

General ScienceAnd AbilitySection - IIQuestion No.7 (A)

Q) Let suppose the no is x

$x \times \frac{3}{5}$ instead of $\frac{5}{3}$

∴ Percentage error = ??

$$\left(\frac{\frac{5x}{3} - \frac{3x}{5}}{\frac{5x}{3}} \right) \times 100$$

$$\left(\frac{\text{Actual value} - \text{estimated value}}{\text{Actual value}} \right) \times 100$$

$$\left(\frac{16x/5}{5x/3} \right) \times 100 \Rightarrow \frac{16}{25} \times 100 = 64\%$$

Question No-07 (B)

Ratio of chocolates = 5:8
to ice-cream cones

no of chocolates = 30
no of icecream cones = ??

Let icecream cones be x

$$5 : 8 :: x : 30$$

$$5 : 30 = 8 : x$$

$$\frac{5}{30} = \frac{8}{x}$$

$$x = 48$$

no of ice cream cones = 48

Question No-07 (C)

1 tablet = 30mg of medication

x tablet = 240mg of medications

let x be the no of medication

(1) 80 mg tablet

$$1 \text{ tablet} = 30 \text{ mg}$$
$$x \text{ tablets} = 240 \text{ mg}$$

$$\downarrow$$
$$1 \text{ tablet}$$
$$x = \frac{240}{30}$$

$$x = 8$$

8 tablets will be given to complete the dose of 240 mg.

Question No - 07 (D)

average of 50 = 20

if 2 nos 37 and 43 are discarded

average = ??

$$\text{Average} = \frac{(50 \times 20) - (37 + 43)}{50 - 2} = \frac{1000 - 80}{48}$$

$$= \frac{\overset{20}{240}}{\cancel{960}} \quad \frac{\overset{3}{45}}{\cancel{230}}}{\underset{12}{48}} \quad \frac{\underset{12}{48}}{\underset{2}{920}}$$

$$\text{Average} = 20.16$$

Question No - 08 (A)

Formula of IQ

Intelligent Quotient or IQ is obtained

$$\text{by } = \frac{\text{MA} \times 100}{\text{CA}}$$

where MA is the mental age of the person and CA is the chronological age both expressed in terms of years and months.

∴ Factors affecting IQ

1) Biological and environmental factors such as place of residence.

Physical Activity

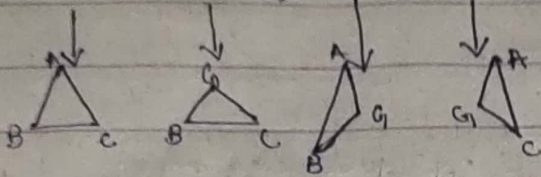
Income

Parental education as well as occupation

Question No - 08 (B)

The no of triangles are 4

ABC, BGC, AGB, AGC,



Question No - 08 (C)

word = Superintendent

Probability of a vowel word = ??

$$\text{Probability} = \frac{\text{no of vowels}}{\text{no of words}}$$

$$= \frac{5}{14}$$

Probability = $\frac{5}{14}$

Question No - 08 (D)

Total amount = Rs. 4320

Zain = 2 (Aslam) $\Rightarrow 3 \times 2 = 6$ parts of zain

Aslam = 3 parts

Ashraf = 7 parts

total no of parts = $6 \times 3 \times 7 = 16$ parts

$$1 \text{ part} = \frac{4320}{16}$$

$$1 \text{ part} = 270 \text{ rupees}$$

$$1 \text{ part} = 270 \text{ rupees}$$

$$\text{Aslam} = 3 \times 270 = 810$$

$$\text{Ashraf} = 7 \times 270 = 1890$$

$$\text{Zain} = 2(810) = 1620$$

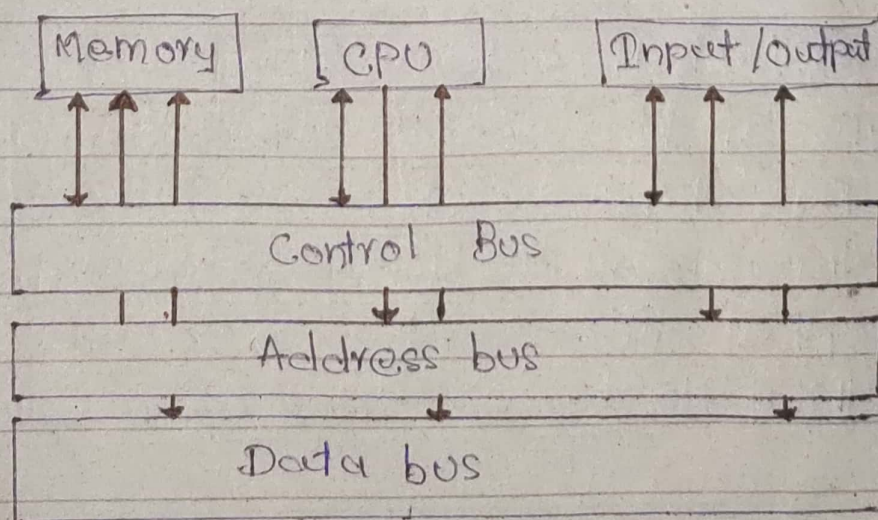
Section - I

Question No-03 (A)

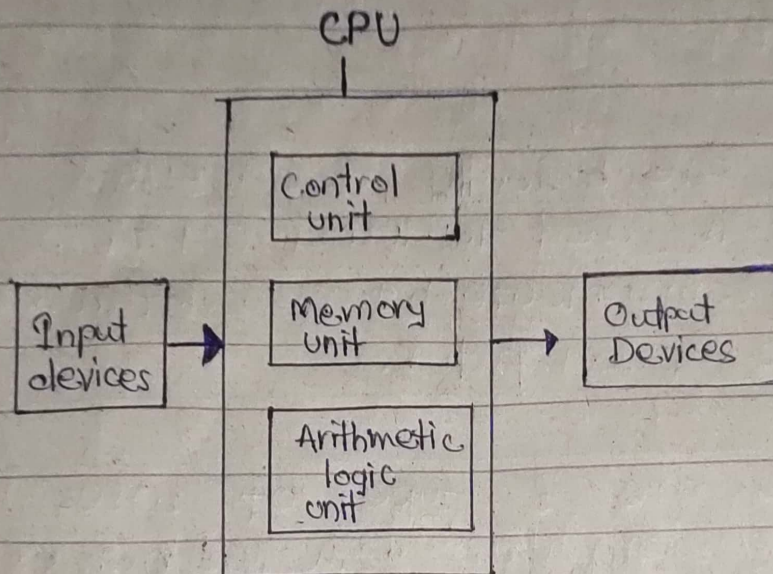
Buses

Buses are basically of computer that is used to transfer data and communicate between different parts of computer.

There are 3 types of buses in a computer with the names of address bus, control bus and data bus.



Block Diagram of Input and Output devices



Question No - 03 (B)

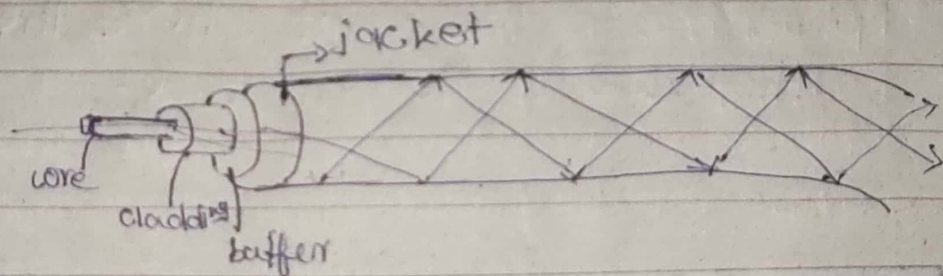
Optics / Optical Fiber

Optical Fiber is basically a type of fiber that is used to transmit the data or it is used for the transmission of data efficiently. Optical fiber is the most efficient thing to transmit data ^{because} as in optical

fiber there is hardly any loss of data.

How does it work?

When data is transmitted to it, the data collides with the walls of the wire and with each collision creates a reflective index and pass on.



Question No-03 (c)

Hypocenter

Hypocenter or focus is the point where an earthquake located.

ii.

Annular Lunar Eclipse

It is lunar Eclipse when Sun, Earth and Moon are perfectly aligned in one line, but Sun is not covering the whole moon called the ring of fire.

Epicentre

- Epicentre is the point where the Earthquake started/located.

Magma

Magma is a form of molten rock found below the surface of earth. It's around $2000 - 2500^{\circ}\text{C}$ hot when under Earth.

Dark Matter

Dark Matter is type of matter present in space/universe in a large amount but cannot be seen from naked eyes.

Question No - 03(B)

Big Bang and Big Crunch

Big Bang is the concept of creation of universe, whereas, big crunch is the concept of the ending.

Big Bang told us that Earth came into being due to an explosion - whereas Big Crunch states that life on Earth will be ending when ~~after~~ Earth will get compressed and fall into its own orbit just like the creation of black hole.

How age of the Universe is measured?

It is measured by looking at the oldest stars and by measurements of the expansion rate of the universe.

Question No - 05 (A)

Cyclone :

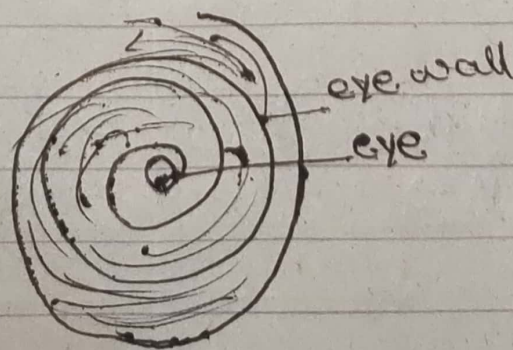
Introduction

- Cyclone is a system of winds that are rotating inward to an area of low barometric pressure, such that in the Northern Hemisphere it is anticlockwise and in Southern it is clockwise.

Formation of a Cyclone

Cyclone are formed with an enormous amount of energy from the the

ocean to the atmosphere. Its middle point is called Eye, that is the most powerful part of a cyclone and controls it. Its formation takes place in the lower pressure areas and when the warm air rises upward in the ocean as it moves up there is a low pressure area formation. Now that area is surrounded with the high pressure area from the surroundings. Due to this cool and warm interaction a cycle is formed and pressure created. Leading to the formation of clouds and more clouds. ~~and~~ This leads to the creation of a system and as storm rotates faster an eye is formed at the centre.



Question No - 05 (B)

Ionic Bond

Covalent Bond

i) Formed by the electrostatic attraction b/w opposite charge ions.	Formed by the mutual sharing of atoms.
ii) Electrons are shared transferred from one atom to another.	Electrons are shared between atoms equally.
iii) Electronegativity difference is greater than 1.7.	Electronegativity difference is less than 1.7.
iv) Most ionic compounds are solids at room temperature.	Most covalent compounds are solids, liquids and gases at room temperature.
Ex are NaCl and HCl, MgO	Exs are H_2O , $C_{6}H_{12}$ and CO_2

Question No. 5 (c)

a) Uses of Gamma rays

- i) Sterilize medical equipment
- ii) Used as tracers in medicine
- iii) Radio therapy
- iv) Used as tracers in medicine -

b) Uses of X-rays

- i) Diagnosing injuries
- ii) Arthritis in joints
- iii) Mammography
- iv) Dental procedure.

c) Uses of Radio waves

- i) Radar
- ii) Remote control
- iii) Remote Sensing
- iv) Communication and Satellite-transmission