

Part - II

Section - I

Question #2

Answer # a:

Conference of parties (COP) held in Dubai's Expo city, UAE from november 31st to december 12th 2023. It was 28th annual meeting of COP. It has made an exceptional progress in loss and damage funds. Some of the key features are given below.

Key features in context of loss and Damage funds:

- 1- World Bank will host the funds for four years.
- 2- Every country can voluntarily donate in the fund.
- 3- The developing countries and small island state will have specific share in funds.

These steps can make a impact to counter climate

change in developing countries.

Answer#b:

Solid waste management is the control of the solid waste which is polluting the environment in many ways. Like is the catalyst to land, water and air pollution.

The world uses number of techniques in management of solid waste. Some of these are given below.

Solid Waste Management Methods:

1- Landfill method:

It is the oldest method to be used in solid waste management. In this method, solid waste is put in the large area of land. But, this method can create land and air pollution.

2- Recycling:

In this method, the solid waste is recycled and can be used later.

3. Burning of solid waste:

In this method, the solid waste is burned at high temperature that their volume become so small that they can be ~~reduced~~ diminished.

4. Biological reduction:

This method involves the anaerobic reduction of solid waste. Due to which organic substances are converted to oxygen, nitrogen and other components.

All of these methods are used in solid waste management worldwide.

Answer #c:

Balanced Diet:

Balanced diet is becoming a serious issue all over the globe. As due to the food shortage, it is becoming difficult to maintain the balanced diet.

The balanced diet constitute of macro and micro nutrients. By adding these nutrients

in diet, the one can maintain a balanced diet.

Macro-nutrients:

The macronutrients include carbohydrates, proteins, lipids, and fiber. These are necessary to maintain the balanced diet.

Micronutrients:

The micronutrients include vitamins, minerals like calcium, iron, zinc and many others.

However, these are required in less amount, but their balanced quantity is necessary to maintain a balanced diet.

Answer # d:

CPEC is a game-changer for Pakistan, not only economically but helps in environmental issues and energy generations. Due to CPEC, following renewable energy resources are installed, or installing in Pakistan.

P.T.O

Hydel power plants:

Under CPEC, the number of hydel power plants are being installed in Pakistan. These include Diamir basha Dam and Dasu Dam on Indus River.

Solar power plants:

The Quaid-e-Azam solar Park in punjab is also a project under CPEC, which is generating ~~so~~ around 1000 MW from solar energy.

Wind power plants:

Thimpir wind power plant, is also under CPEC, installed in Thimpir.

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Question # 5

RAM:

RAM is the random access memory of computer. It is the temporary memory in which the memory is being saved, until the PC is turned off. It will lose all saved data when the one will restart the PC.

ROM:

ROM is the permanent memory of PC. Even the PC is turned off, the saved data will not be removed. It ranges from mb's to Tb's.

Nibble:

A nibble is a unit of digital information that consists of four binary digits or bits. These are often used in computing and digital systems.

USB:

USB, or Universal Serial Bus, is a standard interface for connecting

various devices to a computer or electronic devices. It supports hot-swapping, enabling devices to be connected or disconnected without powering down the computer.

Answer # b

Artificial Intelligence:

AI, or Artificial Intelligence, refers to the development of computer systems that can work, or perform tasks that typically requires human intelligence.

AI has revolutionized the world in following ways.

Automation and Efficiency:

AI has enable the repetition of several task which automate the machines. Such automation increased efficiency of machines.

Problem-solving:

It also enables to solve the most difficult problem with a single click.

3- Multi-language translation and communication:

AI has enabled to communicate with world through hundreds of languages.

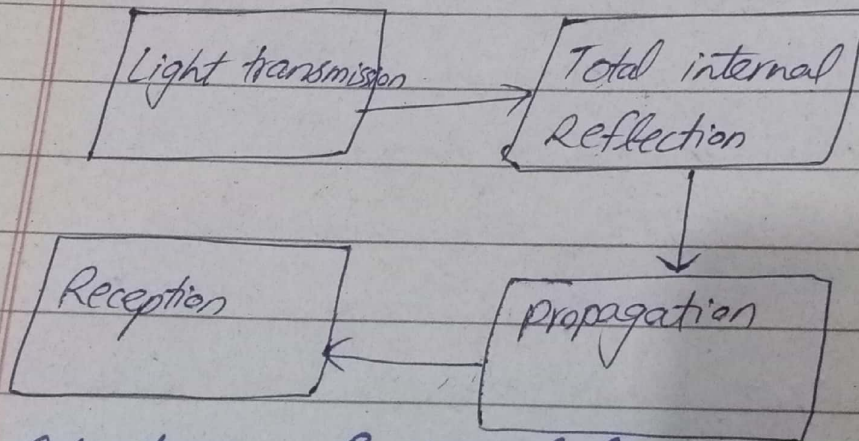
That's how AI has revolutionize the world.

Answer#C:

Optical Fiber:

Optical fiber are thin glassed like an human hair, that transmit data using light signals.

It works in following way.



Advantages of Optical fiber:

- 1- The can carry vast amount of data simultaneously.
- 2- These have minimal signal loss
- 3- These are light weight and this

4- These have security ~~due~~ to difficult detection.

Answer #d:

Critical speed of satellite:

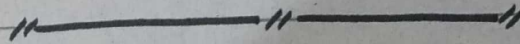
The critical speed of satellite is independent of the mass of the satellite. It is constant for the planet. For earth, it is 7.9 km/h .

Geo-stationary:

These are in the circular orbit around the equator and are in higher altitude.

Polar Satellite:

They pass near or over the polar. They are in lower altitude compare to geo-stationary satellite.



Section - II

Question #6

Answer #a:

5 years ago son age was $(S-5)$ and father age was $(F-5)$

Father age is thrice son age

$$(F-5) = 3(S-5)$$

$$S=30, \text{ so,}$$

$$F-5 = 3(30-5)$$

$$F-5 = 3(25)$$

$$F-5 = 75$$

$$F = 75+5$$

$$F = 80$$

current age of father is 80.

Answer #b:

Given values:

$$10, 30, Y, 50$$

their mean is 50

So,

$$\text{Mean} = \frac{\text{sum of values}}{\text{Total number of values}}$$

$$50 = \frac{10 + 30 + 50 + x}{4}$$

$$200 = 90 + x$$

$$\Rightarrow x = 200 - 90$$

$$x = 110$$

Answer # C:

i - 2, 6, 18, 54, _____

ii - 3125, 256, _____, 4, 1

i - 2, 6, 18, 54, _____

$$6 = 2 \times 3$$

$$18 = 6 \times 3$$

$$54 = 18 \times 3$$

So, next term will be

$$54 \times 3 = 162$$

So, series is

$$2, 6, 18, 54, 162$$

ii - $\frac{3125}{256} = \frac{256}{x} = \frac{x}{4} = \frac{4}{1}$

$$x = 256 \times 4$$

$$x = 1024$$

So,

3125, 256, 1024, 4, 1

Answer #d:

product of two numbers is 320
their ratio is 1:5

Question # 7

Answer # a:

two scooters for 96000 each and total is 192000
 First scooter:-

$$96000 = C + 0.2C$$

$$96000 = 1.2C$$

$$\Rightarrow C = \frac{96000}{1.2}$$

Second scooter:

$$96000 = C - 0.2C$$

$$96000 = 0.8C$$

$$\Rightarrow C = \frac{96000}{0.8}$$

$$\text{Total price} = \frac{96000}{1.2} + \frac{96000}{0.8}$$

$$= 80000 + 120000$$

$$= 200,000$$

Gain or loss Percentage

$$= \frac{192000 - 200000}{200000} \times 100$$

$$= \frac{-8000}{200000} \times 100 = -4\%$$

Answer #c:

$$A = \{a, e, i, o, u\}$$

$$U = \{a, b, c, \dots, z\}$$

$$A' = ?$$

A' must contain all elements of U set, which are not present in A set. So we get,

$$A' = \{b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, w, x, y, z\}$$