

## Section-II

Q#05:

(a)

Solution

$$\text{Students below 8 years} = \frac{20}{100} \times x = \frac{x}{5}$$

$$\text{Number of 8 years old student} = 48$$

$$\text{Student above 8 years} = \frac{2}{3} \text{ of } 48$$

$$\frac{2}{3} \times 48 = 32$$

$$\text{Total number of students} = x$$

$$\text{Total student} = \text{below 8} + \text{Above 8} + 8 \text{ years}$$

$$x = \frac{x}{5} + 32 + 48$$

$$x = \frac{x}{5} + 80$$

$$5x = x + 80 \times 5$$

$$5x = x + 400$$

$$5x - x = 400$$

$$4x = 400$$

$$x = \frac{400}{4} = 100$$

$$\text{Total number of students} = 100$$



Date: \_\_\_\_\_

Day: \_\_\_\_\_

(b)  
Solution

$$\text{Rashid's age} = x$$

$$\text{Father's current age} = x + 3x = 4x$$

After 8 years

$$\text{Rashid's age} = x + 8$$

$$\text{Father's age} = 4x + 8$$

After Further 8 years



(c)  
Solution

Total outcomes = 36

Prime number possible = 2, 3, 5, 7, 11

Favorable combinations = 15

$$\text{Probability} = \frac{15}{36} = \frac{5}{12}$$

(d)

Solution

Total number of players = 11

Captain's age = 26 years

Wicket Keeper = 26 + 3 = 29 years

Let the average of whole team =  $x$

Total age of team =  $11x$

Captain + wicket keeper = 26 + 29 = 55

Age of remaining 9 players =  $11x - 55$

$$\text{Average} = \frac{11x - 55}{9}$$

Average age of 9 members is 1

less than previous average =  $x - 1$



Date: \_\_\_\_\_

Day: \_\_\_\_\_

$$\frac{11x - 55}{9} = x - 1$$

Multiplying 9 on both sides

$$11x - 55 = 9x - 9$$

$$11x - 9x = -9 + 55$$

$$2x = 46$$

$$x = \frac{46}{2} = 23$$

$$x = 23$$

**Q#07:**

**(a)**

$$5\% \text{ of } A = 0.05A$$

$$4\% \text{ of } B = 0.04B$$

$$6\% \text{ of } A = 0.06A$$

$$8\% \text{ of } B = 0.08B$$

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

$$0.05A + 0.04B = \frac{2}{3}(0.06A + 0.08B)$$



Multiplying By 3 on both sides

$$3(0.05A) + 3(0.04B) = 2(0.064 + 0.08B)$$

$$0.15A + 0.12B = 0.128 + 0.16B$$

$$0.15A - 0.12A = 0.16B - 0.12B$$

$$0.03A = 0.04B$$

$$A : B$$

$$4 : 3$$

(b)

**Solution**

Let tens digit be  $x$

unit digit is  $x+2$



Date: \_\_\_\_\_

Day: \_\_\_\_\_

(C)

**Solution**

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

Let their shares be:

$$5x, 2x, 4x, 3x$$

C gets Rs 1000 more than D.

So,

$$4x - 3x = x = 1000$$

$$x = 1000$$

**B's share**

$$2x = 2 \times 1000$$

$$= 2000$$

**(d)**

**Solution**

Son's current age =  $x$

Father's current age = 38

Father's age at son's birth =  $38 - x$

$$38 - x = x$$

$$38 = x + x$$

$$38 = 2x$$

$$x = \frac{38}{2} = 19$$



Date: \_\_\_\_\_

Day: \_\_\_\_\_

Son's age now = 19

Son's age 5 years ago =  $19 - 5$

= 14

                    

**Q#02:**

**(a)**

**Answer**

**Benefits and Challenges of  
implementing artificial intelligence  
in healthcare:**

Artificial intelligence is reshaping modern healthcare by enhancing diagnostic precision and improving the health of patients. AI can analyze vast datasets within a few minutes. AI tools are used particularly in pathology and radiology and they are very much accurate than experienced medical specialist and healthcare workers. Virtual chatbots can engage



with patients related to queries.

## Challenges in implementing:

### 1. Ethical concerns:

Implementing AI in health-care can rise ethical concern as patients data is highly sensitive and private information

### 2. High cost of implementation:

Developing and deploying AI is highly expensive and require substantial investment in Technology

## Benefits of AI:

### 1. Personalized Treatment plan:

AI can tailor treatment plans based on patients history and lifestyle for better results and speedy recovery

### 2. Virtual assistants:

Virtual assistant can



Date: \_\_\_\_\_

Day: \_\_\_\_\_

answer all the queries of patients.

(b)

Answer

**Big Bang theory:**

Big Bang theory is the most widely accepted theory related to the creation of the universe. This theory purports that that universe began from a single extremely larger mass approximately 13.8 billion years ago, and has been expanding ever since.

This theory is the base of modern cosmology and not only provide explanation about the creation of universe but also about its structure, evolution and characteristics.

This theory offers a coherent framework for understanding the universe.



(C)

Answer

### Causes of Global warming:

(i) Global warming is caused by the accumulation of green house gases in the Earth's atmosphere.

(ii) The burning of fossil fuels such as oil, coal and natural gas also cause global warming.

### Effects of Global warming:

(i) Glaciers and polar ice caps are melting leading to high sea level.

(ii) Extreme weather condition such as drought, floods and hurricanes.

### Mitigation Strategies:

Transition to renewable sources of energy like wind, solar energy etc.

Reforestation and Afforestation projects help absorb excess  $\text{CO}_2$ .



Date: \_\_\_\_\_

Day: \_\_\_\_\_

(d)

answer

## Components of Disaster management plan:

### Risk assessment:

Identifying types of potential disasters like floods, earthquakes etc, and analysing their likelihood and impact.

### Preparedness:

Training emergency personnel and creating early warning system.

### Recovery:

Post-disaster measures to restore service and rebuilding infrastructure.

### Mitigation:

Long-term plans and strategies to reduce future risks