

Test #1 (General Science and Ability)

Day: _____

Date: _____

Q1 (A)

Ans

Numbers from 1 to 70
contain 14 times 1 or
9.

For finding percentage
of 1 or 9 in 1- to 70,
we use formula of
percentage

$$= \frac{14}{70} \times 100$$

$$= \frac{7}{35} \times 100$$

$$= \frac{1}{5} \times 100$$

$$= 20\% \text{ Ans.}$$

Ans.

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Q1 According to statement B of the question, we form an equation

$$\checkmark 5\%A + 4\%B = \frac{2}{3}(6\%A + 8\%B)$$

we have to find

$$A:B = ?$$

$$5\%A + 4\%B = 4\%A + \frac{16}{3}\%B$$

$$5\%A - 4\%A = 5.333\%B - 4\%B$$

$$1\%A = 1.333\%B$$

$$\frac{A}{B} = \frac{1.333\%}{1\%}$$

$$\frac{A}{B} = \frac{1.333}{1}$$

$$A : B = 1.333 : 1$$

Ans:.

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Q1 According to statement
C of problem, we make eqs:

As,

$$A : B : C : D = 5 : 2 : 4 : 3$$

$$\text{Share of B} = ?$$

$$\text{Share of C} = \text{Share of D} + 1000$$

$$\text{Share of B} = \frac{\text{Ratio of B}}{\text{Total ratio}} \times \text{Total amount}$$

Let total amount is x

$$\text{Share of B} = \frac{2}{14} \times x$$

$$\text{Share of C} = \text{Share of D} + 1000$$

$$\frac{4}{14} \times x = \frac{3}{14} x + 1000$$

$$x \left(\frac{2}{7} - \frac{3}{14} \right) = 1000$$

$$x \left(\frac{4 - 3}{14} \right) = 1000$$

$$x \left(\frac{1}{14} \right) = 1000$$

$$x = 14000$$

$$\text{Share of B} = \frac{2}{14} \times 14000$$

$$\text{Share of B} = 2000$$

Ans:.

Q1 As per the statement
D of question, we have

$$40\% A = \frac{2}{3} B$$

$$A : B = ?$$

$$\frac{160}{20}$$

$$\frac{4}{5}$$

$$\frac{100}{80}$$

$$\frac{25}{5}$$

$$5$$

$$A = \frac{2}{3} B$$

$$\frac{2}{5} A = \frac{2}{3} B$$

$$\frac{A}{B} = \frac{2}{3} \times \frac{5}{2}$$

$$A : B = 5 : 3$$

Ans:.

Q2

Ans

How a Satellite is
Launched?

A satellite is launched with the help of rocket.

Rocket ignites its engines and ascend it vertically.

Satellite slightly gets horizontal motion.

A satellite is launched at correct speed and altitude in stable orbit.

[Momentum of satellite is balanced by earth's gravitational pull.]

Working Principle of GPS: → Tri-lateralisation Principle

Four satellites monitor an object in order to get accuracy. If a single satellite monitors an object, there will be possibility of error. Thus, GPS is 99.9%.

accurate.

Q2

Optical Fiber:

B

A technology that uses glass / threads (fibers) to transmit data.

A fiber optic consists of a bundle which has many fibers which all are capable of transmitting data modulated on light waves.

Working Principle of Optical Fiber:

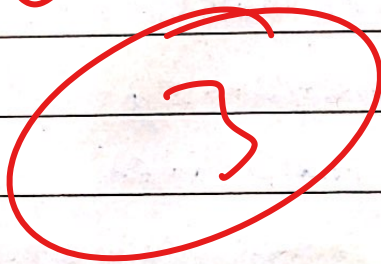
Total internal Reflection ✓
Light travels in optical fiber by repeatedly bouncing off the wall. Each photon (tiny particle of light) moves down in optical fiber like a bobsleigh in ice hockey run. A beam of light may leak from a glass. But, if it

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passes into glass at a shallow angle of 42° , it will not leak from the walls of glass. This is called total internal reflection of light. ✓

Thus, signals move in optical fiber according to principle of total internal reflection of light.



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C What is Cellphone?

A cellphone or cellular phone is a portable device that communicates wirelessly.

How Cellphone Works

Cellphone works with the help of towers which can receive and send data in the form of radiowaves.

Q2 RAM (Random Access Memory)

(D) It stands for Random Access Memory.

It is the memory of computer in which files, documents, projects and other data is placed.

In a nutshell, it is short term memory of computers for active tasks.

ROM (Read Only Memory)

It is one of the types of permanent memory of computer which can not be erased or modified. It is written on the chip of computer at the time of manufacturing.

D Hardware:

Physical tangible components which can see and touch like CPU, monitor, mouse, SD card and keyboard.

Software:

It is set of instructions, data and directions which tell hardware components of a computer that what to do and how to do it.

Computer Bus:

It is a pathway that transmit data between components of computer or between computers.