

# IIFT Quantitative Ability

## Sample Paper – 9

Duration: 28 Minutes

Maximum Marks: 75

### Instructions

- This paper contains **25** Multiple Choice Questions (Single Correct Answer), modelled on the Quantitative Ability portion of IIFT entrance.
- Each correct answer carries **+3 marks**. There is a **penalty of –1 mark** for each incorrect answer.
- Only **one** option is correct per question. Choose carefully.
- Syllabus level: **MBA entrance level — Arithmetic, Algebra, Geometry & Mensuration, Number Systems, and Modern Mathematics.**
- Use of mobile phones, calculators, or any electronic gadgets is strictly prohibited during the test.

**Q1.** Aman invests Rs. 40,000 for 9 months and Bimal invests Rs. 60,000 for 5 months in a business. In what ratio should they share the annual profit?

- (A) 3 : 2
- (B) 6 : 5
- (C) 4 : 3
- (D) 2 : 1

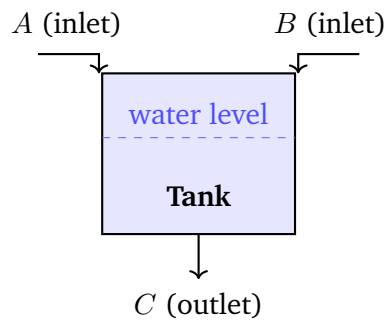
**Q2.** Find the angle (in degrees) between the hour hand and the minute hand of a clock at **3:20**.

- (A)  $10^\circ$
- (B)  $15^\circ$
- (C)  $20^\circ$



(D)  $25^\circ$

- Q3.** Pipe  $A$  can fill a tank in 12 minutes, Pipe  $B$  can fill it in 18 minutes, and Pipe  $C$  (an outlet) can empty it in 36 minutes. If all three pipes are opened simultaneously, how many minutes will the tank take to be completely filled?



- (A) 8 min  
(B) 10 min  
(C) 12 min  
(D) 9 min
- Q4.** An article is sold after two successive discounts of 20% and 10%. If the final selling price is Rs. 2,160, find the original Marked Price.
- (A) Rs. 3,000  
(B) Rs. 2,700  
(C) Rs. 2,880  
(D) Rs. 3,200
- Q5.** The present age of a father is 4 times the present age of his son. Eight years hence, the father's age will be 3 times the son's age. Find the present age of the son (in years).
- (A) 10  
(B) 16



(C) 14

(D) 12

**Q6.** Solve the system:  $3x + 2y = 20$  and  $5x - 2y = 12$ . Find the value of  $x + y$ .

(A) 6

(B) 7

(C) 8

(D) 9

**Q7.** Simplify:  $\log_{10} 4 + \log_{10} 25$ .

(A) 3

(B)  $\log_{10} 29$

(C)  $\frac{1}{2}$

(D) 2

**Q8.** Simplify:  $\frac{x^{3/4} \cdot x^{1/4}}{x^{1/2}}$ .

(A)  $x^{1/2}$

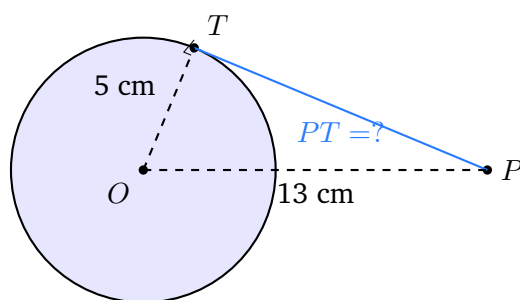
(B)  $x^{1/4}$

(C)  $x^{3/4}$

(D)  $x$

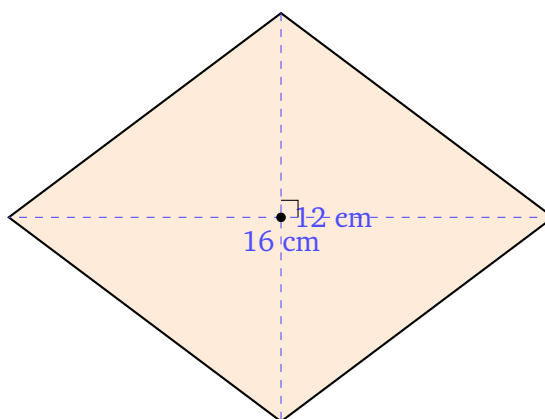
**Q9.** From a point  $P$  outside a circle, a tangent  $PT$  is drawn to the circle. If the distance from  $P$  to the centre  $O$  is 13 cm and the radius of the circle is 5 cm, find the length of the tangent  $PT$ .





- (A) 10 cm
- (B) 12 cm
- (C) 8 cm
- (D) 11 cm

**Q10.** The diagonals of a rhombus are 16 cm and 12 cm. Find the area of the rhombus.



- (A)  $80 \text{ cm}^2$
- (B)  $144 \text{ cm}^2$
- (C)  $96 \text{ cm}^2$
- (D)  $112 \text{ cm}^2$

**Q11.** Find the remainder when  $f(x) = 2x^3 - 3x^2 + x + 5$  is divided by  $(x - 2)$ .

- (A) 9
- (B) 10
- (C) 6



(D) 11

**Q12.** A room measures 819 cm by 546 cm. Find the side (in cm) of the largest square tile that can pave the floor exactly without cutting any tile.

(A) 273

(B) 182

(C) 91

(D) 364

**Q13.** Find the compound interest on Rs. 8,000 at 10% per annum compounded half-yearly for  $1\frac{1}{2}$  years.

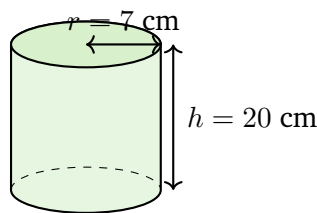
(A) Rs. 1,200

(B) Rs. 1,261

(C) Rs. 1,240

(D) Rs. 1,300

**Q14.** A solid cylinder has radius 7 cm and height 20 cm. Find its total surface area. (Use  $\pi = \frac{22}{7}$ .)



(A)  $924 \text{ cm}^2$

(B)  $1,056 \text{ cm}^2$

(C)  $1,188 \text{ cm}^2$

(D)  $1,100 \text{ cm}^2$

**Q15.** In how many ways can 8 people be seated around a circular table?



- (A)  $8!$
- (B)  $\frac{8!}{2}$
- (C)  $6!$
- (D)  $7!$

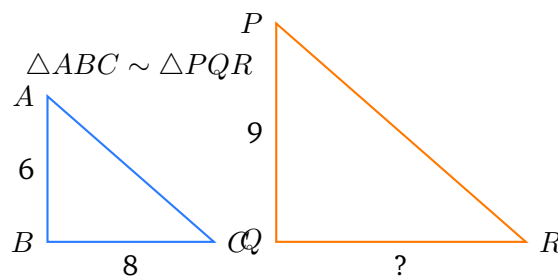
**Q16.** Two fair dice are rolled simultaneously. Find the probability that the sum of the numbers on the two dice is exactly 9.

- (A)  $\frac{1}{9}$
- (B)  $\frac{1}{6}$
- (C)  $\frac{5}{36}$
- (D)  $\frac{1}{4}$

**Q17.** The first term of an Arithmetic Progression is 7 and the common difference is 3. Find the sum of the first 20 terms.

- (A) 700
- (B) 710
- (C) 720
- (D) 730

**Q18.** In the figure,  $\triangle ABC \sim \triangle PQR$  with  $AB = 6$  cm,  $BC = 8$  cm, and  $PQ = 9$  cm. Find the length of  $QR$ .



- (A) 10 cm



- (B) 11 cm
- (C) 12 cm
- (D) 9 cm

**Q19.** Find the unit digit of  $7^{84} + 3^{71}$ .

- (A) 0
- (B) 4
- (C) 6
- (D) 8

**Q20.** A committee of 4 is to be formed from 5 men and 4 women. In how many ways can the committee be formed so that it includes **at least one man and at least one woman**?

- (A) 120
- (B) 126
- (C) 115
- (D) 110

**Q21.** Solution  $P$  contains 40% alcohol and solution  $Q$  contains 75% alcohol. In what ratio should  $P$  and  $Q$  be mixed to obtain a mixture containing 61% alcohol?

- (A) 1 : 2
- (B) 2 : 3
- (C) 3 : 4
- (D) 4 : 5

**Q22.** Find the smallest positive integer that when divided by 6, 7, and 8 leaves a remainder of 3 in each case.

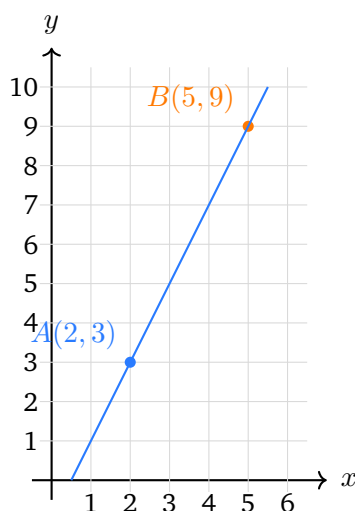


- (A) 168
- (B) 175
- (C) 171
- (D) 165

**Q23.** In a Geometric Progression, the first term is 3, the last term is 192, and the common ratio is 2. How many terms does the GP contain?

- (A) 5
- (B) 6
- (C) 8
- (D) 7

**Q24.** Find the equation of the line passing through the points  $A(2, 3)$  and  $B(5, 9)$ .



- (A)  $2x - y - 1 = 0$
- (B)  $2x + y - 1 = 0$
- (C)  $x - 2y + 4 = 0$
- (D)  $3x - y - 3 = 0$

**Q25.** Events  $A$  and  $B$  are independent.  $P(A) = \frac{1}{3}$  and  $P(B) = \frac{1}{4}$ . Find  $P(A \cup B)$ .



(A)  $\frac{7}{12}$

(B)  $\frac{1}{2}$

(C)  $\frac{5}{12}$

(D)  $\frac{2}{3}$



# Detailed Solutions

## IIFT Quantitative Ability – Sample Paper 9

Q1.

**Solution****Topic: Arithmetic – Partnership**Profit share is proportional to (Capital  $\times$  Time).

$$\text{Aman's share} = 40,000 \times 9 = 3,60,000$$

$$\text{Bimal's share} = 60,000 \times 5 = 3,00,000$$

$$\text{Ratio} = 3,60,000 : 3,00,000 = 360 : 300 = 6 : 5.$$

**Answer: (B)**

Q2.

**Solution****Topic: Arithmetic – Clock Angles**At time  $H$  hours and  $M$  minutes, the angle between the hands is:

$$\theta = \left| 30H - \frac{11M}{2} \right|$$

At 3 : 20 ( $H = 3, M = 20$ ):

$$\theta = \left| 30 \times 3 - \frac{11 \times 20}{2} \right| = |90 - 110| = 20^\circ$$

**Answer: (C)**

Q3.

**Solution****Topic: Arithmetic – Pipes & Cisterns**

Work done per minute by each pipe (fraction of tank):

$$A = \frac{1}{12}, \quad B = \frac{1}{18}, \quad C = -\frac{1}{36} \text{ (outlet)}$$



Net rate when all three are open:

$$\frac{1}{12} + \frac{1}{18} - \frac{1}{36} = \frac{3}{36} + \frac{2}{36} - \frac{1}{36} = \frac{4}{36} = \frac{1}{9}$$

Time to fill the tank = 9 minutes.

**Verification:** In 9 minutes,  $A$  fills  $\frac{9}{12} = \frac{3}{4}$ ,  $B$  fills  $\frac{9}{18} = \frac{1}{2}$ ,  $C$  empties  $\frac{9}{36} = \frac{1}{4}$ .

$$\text{Net} = \frac{3}{4} + \frac{1}{2} - \frac{1}{4} = 1. \checkmark$$

**Answer: (D)**

Q4.

### Solution

**Topic: Arithmetic – Marked Price & Successive Discounts**

Let the Marked Price be Rs.  $M$ .

After the first discount of 20%: Price =  $0.80 M$ .

After the second discount of 10%: Price =  $0.80 M \times 0.90 = 0.72 M$ .

Given that the final selling price is Rs. 2,160:

$$0.72 M = 2160 \implies M = \frac{2160}{0.72} = 3000$$

The original Marked Price is **Rs. 3,000**.

**Answer: (A)**

Q5.

### Solution

**Topic: Arithmetic – Ages**

Let the son's present age =  $s$  years. Then the father's present age =  $4s$  years.

Eight years hence, the father's age =  $3 \times$  the son's age:

$$4s + 8 = 3(s + 8)$$

$$4s + 8 = 3s + 24 \implies s = 16$$

The son's present age is **16** years.

**Verification:** Son now = 16, Father now = 64. Eight years later: Son = 24, Father = 72 =  $3 \times 24$ .  $\checkmark$



**Answer: (B)**

**Q6.**

**Solution**

**Topic: Algebra – Linear Equations in Two Variables**

Given system:  $3x + 2y = 20 \quad \dots (1)$        $5x - 2y = 12 \quad \dots (2)$

Add (1) and (2) to eliminate  $y$ :

$$(3x + 2y) + (5x - 2y) = 20 + 12 \implies 8x = 32 \implies x = 4$$

Substitute  $x = 4$  into (1):

$$3(4) + 2y = 20 \implies 12 + 2y = 20 \implies 2y = 8 \implies y = 4$$

$$x + y = 4 + 4 = 8$$

**Verification:**  $3(4) + 2(4) = 12 + 8 = 20 \checkmark$ ;  $5(4) - 2(4) = 20 - 8 = 12 \checkmark$ .

**Answer: (C)**

**Q7.**

**Solution**

**Topic: Algebra – Logarithm Rules**

Using the product rule  $\log_b m + \log_b n = \log_b(mn)$ :

$$\log_{10} 4 + \log_{10} 25 = \log_{10}(4 \times 25) = \log_{10} 100 = \log_{10} 10^2 = 2$$

**Answer: (D)**

**Q8.**

**Solution**

**Topic: Algebra – Indices (Laws of Exponents)**

Using the rule  $x^a \cdot x^b = x^{a+b}$  and  $\frac{x^a}{x^b} = x^{a-b}$ :

$$\frac{x^{3/4} \cdot x^{1/4}}{x^{1/2}} = \frac{x^{3/4+1/4}}{x^{1/2}} = \frac{x^1}{x^{1/2}} = x^{1-1/2} = x^{1/2}$$



**Answer: (A)**

### Solution

**Topic: Geometry – Tangent from External Point**

A tangent from an external point is perpendicular to the radius at the point of tangency.

In right triangle  $OTP$ :

- Q9.**
- $OP = 13$  cm (distance from external point to centre)
  - $OT = 5$  cm (radius)
  - $\angle OTP = 90^\circ$

By the Pythagorean theorem:

$$PT^2 = OP^2 - OT^2 = 13^2 - 5^2 = 169 - 25 = 144$$

$$PT = \sqrt{144} = 12 \text{ cm}$$

**Answer: (B)**

**Q10.**

### Solution

**Topic: Geometry – Area of a Rhombus**

The area of a rhombus is:

$$\text{Area} = \frac{d_1 \times d_2}{2}$$

where  $d_1$  and  $d_2$  are the lengths of the diagonals.

$$\text{Area} = \frac{16 \times 12}{2} = \frac{192}{2} = 96 \text{ cm}^2$$

**Note:** The diagonals of a rhombus bisect each other at right angles, so each half-diagonal forms a right triangle. Side of rhombus =  $\sqrt{8^2 + 6^2} = \sqrt{100} = 10$  cm.

**Answer: (C)**

**Q11.**



**Solution****Topic: Algebra – Remainder Theorem**

By the Remainder Theorem, the remainder when  $f(x)$  is divided by  $(x - a)$  equals  $f(a)$ .

Here  $a = 2$ :

$$\begin{aligned} f(2) &= 2(2)^3 - 3(2)^2 + (2) + 5 \\ &= 2(8) - 3(4) + 2 + 5 \\ &= 16 - 12 + 2 + 5 \\ &= 11 \end{aligned}$$

**Answer: (D)**

**Q12.**

**Solution****Topic: Number System – HCF Word Problem**

The largest square tile that fits the room exactly has side equal to the HCF of the room dimensions.

Room dimensions:  $819 \text{ cm} \times 546 \text{ cm}$ .

Using the Euclidean algorithm:

$$\text{gcd}(819, 546) :$$

$$819 = 1 \times 546 + 273$$

$$546 = 2 \times 273 + 0$$

$$\text{gcd}(819, 546) = \mathbf{273 \text{ cm.}}$$

**Verification:**  $819 = 3 \times 273$ ;  $546 = 2 \times 273$ . Total tiles =  $3 \times 2 = 6$ . ✓

**Answer: (A)**

**Solution****Topic: Arithmetic – Compound Interest (Half-Yearly)**

Principal  $P = 8000$ , Rate  $r = 10\%$  p.a., Time = 1.5 years.

For half-yearly compounding:

**Q13.** • Half-yearly rate =  $\frac{10}{2} = 5\%$



- Number of periods =  $1.5 \times 2 = 3$

$$A = P \left( 1 + \frac{r}{100} \right)^n = 8000 \times \left( \frac{21}{20} \right)^3$$

$$\left( \frac{21}{20} \right)^3 = \frac{9261}{8000}$$

$$A = 8000 \times \frac{9261}{8000} = 9261$$

$$CI = A - P = 9261 - 8000 = \text{Rs. } 1,261$$

**Answer: (B)**

### Solution

**Topic: Geometry – Total Surface Area of a Cylinder**

For a solid cylinder with radius  $r = 7$  cm and height  $h = 20$  cm:

$$\text{Total Surface Area} = 2\pi r(r + h)$$

$$= 2 \times \frac{22}{7} \times 7 \times (7 + 20) = 2 \times 22 \times 27 = 44 \times 27 = 1,188 \text{ cm}^2$$

**Break-up:**

- Q14.**
- Lateral surface area =  $2\pi rh = 2 \times \frac{22}{7} \times 7 \times 20 = 880 \text{ cm}^2$
  - Two circular ends =  $2\pi r^2 = 2 \times \frac{22}{7} \times 49 = 308 \text{ cm}^2$
  - Total =  $880 + 308 = 1,188 \text{ cm}^2$

**Answer: (C)**

**Q15.**

### Solution

**Topic: Modern Mathematics – Circular Permutation**

In a circular arrangement of  $n$  distinct people, one person's position is fixed to eliminate rotational equivalence. The remaining  $(n - 1)$  people can be arranged in  $(n - 1)!$  ways.



For  $n = 8$ :

Number of arrangements  $= (8 - 1)! = 7!$

$$7! = 5040$$

**Answer: (D)**

**Q16.**

**Solution**

**Topic: Modern Mathematics – Probability with Two Dice**

Total outcomes when two dice are rolled  $= 6 \times 6 = 36$ .

Favourable outcomes (sum = 9):

$(3, 6), (4, 5), (5, 4), (6, 3) \Rightarrow 4$  outcomes

$$P(\text{sum} = 9) = \frac{4}{36} = \frac{1}{9}$$

**Answer: (A)**

**Q17.**

**Solution**

**Topic: Algebra – Sum of AP**

First term  $a = 7$ , common difference  $d = 3$ , number of terms  $n = 20$ .

$$S_n = \frac{n}{2} [2a + (n - 1)d]$$

$$S_{20} = \frac{20}{2} [2(7) + (20 - 1)(3)] = 10 [14 + 57] = 10 \times 71 = \mathbf{710}$$

**Answer: (B)**

**Q18.**

**Solution**

**Topic: Geometry – Similar Triangles**



Since  $\triangle ABC \sim \triangle PQR$ , corresponding sides are proportional:

$$\frac{AB}{PQ} = \frac{BC}{QR}$$

$$\frac{6}{9} = \frac{8}{QR} \implies QR = \frac{8 \times 9}{6} = \frac{72}{6} = 12 \text{ cm}$$

$$\text{Scale factor} = \frac{PQ}{AB} = \frac{9}{6} = \frac{3}{2}.$$

All sides of  $\triangle PQR$  are  $\frac{3}{2}$  times the corresponding sides of  $\triangle ABC$ .

$$QR = \frac{3}{2} \times 8 = 12 \text{ cm. } \checkmark$$

**Answer: (C)**

**Q19.**

### Solution

**Topic: Number System – Unit Digit of Large Powers**

**Unit digit of  $7^{84}$ :**

Powers of 7 have a cyclical unit digit with period 4:  $7^1 \rightarrow 7$ ,  $7^2 \rightarrow 9$ ,  $7^3 \rightarrow 3$ ,  $7^4 \rightarrow 1$ ,  $7^5 \rightarrow 7, \dots$

$$84 = 4 \times 21, \text{ so } 84 \equiv 0 \pmod{4}.$$

$$\text{Unit digit of } 7^{84} = \text{unit digit of } 7^4 = 1.$$

**Unit digit of  $3^{71}$ :**

Powers of 3 have a cyclical unit digit with period 4:  $3^1 \rightarrow 3$ ,  $3^2 \rightarrow 9$ ,  $3^3 \rightarrow 7$ ,  $3^4 \rightarrow 1$ ,  $3^5 \rightarrow 3, \dots$

$$71 = 4 \times 17 + 3, \text{ so } 71 \equiv 3 \pmod{4}.$$

$$\text{Unit digit of } 3^{71} = \text{unit digit of } 3^3 = 27, \text{ which gives unit digit } 7.$$

**Final sum:**

$$\text{Unit digit of } (7^{84} + 3^{71}) = (1 + 7) = 8$$

$$\text{Option (D)} = 8. \checkmark$$

**Answer: (D)**



**Solution****Topic: Modern Mathematics – Combinations with Constraints**Total ways to choose 4 from 9 people ( $5M + 4W$ ):

$$\binom{9}{4} = \frac{9 \times 8 \times 7 \times 6}{4!} = \frac{3024}{24} = 126$$

Committees with **all men** (no women):

$$\binom{5}{4} = 5$$

Committees with **all women** (no men):

$$\binom{4}{4} = 1$$

Committees with **at least one man AND at least one woman**:

$$126 - 5 - 1 = 120$$

**Verification by cases:**

|             | Men | Women | Ways                        | Count                |
|-------------|-----|-------|-----------------------------|----------------------|
| <b>Q20.</b> | 1   | 3     | $\binom{5}{1} \binom{4}{3}$ | $5 \times 4 = 20$    |
|             | 2   | 2     | $\binom{5}{2} \binom{4}{2}$ | $10 \times 6 = 60$   |
|             | 3   | 1     | $\binom{5}{3} \binom{4}{1}$ | $10 \times 4 = 40$   |
|             |     |       | <b>Total</b>                | $20 + 60 + 40 = 120$ |

**Answer: (A)****Q21.****Solution****Topic: Arithmetic – Ratio & Proportion / Mixture by Alligation**Solution  $P$  has 40% alcohol and Solution  $Q$  has 75% alcohol. Desired mixture: 61% alcohol.**Rule of Alligation:**

$$P : Q = (\text{conc. of } Q - \text{desired}) : (\text{desired} - \text{conc. of } P)$$

$$P : Q = (75 - 61) : (61 - 40) = 14 : 21 = 2 : 3$$



**Verification:** In a mixture of 2 parts  $P$  and 3 parts  $Q$  (total 5 parts):

$$\text{Alcohol} = \frac{2 \times 40 + 3 \times 75}{5} = \frac{80 + 225}{5} = \frac{305}{5} = 61\% \checkmark$$

**Answer: (B)**

**Q22.**

### Solution

**Topic: Number System – LCM with Remainder**

We need the smallest positive integer  $N$  such that:

$$N \equiv 3 \pmod{6}, \quad N \equiv 3 \pmod{7}, \quad N \equiv 3 \pmod{8}$$

This means  $(N - 3)$  is divisible by 6, 7, and 8.

LCM(6, 7, 8) :

$$6 = 2 \times 3, \quad 7 = 7, \quad 8 = 2^3$$

$$\text{LCM} = 2^3 \times 3 \times 7 = 168$$

Smallest  $N = 168 + 3 = 171$ .

**Verification:**  $171 \div 6 = 28$  remainder 3  $\checkmark$ ;  $171 \div 7 = 24$  remainder 3  $\checkmark$ ;  $171 \div 8 = 21$  remainder 3  $\checkmark$ .

**Answer: (C)**

**Q23.**

### Solution

**Topic: Algebra – Geometric Progression (Number of Terms)**

In a GP: first term  $a = 3$ , last term  $l = 192$ , common ratio  $r = 2$ .

The  $n$ -th term of a GP:  $a_n = a \cdot r^{n-1}$ .

$$192 = 3 \cdot 2^{n-1} \implies 2^{n-1} = \frac{192}{3} = 64 = 2^6$$

$$n - 1 = 6 \implies n = 7$$

**Verification:** Terms are 3, 6, 12, 24, 48, 96, 192 — indeed 7 terms.  $\checkmark$



**Answer: (D)**

**Q24.**

**Solution**

**Topic: Geometry – Coordinate Geometry (Equation of a Line)**

Points:  $A(2, 3)$  and  $B(5, 9)$ .

**Slope:**

$$m = \frac{9 - 3}{5 - 2} = \frac{6}{3} = 2$$

**Equation** using point-slope form with  $A(2, 3)$ :

$$y - 3 = 2(x - 2) \implies y - 3 = 2x - 4 \implies 2x - y - 1 = 0$$

**Verification with  $B(5, 9)$ :**  $2(5) - 9 - 1 = 10 - 10 = 0$ . ✓

The equation of the line is  $2x - y - 1 = 0$ .

**Answer: (A)**

**Q25.**

**Solution**

**Topic: Modern Mathematics – Probability of Independent Events**

Given:  $P(A) = \frac{1}{3}$ ,  $P(B) = \frac{1}{4}$ ,  $A$  and  $B$  are independent.

Using the addition rule:

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

Since  $A$  and  $B$  are independent:

$$P(A \cap B) = P(A) \times P(B) = \frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$$

$$P(A \cup B) = \frac{1}{3} + \frac{1}{4} - \frac{1}{12} = \frac{4}{12} + \frac{3}{12} - \frac{1}{12} = \frac{6}{12} = \frac{1}{2}$$

**Answer: (B)**



## Answer Key

### IIFT Quantitative Ability – Sample Paper 9

| Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans |
|----|-----|----|-----|----|-----|----|-----|----|-----|
| 1  | B   | 2  | C   | 3  | D   | 4  | A   | 5  | B   |
| 6  | C   | 7  | D   | 8  | A   | 9  | B   | 10 | C   |
| 11 | D   | 12 | A   | 13 | B   | 14 | C   | 15 | D   |
| 16 | A   | 17 | B   | 18 | C   | 19 | D   | 20 | A   |
| 21 | B   | 22 | C   | 23 | D   | 24 | A   | 25 | B   |

| Option A                   | Option B                       | Option C                   | Option D                   |
|----------------------------|--------------------------------|----------------------------|----------------------------|
| Q4, Q8, Q12, Q16, Q20, Q24 | Q1, Q5, Q9, Q13, Q17, Q21, Q25 | Q2, Q6, Q10, Q14, Q18, Q22 | Q3, Q7, Q11, Q15, Q19, Q23 |
| 6 questions                | 7 questions                    | 6 questions                | 6 questions                |

**Answer Balance:** A = 6, B = 7, C = 6, D = 6 (Total = 25)

**Marking Scheme:** Correct: +3 marks | Incorrect: –1 mark | Unattempted: 0 marks

**Maximum Score:**  $25 \times 3 = 75$  marks    **Duration:** 28 minutes

