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GSA(3)

Q:01

(A)

Team won = 60% of total matches

Lost = 24 matches

Number of matches played = ?

Let no. of matches played
be $(100-60)\%$ of $x = 24$

$$\frac{2x}{5} = 24$$

$$x = \frac{24 \times 5}{2}$$

$$\boxed{x = 60} \text{ Ans}$$

(B)

Persons	Sugar	Days
30	40 kg	10
80 ↑	320 kg ↓	?

$$10 : x = 80 \times 40 : 30 \times 320 = 3200 : 9600$$

Since the ratios are equal
the product of extremes is
equal to product of means

$$10 : x = 3200 : 9600$$

$$10 \times 9600 = x \times 3200$$

$$x \times 3200 = 10 \times 9600$$

$$x = \frac{96000}{3200}$$

$$x = \frac{960}{32} \cdot \frac{480}{16}$$

$$x = \frac{480}{16}$$

$$x = \frac{240}{8}$$

$$x = \frac{120}{4}$$

$$x = \frac{60}{2}$$

$$\boxed{x = 30} \text{ Ans}$$

(C) Let the 1st and 3rd parts be $3x$ and $5x$

$$\text{2nd part is} = \frac{1}{4}$$

$$\text{3rd part is} = \frac{5x}{4}$$

$$3x + \left(\frac{5x}{4}\right) + 5x = 370$$

$$\cancel{3x} + 12x + 5x + 20x = 370$$

$$\frac{37x}{4} = 370$$

Divide equation by 37

$$\frac{1}{37} \times \frac{37x}{4} = 370 \times \frac{1}{37}$$

$$\frac{x}{4} = 10$$

$$x = \frac{96000}{3200}$$

$$x = \frac{960 \cdot 480}{32 \cdot 16}$$

$$x = \frac{480}{16}$$

$$x = \frac{240}{8}$$

$$x = \frac{120}{4}$$

$$x = \frac{60}{2}$$

$$\boxed{x = 30} \text{ Ans}$$

(C) Let the 1st and 3rd parts be $3x$ and $5x$

$$\text{2nd part is} = \frac{1}{4}$$

$$\text{3rd part is} = \frac{5x}{4}$$

$$3x + \left(\frac{5x}{4}\right) + 5x = 370$$

$$\text{370} \quad 12x + 5x + 20x = 370$$

$$\frac{37x}{4} = 370$$

Divide equation by 37

$$\frac{1}{37} \times \frac{37x}{4} = 370 \times \frac{1}{37}$$

$$\frac{x}{4} = 10$$

$$x = 40$$

Therefore

$$\text{First part} = 3x = \$120$$

$$\text{Third part} = 5x = \$200$$

$$\text{2nd part} = 5x/4 = \$50$$

(D)

Q:02

(A) What are Computer buses?

A bus is a Communication system that transfers data between components inside a computer. This expression covers all related hardware components and software, including communication protocols.

Types of Buses:-

- (1) Control Bus
- (2) Address Bus
- (3) Data Bus

Communication over each bus line is performed in cooperation with one another. The data bus is a single line for exchanging the data between the CPU and the memory, and between the CPU and I/O, and handles the data stored in the specific location.

CPU as brain of Computer

"The CPU is the brain of computer, containing all the circuitry needed to process input, store data and output results."

The CPU is constantly following instructions of computer programs that tell it which data to process and how to process it.

Components of CPU:-

- (i) Arithmetic logic unit (ALU)
- (ii) Control unit (CU)
- (iii) Memory unit

It perform specified by its programming to perform basic tasks. They are found in most electronic devices, including laptop computers, smartphones, some cameras, thermostate and any other type of device that

requires input and output programming operations.

(B) Types of computer

A computer is a machine that can be programmed to carry out sequences of arithmetic, logical operations automatically. Modern digital electronic computers can perform generic set of operations known as programs. These programs enable computers to perform wide range of tasks.

Types:-

- (1) Super computers
- (2) Mainframe computer
- (3) Mini computer
- (4) Personal computer

Super Computer:

A super computer is a computer with a high

level of performance as compared to general purpose computer. The performance of a supercomputer is commonly measured in floating-point operations.

Size: 10^5 flops

Memory: Petabytes of RAM

Capacity: 200 to 300 gigabytes or more

Speed: 442 Petaflops

Mainframe Computer:-

A mainframe computer informally called a mainframe is a computer used primarily by large organization for critical applications, like bulk data processing for tasks such as censuses, industry and consumer statistics, enterprise resource planning and large scale transaction processing.

Size: 2000 to 10,000 square feet

Memory: 32 GB and 3056 GB

Speed: 3-4 MIPS to as high as 10^6 MIPS

Mini Computer:-

A mini computer is a type of smaller general purpose computer developed in the mid of 1960s and sold at a much lower price than mainframe computer.

Size:- 7 to 12 inches

Memory: 16 bit words

Capacity: 128K bytes

Speed: 200 - 300 Kilo

Personal computer:

A personal computer is designed for use by one person and only for affordable companies and terminal for multiple users.

Size: 8 bits

Memory: Short term data

Capacity: 64 Kilo bytes

Speed: 3.50 to 4.2 GHz
