or electricity is generated.



## c) Hydal Energy

Hydal is another prominent source of renewable energy. Which is 10 times more denser than water. Even the little flow of water in a stream can generate enough energy.

## d) Energy from the Biomass:

~~Energy~~ This form of energy is generated from the residual of animals and vegetable or crops. After passing the residual from a proper mechanism biogas are produced. Which can be use for the domestic and other purposes as well.

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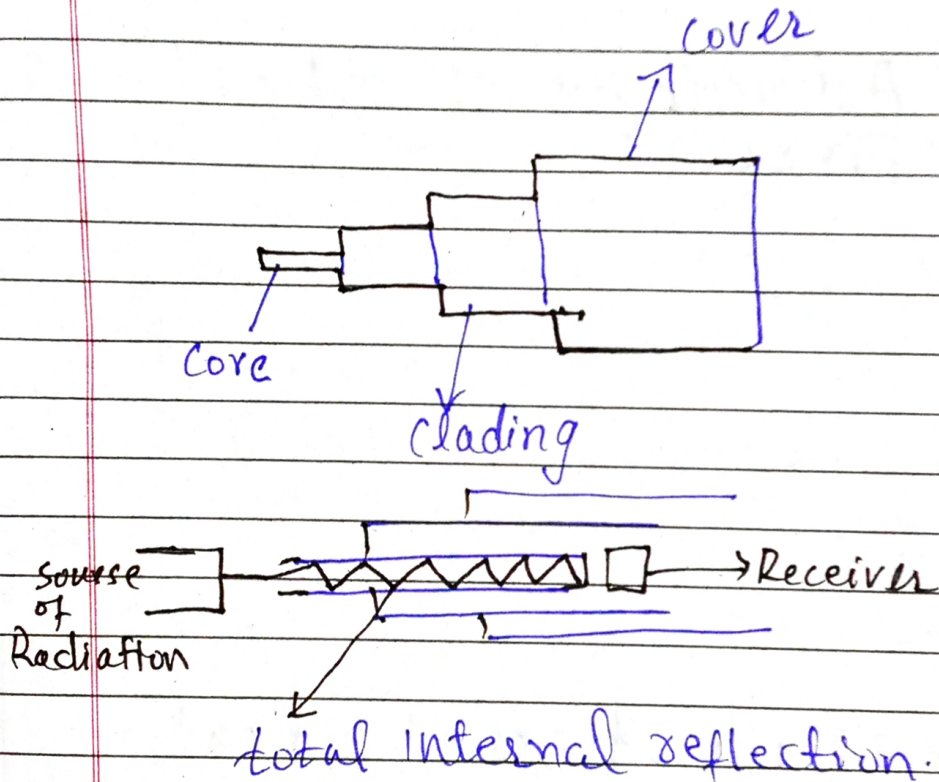
(13)

(D)

## The work of optical Fiber:

Optical fibers works on the phenomenon of total internal reflection.

### i) The structure of optical Fiber:



### ii) The work Mechanism of the optical Fiber:

The core of optical fiber is made of glass. which is tiny or equal to



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to the size of human hair. Radiation is released from the source which carries the message which is reflected by the upper side of the core toward the lower side and vice versa which carried at the same way until the receiver receive it. Through the sensors present in the receiver measure its frequency and as a result the message is conveyed.

### iii) Advantages of optical Fiber:

- a) Optical Fiber transmits the information in a secure way.
- b) Bad weather cannot disrupt the transmission of data.
- c) Convey the data fastly.

### iv) Disadvantages of optical Fiber:

- a) Optical Fiber is costly and fragile.
- b) As a challenge in the transmission of data from one continent to another.
- c) Work better in a small areas.

(B)

## A) Big Bang:

According to Floyed that before 14.5 bn years ago the universe was a summision of everything. But, when the temperature of this summision gets increases it blasts and expanded outes into pieces. From which different stars, planets and galaxies are formed.

## B) Theories of Big Bang

### i) Static Models

According to this theory that the universe is as it's. It will not expand nor close.

### ii) Open Model

According to this theory that the universe is still expanding. The parts are moving away from one another.

### iii) Close Model.

According to this model that the universe is again coming close toward a single point.

### iv) Cyclic Model:

According to this model that the universe is expanding and than again close. This is a cycle.



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Q. No: 3

(a)

Hurdles Facing by the  
developing countries to  
Tackle the impacts of  
Climate change:

There are various issues are facing by the developing countries to tackle the impacts of climate change. Which are given below.

1) Lose and damaged Fund:

The developing countries are unable to recover the damaged from the climate change. For example, Pakistan is one of the development countries. Which contributes less than 1% in the greenhouse gases emission and the most vulnerable country due to the climate change. Flood in the Aug, 2022 resulted \$38 bn economic lost. Due to which the country is unable to

to build the infrastructure damaged by the climate change.

## 2) Reduction in the carbon Emissions:

Developing countries are often import based economies. They have limited resources of economic generation in the form of small industries and agriculture. Due to which they cannot buckle down their industries and unable to control the emission of greenhouse gasses.

## 3) To limit the temperature of to $1.5^{\circ}\text{C}$ in the next century:

In the COP-28 it was agreed to limit the temperature  $1.5^{\circ}\text{C}$  in the next century. While the developing countries still use non-renewable energy resources for the economic activities. Developing countries are unable to enforce the developed countries that not to use non-renewable energy resources. As a result all the impacts happen on the developing countries.



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4) Shifting from non-renewable energy resources to renewable energy.

In the COP-28, it was also agreed to shift the world from the non-renewable energy resources to reduce the impact of climate change on the developing countries.

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(B)

Balanced diet is referred to the food in which have the proper amount of carbohydrates, proteins, minerals, and vitamins which protects the body from the physical and mental diseases. Moreover, it also assist the body while in performing the proper functioning.

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(6)

Artificial Intelligence (AI) has revolutionized the today world in the various dimensions such as in education, economy, politics, and overall society.

i) Revolutionized the field of education.

With the invention of chatGPT education field is revolutionized by the AI. It provides instant answers without any plagiarism to the users.

ii) Revolutionized the Industrial Sector:

AI is used in the form of Robots at the industrial sector which works instead of labourers and produces more products as compare to human.

iii) Revolutionized the society:

AI has also revolutionized the society in general and domestic in special. Where all the works are done by the Robotics from



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(20)

from washing the utensils to  
cleaning the rooms.

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(d)

ROM

RAM

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>◦ is the abbreviation of Read only Memory.</li><li>◦ It is permanent.</li><li>◦ Stored in the chips of the computer.</li><li>◦ cannot be erase after switch off.</li><li>◦ Runs the hardware of computer accordingly.</li></ul> | <ul style="list-style-type: none"><li>◦ Abbreviation Random Access Memory (RAM)</li><li>◦ It is volatile memory.</li><li>◦ Store the history of the function of computer.</li><li>◦ Erase when the computer is switch off.</li><li>◦ cannot run the hardware but access them to retrieve the data previously used.</li></ul> |
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