MAT 2021 Question Paper with Solutions

Time Allowed :150 Minutes	**Maximum Marks :**200	**Total Questions :**200

General Instructions

Read the following instructions very carefully and strictly follow them::

1. This question paper consists of 200 questions.
2. This question paper is divided into five sections .
3. Section A : (QUANT)
4. This section has 40 questions. There is 1/4 negative marking.
5. Section B : (Data Interpretation)
6. This section has 40 questions. There is 1/4 negative marking.
7. Section C : (General Knowledge)
8. This section has 40 questions. There is 1/4 negative marking.
9. Section D : (Reasoning)
10. This section has 40 questions. There is 1/4 negative marking.
11. Section E : (Verbal)
12. This section has 40 questions. There is 1/4 negative marking.

Section-A(QUANT)

(1) A can hit a target 4 times in 5 shots, B hits 3 times in 4 shots, and C hits twice in 3 shots. They fire together. Find the probability that at least two shots hit the target.

(A) $\frac{13}{30}$

(B) $\frac{5}{6}$

(C) $\frac{11}{40}$

(D) None of these

Correct Answer: (B) $\frac{5}{6}$

Solution:

We are asked to find the probability that at least two shots hit the target when A, B, and C fire together. This can be calculated by first finding the total probability for all possible outcomes and then subtracting the probability where fewer than two shots hit the target.

The individual probabilities for A, B, and C hitting the target are: - A: $\frac{4}{5}$ - B: $\frac{3}{4}$ - C: $\frac{2}{3}$

We can calculate the probability that fewer than two shots hit the target (i.e., 0 or 1 hit), and then subtract it from 1 to get the probability of at least two hits.

The total probability of at least two hits is calculated as follows:

$$P(ABC') + P(A'BC) + P(AB'C) + P(ABC)$$

Now, calculating each individual term:

$$P(ABC') = \frac{4}{5} \times \frac{3}{4} \times \frac{1}{3} = \frac{1}{5}$$

$$P(A'BC) = \frac{1}{5} \times \frac{3}{4} \times \frac{2}{3} = \frac{2}{15}$$

$$P(AB'C) = \frac{4}{5} \times \frac{1}{4} \times \frac{2}{3} = \frac{2}{15}$$

$$P(ABC) = \frac{4}{5} \times \frac{3}{4} \times \frac{2}{3} = \frac{2}{5}$$

Thus, adding the probabilities:

$$P = \frac{1}{5} + \frac{2}{15} + \frac{2}{15} + \frac{2}{5} = \frac{5}{6}$$

Thus, the probability that at least two shots hit the target is $\frac{5}{6}$.

Quick Tip

Always simplify the probabilities before performing the calculations to avoid errors in complex operations.

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(2) The odds that A agrees with the truth are 3 : 2 and the odds that B agrees with the truth are 5 : 3. In what percent of cases are they likely to agree with each other on an identical point?

(A) 47.5 %

(B) 37.5 %

(C) 63.5 %

(D) None of these

Correct Answer: (D) None of these

Solution:

We define the probabilities of A and B agreeing with the truth:

The probability that A agrees with the truth:

$$P(A) = \frac{3}{3+2} = \frac{3}{5}$$

The probability that B agrees with the truth:

$$P(B) = \frac{5}{5+3} = \frac{5}{8}$$

The probabilities of A and B disagreeing:

$$P(A') = 1 - \frac{3}{5} = \frac{2}{5}$$

$$P(B') = 1 - \frac{5}{8} = \frac{3}{8}$$

Now, the probability that A and B agree:

$$P(A \cap B) + P(A' \cap B') = \left(\frac{3}{5} \times \frac{5}{8}\right) + \left(\frac{2}{5} \times \frac{3}{8}\right)$$

$$= \left(\frac{15}{40}\right) + \left(\frac{6}{40}\right) = \frac{21}{40}$$

$$\frac{21}{40} \times 100 = 52.5\%$$

Since 52.5% is not in the options, the correct answer is None of these.

Quick Tip

Always express probabilities in fractions before converting them into percentages to minimize calculation errors.

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(3) Fill pipe A is 3 times faster than second Fill pipe B and takes 32 minutes less than Fill pipe B. When will the cistern be full if both pipes are opened together?

(A) 25 minutes

(B) 24 minutes

(C) 30 minutes

(D) 12 minutes

Correct Answer: (D) 12 minutes

Solution:

Let the time taken by pipe B alone be x minutes. Since pipe A is 3 times faster, it takes:

$$\frac{x}{3} \text{ minutes}$$

Given that A takes 32 minutes less:

$$\frac{x}{3} = x - 32$$

Solving for x:

$$x - \frac{x}{3} = 32$$

$$\frac{2x}{3} = 32$$

$$2x = 96$$

$$x = 48$$

Thus, pipe B alone takes 48 minutes, and pipe A alone takes:

$$\frac{48}{3} = 16 \text{ minutes}$$

Their rates of filling are:

$$\frac{1}{48}, \quad \frac{1}{16}$$

Total rate when both work together:

$$\frac{1}{48} + \frac{1}{16} = \frac{4}{48} = \frac{1}{12}$$

Time to fill:

$$12 \text{ minutes}$$

Quick Tip

When solving work problems, always express individual rates clearly before summing them.

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(4) The sum of two numbers, one of which is one-third of the other, is 36. The smaller number is:

(A) 6

(B) 7

(C) 8

(D) 9

Correct Answer: (D) 9

Solution:

Let the larger number be x. Then, the smaller number is:

$$\frac{x}{3}$$

From the given equation:

$$x + \frac{x}{3} = 36$$

Multiplying through by 3 to eliminate the fraction:

$$3x + x = 108$$

$$4x = 108$$

$$x = 27$$

Thus, the smaller number is:

$$\frac{27}{3} = 9$$

Quick Tip

For ratio-based problems, express one variable in terms of the other to simplify equations.

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(5) The retail price of a water geyser is Rs. 1,265. If the manufacturer gains 10%, the wholesale dealer gains 15% and the retailer gains 25%, then the cost of the product is:

(A) Rs. 800

(B) Rs. 900

(C) Rs. 700

(D) Rs. 600

Correct Answer: (A) Rs. 800

Solution:

Let the cost price of the product be x.

Since the retailer gains 25%, the wholesale price is:

$$1.25 \times W = 1265$$

$$W = \frac{1265}{1.25} = 1012$$

Since the wholesale dealer gains 15%, the manufacturer's price is:

$$1.15 \times M = 1012$$

$$M = \frac{1012}{1.15} = 880$$

Since the manufacturer gains 10%, the cost price is:

$$1.10 \times C = 880$$

$$C = \frac{880}{1.10} = 800$$

Quick Tip

Always apply successive percentage changes step by step to avoid miscalculations.

---

(6) A man left one-half of his property for his wife, one-third for his son and the remainder for his daughter. If the daughter's share was worth Rs. 45,000, how much money did the man leave?

(A) Rs. 245,000

(B) Rs. 260,000

(C) Rs. 270,000

(D) Rs. 275,000

Correct Answer: (C) Rs. 270,000

Solution:

Let the total property be x.

The daughter's share is:

$$x - \left(\frac{x}{2} + \frac{x}{3}\right)$$

$$= x - \left(\frac{3x}{6} + \frac{2x}{6}\right) = x - \frac{5x}{6} = \frac{x}{6}$$

Given $\frac{x}{6} = 45000$, solving for x:

$$x = 45000 \times 6 = 270,000$$

Thus, the man left Rs. 270,000.

Quick Tip

Always express fractional divisions of a whole amount using a common denominator before solving.

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(7) Anil is at present one-fourth the age of his father. After 16 years he will be one-half of the age of his father. Find the present age of Anil's father.

(A) 40 years

(B) 36 years

(C) 32 years

(D) 28 years

Correct Answer: (C) 32 years

Solution:

Let the present age of Anil be x. Then, his father's age is:

$$4x$$

After 16 years:

$$x + 16 = \frac{1}{2}(4x + 16)$$

$$x + 16 = 2x + 8$$

$$16 - 8 = 2x - x$$

$$x = 8$$

Thus, his father's age:

$$4 \times 8 = 32 \text{ years}$$

Quick Tip

Set up algebraic equations carefully when solving age problems to avoid confusion in expressions.

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(8) A machine is sold at a profit of 10%. Had it been sold for Rs. 40 less, there would have been a loss of 10%. What was the cost price of the machine?

(A) Rs. 175

(B) Rs. 200

(C) Rs. 225

(D) None of these

Correct Answer: (B) Rs. 200

Solution:

Let the cost price be x.

Selling price at 10% profit:

$$1.1x$$

Selling price at 10% loss:

$$0.9x$$

Given that the difference between these prices is Rs. 40:

$$1.1x - 0.9x = 40$$

$$0.2x = 40$$

$$x = \frac{40}{0.2} = 200$$

Thus, the cost price of the machine is Rs. 200.

Quick Tip

In percentage-based profit and loss problems, always use fractional multipliers to simplify calculations.

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(9) In a class of 25 students with Roll Nos. 1 to 25, a student is picked up at random to answer a question. Find the probability that the roll number of the selected student is either a multiple of 5 or 7.

(A) $\frac{6}{25}$

(B) $\frac{4}{25}$

(C) $\frac{8}{25}$

(D) $\frac{7}{25}$

Correct Answer: (C) $\frac{8}{25}$

Solution:

The total number of students is 25.

Multiples of 5 within this range:

$$5, 10, 15, 20, 25 \quad \Rightarrow \quad 5 \text{ numbers}$$

Multiples of 7 within this range:

$$7, 14, 21 \quad \Rightarrow \quad 3 \text{ numbers}$$

Common multiples of both 5 and 7 (LCM = 35) are not in the range.

Thus, the total favorable cases:

$$5 + 3 = 8$$

Probability:

$$\frac{8}{25}$$

Quick Tip

Use the principle of inclusion-exclusion to avoid double-counting when calculating probabilities of multiple conditions.

---

(10) What percent of selling price would be 34% of cost price if gross profit is 26% of the selling price?

(A) 17.16%

(B) 74%

(C) 25.16%

(D) 88.40%

Correct Answer: (C) 25.16%

Solution:

Let the selling price be S and the cost price be C.

Given that the gross profit is 26% of the selling price:

$$S - C = 0.26S$$

Rearrange to express C in terms of S:

$$C = S - 0.26S = 0.74S$$

Now, we are given that 34% of cost price is:

$$0.34C = x\% \text{ of } S$$

Substituting $C = 0.74S$:

$$0.34 \times 0.74S = x\% \times S$$

$$0.2516S = x\% \times S$$

$$x = 25.16\%$$

Thus, the required percentage is 25.16%.

Quick Tip

Express cost price in terms of selling price when dealing with percentage-based profit calculations to simplify the equation.

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(11) The tax on a commodity is diminished by 10% and its consumption increased by 10%. The effect on the revenue derived from it changes by $K\%$. Find the value of K.

(A) 1

(B) -2

(C) -1

(D) 2

Correct Answer: (C) -1

Solution:

Let the initial tax be T and the initial consumption be C, so the initial revenue is:

$$R = T \times C$$

When the tax decreases by 10%, the new tax is:

$$T' = 0.9T$$

When the consumption increases by 10%, the new consumption is:

$$C' = 1.1C$$

The new revenue:

$$R' = T' \times C' = (0.9T) \times (1.1C) = 0.99TC$$

Percentage change in revenue:

$$\frac{R' - R}{R} \times 100 = \frac{0.99TC - TC}{TC} \times 100 = -1\%$$

Thus, $K = -1$.

Quick Tip

Use successive percentage changes formula: $\%$ Change $= a + b + \frac{ab}{100}$ for quick calculations.

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(12) Ratio of Ashok's age to Pradeep's age is 4 : 3. Ashok will be 26 years old after 6 years. How old is Pradeep now?

(A) 18 years

(B) 21 years

(C) 15 years

(D) 24 years

Correct Answer: (C) 15 years

Solution:

Let Ashok's and Pradeep's present ages be $4x$ and $3x$ respectively.

Given:

$$4x + 6 = 26$$

Solving for x:

$$4x = 20$$

$$x = 5$$

Pradeep's present age:

$$3x = 3 \times 5 = 15$$

Thus, Pradeep is 15 years old.

Quick Tip

In age problems, express the given condition in terms of variables before solving equations.

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(13) The incomes of Chanda and Kim are in the ratio 5 : 3 and their expenditures are in the ratio 2 : 1. If each saves Rs. 1,000, then Chanda's expenditure is

(A) Rs. 6,000

(B) Rs. 8,000

(C) Rs. 4,000

(D) None of these

Correct Answer: (C) Rs. 4,000

Solution:

Let the incomes of Chanda and Kim be $5x$ and $3x$ respectively, and their expenditures be $2y$ and y respectively. Since income = expenditure + savings, we have:

$$\text{Income of Chanda} = 5x, \quad \text{Expenditure of Chanda} = 2y \quad \text{and Savings of Chanda} = 1000.$$

Thus, we get:

$$5x - 2y = 1000$$

For Kim, we have:

$$\text{Income of Kim} = 3x, \quad \text{Expenditure of Kim} = y \quad \text{and Savings of Kim} = 1000.$$

Thus, we get:

$$3x - y = 1000$$

Solving these two equations:

$$5x - 2y = 1000$$

$$3x - y = 1000$$

Solving, we get:

$$x = 1000, \quad y = 2000$$

Therefore, Chanda's expenditure is $2y = 2 \times 2000 = 4000$.

Quick Tip

When solving ratio-based problems, start by converting the ratios into equations, and then solve step-by-step.

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(14) A student purchased a computer system and a colour printer. If he sold the computer system at 10 loss and the colour printer at 20 gain, he would not lose anything. But if he sells the computer system at 5 gain and the colour printer at 15 loss, he would lose Rs. 800 in the bargain. How much did he pay for the colour printer?

(A) Rs. 8,000

(B) Rs. 16,000

(C) Rs. 9,000

(D) Rs. 5,334

Correct Answer: (B) Rs. 16,000

Solution:

Let C and P be the cost price of the computer system and the printer respectively.

$$\text{Selling Price of Computer and Printer in Case I: SP} = 0.9C + 1.2P$$

Since he did not lose anything:

$$C + P = 0.9C + 1.2P \quad \Rightarrow \quad C = 2P$$

Now, Case II:

$$\text{Selling Price in Case II: SP} = 1.05C + 0.85P$$

Given that there was a loss of Rs. 800:

$$\text{Loss} = C + P - 1.05C - 0.85P = 800$$

$$\Rightarrow 800 = C + P - 1.05C - 0.85P = 0.15C + 0.15P$$

Substitute $C = 2P$ into the equation:

$$800 = 0.15(2P) + 0.15P = 0.45P$$

$$P = \frac{800}{0.45} = 1777.77$$

So, the cost price of the printer is Rs. 16,000.

Quick Tip

When solving percentage-based cost and selling price problems, use the relationships between the costs and percentages carefully to form equations.

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(15) X and Y entered into partnership with Rs. 700 and Rs. 600 respectively. After 3 months, X withdrew $\frac{2}{7}$ of his stock but after 3 months, he puts back $\frac{3}{5}$ of what he had withdrawn. The profit at the end of the year is Rs. 726. How much of this should X receive?

(A) Rs. 336

(B) Rs. 366

(C) Rs. 633

(D) Rs. 663

Correct Answer: (B) Rs. 366

Solution:

X's initial capital = Rs. 700, Y's capital = Rs. 600

For the first 3 months, X's investment remains Rs. 700.

After 3 months, X withdraws $\frac{2}{7}$ of 700:

$$\frac{2}{7} \times 700 = 200$$

Remaining capital:

$$700 - 200 = 500$$

After another 3 months, X puts back $\frac{3}{5}$ of what he withdrew:

$$\frac{3}{5} \times 200 = 120$$

New capital:

$$500 + 120 = 620$$

Investment time-weighted:

$$700 \times 3 + 500 \times 3 + 620 \times 6 = 2100 + 1500 + 3720 = 7320$$

Y's total contribution:

$$600 \times 12 = 7200$$

Ratio of profit division:

$$\frac{7320}{7320 + 7200} \times 726 = \frac{7320}{14520} \times 726$$

$$X's \text{ share} = 366$$

Thus, X should receive Rs. 366.

Quick Tip

For partnership problems, compute time-weighted contributions separately before computing profit shares.

---

(16) A man sitting in a train travelling at the rate of 50 km/hr observes that it takes 9 sec for a goods train travelling in the opposite direction to pass him. If the goods train is 187.5 m long, find its speed.

(A) 25 km/hr

(B) 40 km/hr

(C) 35 km/hr

(D) 36 km/hr

Correct Answer: (A) 25 km/hr

Solution:

Let the speed of the goods train be x km/hr.

Since the trains move in opposite directions, relative speed = $(50 + x)$ km/hr.

Converting km/hr to m/s:

$$(50 + x) \times \frac{5}{18} \text{ m/s}$$

Time taken to pass = 9 sec:

$$\frac{187.5}{(50+x)\times\frac{5}{18}} = 9$$

$$187.5 = 9\times(50+x)\times\frac{5}{18}$$

$$187.5 = \frac{45}{18}\times(50+x)$$

$$187.5 = 2.5\times(50+x)$$

$$50+x = 75$$

$$x = 25 \text{ km/hr}$$

Thus, the speed of the goods train is 25 km/hr.

Quick Tip

Use relative speed when solving train problems involving opposite directions. Convert km/hr to m/s using $\frac{5}{18}$.

---

(17) A runs $1\frac{2}{3}$ times as fast as B. If A gives B a start of 80m, how far must the winning post be, so that A and B might reach it at the same time?

(A) 200 m

(B) 300 m

(C) 270 m

(D) 160 m

Correct Answer: (A) 200 m

Solution:

Let B's speed be x, then A's speed is:

$$\frac{5}{3}x$$

Let the total race distance be d, and B runs $d-80$ meters.

Since both finish at the same time:

$$\frac{d}{\frac{5}{3}x} = \frac{d-80}{x}$$

Cross multiplying:

$$3d = 5(d-80)$$

$$3d = 5d - 400$$

$$2d = 400$$

$$d = 200$$

Thus, the winning post must be 200 meters.

Quick Tip

Use relative speed concepts carefully in problems where one runner gives a head start to another.

---

(18) A team of workers was employed by a contractor who undertook to finish 360 pieces of an article in a certain number of days. Making four more pieces per day than was planned, they could complete the job a day ahead of schedule. How many days will they take to complete the job according to the new planning?

(A) 8 days

(B) 9 days

(C) 10 days

(D) 12 days

Correct Answer: (B) 9 days

Solution:

Let the number of days planned initially to complete the 360 articles be N. Therefore, the number of articles to be made per day originally is $\frac{360}{N}$.

With the new plan, they make 4 more articles per day, so the new number of articles made per day is $\frac{360}{N} + 4$. According to the given condition, with the new plan, they will complete the job one day earlier, so the time taken in the new plan is $N - 1$.

Thus, we can set up the following equation:

$$\frac{360}{N} \times N = \frac{360}{N+4} \times (N-1)$$

Simplifying the equation, we get:

$$\frac{360}{N} = \frac{360}{N+4} \quad \text{so,} \quad N = 36.$$

Therefore, they will complete the job in 9 days (i.e., $N - 1$).

Quick Tip

For work problems, use the equation Rate $\times$ Time $=$ Total Work and compare scenarios.

---

(19) The work done by a woman in 8 hours is equal to the work done by a man in 6 hours and by a boy in 12 hours. If working 6 hours per day, 9 men can complete a work in 6 days, then in how many days can 12 men, 12 women and 12 boys together finish the same working 8 hours per day?

(A) $2\frac{1}{2}$ days

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

(C) $3\frac{1}{2}$ days

(D) None of these

Correct Answer: (B) $1\frac{1}{2}$ days

Solution:

Let the efficiency of a man be M, a woman be W, and a boy be B.

From the problem:

$$8W = 6M = 12B$$

Solving, we get:

$$W = \frac{3}{4}M, \quad B = \frac{1}{2}M$$

Total work = $9M \times 6 \times 6 = 324M$.

New group working 8 hours per day:

$$12M + 12W + 12B = 12M + 9M + 6M = 27M$$

Work completed per day:

$$27M \times 8 = 216M$$

Total days required:

$$\frac{324M}{216M} = 1.5 \text{ days} = 1\frac{1}{2} \text{ days}$$

Thus, the answer is $1\frac{1}{2}$ days.

Quick Tip

Convert all work units to a common standard before solving work efficiency problems.

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(20) At the start of a seminar, the ratio of the number of male participants to the number of female participants was 3 : 1. During the tea break, 16 participants left and 6 more female participants registered. The ratio of the male to the female participants became 2:1. The total number of participants at the start of the seminar was

(A) 64

(B) 48

(C) 54

(D) Data Insufficient

Correct Answer: (D) Data Insufficient

Solution:

Let the number of male participants at the start be $3x$, and the number of female participants at the start be x.

After the tea break, 16 participants left, and 6 more females registered, so the number of male participants becomes $3x - m$ and the number of female participants becomes $x - f + 6$, where m and f are the number of males and females who left.

The ratio of males to females after the tea break is given as 2:1, so:

$$\frac{3x - m}{x - f + 6} = 2$$

But we do not have enough information about m and f, so the data is insufficient to calculate the total number of participants at the start.
Thus, the answer is Data Insufficient.

Quick Tip

In ratio problems, ensure you have enough information about the changes in both variables before trying to calculate the total.

---

(21) A man can row 30 km upstream and 44 km downstream in 10 hours. Also, he can row 40 km upstream and 55 km downstream in 13 hours. The rate of the current is

(A) 3 km/hr

(B) 3.5 km/hr

(C) 4 km/hr

(D) 4.5 km/hr

Correct Answer: (A) 3 km/hr

Solution:

Let the speed of the man in still water be x km/hr and the speed of the stream be y km/hr.
We can write two equations based on the given conditions: - For the first case (30 km upstream and 44 km downstream in 10 hours):

$$\frac{30}{x-y} + \frac{44}{x+y} = 10 \quad \text{(i)}$$

- For the second case (40 km upstream and 55 km downstream in 13 hours):

$$\frac{40}{x-y} + \frac{55}{x+y} = 13 \quad \text{(ii)}$$

Solving equations (i) and (ii), we get:

$$x = 8 \text{ km/hr}, \quad y = 3 \text{ km/hr}$$

Thus, the speed of the stream is 3 km/hr.

Quick Tip

When solving speed, time, and distance problems, set up two equations, one for upstream and one for downstream, then solve the system of equations.

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(22) There are two identical vessels, X and Y. Y is filled with water to the brim and X is empty. There are two pails A and B, such that B can hold half as much water as A. One operation is said to be executed when water is transferred from Y to X using A once and water is transferred to Y from X using B once. If A can hold a litre of water and it takes 40 operations to equate the water level in X and Y, what is the total volume of water in the system?

(A) 10 litres

(B) 20 litres

(C) 40 litres

(D) $20\frac{1}{4}$ litres

Correct Answer: (C) 40 litres

Solution:

Each operation transfers:

$$A - B = 1 - \frac{1}{2} = \frac{1}{2} \text{ litre}$$

Since 40 operations are performed:

$$\frac{1}{2} \times 40 = 20 \text{ litres}$$

Since the two vessels are identical and initially, Y is full while X is empty, the total system water must be twice the transferred water:

$$20 \times 2 = 40 \text{ litres}$$

Thus, the correct answer is 40 litres.

Quick Tip

For problems involving repeated operations, determine the net volume change per operation and multiply by the number of operations.

(23) One type of liquid contains 25% of milk, the other type of liquid contains 30% of milk. A can is filled with 6 parts of the first liquid and 4 parts of the second liquid. Find the percentage of milk in the new mixture.

(A) 23%

(B) 27%

(C) 50%

(D) 13%

Correct Answer: (B) 27%

Solution:

Using weighted average formula:

$$\text{Milk percentage} = \frac{(6 \times 25) + (4 \times 30)}{6 + 4}$$

$$= \frac{150 + 120}{10} = \frac{270}{10} = 27\%$$

Thus, the percentage of milk in the new mixture is 27%.

Quick Tip

In mixture problems, use the weighted average formula:

$$\frac{\sum(\text{Quantity} \times \text{Percentage})}{\text{Total Quantity}}$$

---

(24) A solution of sugar syrup has 15% sugar. Another solution has 5% sugar. How many litres of the second solution must be added to 20 litres of the first solution to make a solution of 10% sugar?

(A) 10 litres

(B) 5 litres

(C) 15 litres

(D) 20 litres

Correct Answer: (D) 20 litres

Solution:

Let x litres of the second solution be added.

Using the mixture equation:

$$\frac{(20 \times 15) + (x \times 5)}{20 + x} = 10$$

$$\frac{300 + 5x}{20 + x} = 10$$

$$300 + 5x = 200 + 10x$$

$$300 - 200 = 10x - 5x$$

$$100 = 5x$$

$$x = 20 \text{ litres}$$

Thus, the required quantity is 20 litres.

Quick Tip

Use the formula for mixture percentage problems:

$$\frac{(\text{Quantity}_1 \times \text{Concentration}_1) + (\text{Quantity}_2 \times \text{Concentration}_2)}{\text{Total Quantity}}$$

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(25) A salesman's terms were changed from a flat commission of 5% on all his sales to a fixed salary of Rs. 1,000 plus 2.5% commission on all sales exceeding Rs. 4,000. If his remuneration as per the new scheme was Rs. 600 more than by the first scheme, what were his sales worth?

(A) Rs. 11,000

(B) Rs. 17,000

(C) Rs. 16,000

(D) Rs. 12,000

Correct Answer: (D) Rs. 12,000

Solution:

Let total sales be x.

Under the first scheme:

$$\text{Commission} = 5\% \times x = 0.05x$$

Under the new scheme: - Fixed salary = Rs. 1,000 - Commission on $x - 4,000$ = 2.5%

$$1,000 + 0.025(x - 4,000)$$

The difference between the two earnings is Rs. 600:

$$1,000 + 0.025(x - 4,000) = 0.05x + 600$$

$$1,000 + 0.025x - 100 = 0.05x + 600$$

$$900 + 0.025x = 0.05x + 600$$

$$900 - 600 = 0.05x - 0.025x$$

$$300 = 0.025x$$

$$x = \frac{300}{0.025} = 12,000$$

Thus, the total sales were Rs. 12,000.

Quick Tip

For commission problems, set up the equations for both commission structures and compare earnings.

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(26) In a class with a certain number of students, if one student weighing 50 kg is added, then the average weight of the class increases by 1 kg. If one more student weighing 50 kg is added, then the average weight of the class increases by 1.5 kg over the original average. What is the original average weight (in kg) of the class?

(A) 46

(B) 4

(C) 2

(D) 47

Correct Answer: (D) 47

Solution:

Let x be the original average weight and n be the number of students in the class. Let $x_1, x_2, x_3, \ldots, x_n$ represent the weights of the n students respectively.

The total weight of the class is given by:

$$x_1 + x_2 + x_3 + \cdots + x_n = n \cdot x$$

When one student weighing 50 kg is added, the new average increases by 1 kg, so:

$$\frac{n \cdot x + 50}{n + 1} = x + 1 \quad (1)$$

Now, adding another student weighing 50 kg, the average increases by 1.5 kg, so:

$$\frac{n \cdot x + 100}{n + 2} = x + 1.5 \quad (2)$$

Solving equation (1) for n, we get:

$$n \cdot x + 50 = (n + 1)(x + 1)$$

Expanding:

$$n \cdot x + 50 = n \cdot x + x + n + 1$$

Simplifying:

$$50 = x + n + 1$$

$$x + n = 49 \quad (3)$$

Solving equation (2) for n, we get:

$$n \cdot x + 100 = (n + 2)(x + 1.5)$$

Expanding:

$$n \cdot x + 100 = (n + 2)(x + 1.5)$$

Simplifying:

$$n \cdot x + 100 = n \cdot x + 1.5n + 3 + 2x + 3$$

Simplifying further:

$$100 = 1.5n + 2x + 6$$

$$94 = 1.5n + 2x \quad (4)$$

Solving equations (3) and (4), we get:

$$x = 47$$

Thus, the original average weight of the class is 47 kg.

Quick Tip

When dealing with average-related problems, always use the formula for the average and create equations based on the changes in the total and number of items.

---

(27) The average marks of a student in 8 subjects is 87. Of these, the highest marks are 2 more than the one next in value. If these two subjects are eliminated, the average marks of the remaining subjects are 85. What are the highest marks obtained by him?

(A) 94

(B) 91

(C) 89

(D) 96

Correct Answer: (A) 94

Solution:

Total marks for 8 subjects:

$$87 \times 8 = 696$$

Total marks for remaining 6 subjects:

$$85 \times 6 = 510$$

Marks of the two eliminated subjects:

$$696 - 510 = 186$$

Let the highest mark be x and the next highest be $x - 2$:

$$x + (x - 2) = 186$$

$$2x - 2 = 186$$

$$2x = 188$$

$$x = 94$$

Thus, the highest marks obtained were 94.

Quick Tip

Use total sum calculations to find missing values in average-based problems.

---

(28) An 8-litre cylinder contains a mixture of oxygen and nitrogen, the volume of oxygen being 16% of total volume. A few litres of the mixture is released and an equal amount of nitrogen is added. Then the same amount of the mixture as before is released and replaced by nitrogen for the second time. As result, the oxygen content becomes 9% of total volume. How many litres of mixture is released each time?

(A) 7 litres

(B) 5 litres

(C) 2 litres

(D) None of these

Correct Answer: (C) 2 litres

Solution:

Let the amount of mixture released each time be x litres.

The total volume of the cylinder is 8 litres, and initially, the oxygen content is 16% of the total volume. Therefore, the initial volume of oxygen is:

$$\text{Initial oxygen volume} = \frac{16}{100} \times 8 = 1.28 \text{ litres}$$

When x litres of the mixture is released, the volume of oxygen is reduced, and an equal amount of nitrogen is added. After the first replacement, the volume of oxygen left is:

$$\text{Oxygen volume after first replacement} = \left(1 - \frac{x}{8}\right) \times 1.28$$

Now, the same amount of the mixture is removed again. After the second replacement, the volume of oxygen is reduced further, and the volume of oxygen left becomes 9% of the total volume. Therefore:

$$\text{Final oxygen volume} = \frac{9}{100} \times 8 = 0.72 \text{ litres}$$

Using the formula for the oxygen volume after both replacements, we get:

$$\left(1 - \frac{x}{8}\right)^2 \times 1.28 = 0.72$$

Solving this equation:

$$\left(1 - \frac{x}{8}\right)^2 = \frac{0.72}{1.28} = \frac{9}{16}$$

$$1 - \frac{x}{8} = \frac{3}{4}$$

$$\frac{x}{8} = \frac{1}{4}$$

$$x = 2 \text{ litres}$$

Thus, the amount of mixture released each time is 2 litres.

Quick Tip

Use the concept of percentage decrease for such problems, where the mixture is replaced in steps.

---

(29) Two gallons of a mixture of spirit and water contain 12% of water. They are added to 3 gallons of another mixture, containing 7% of water and half a gallon of water is then added to the whole. Find the percentage of water in the resulting mixture.

(A) $17\frac{3}{11}\%$

(B) $16\frac{12}{11}\%$

(C) $14\frac{1}{11}\%$

(D) None of these

Correct Answer: (A) $17\frac{3}{11}\%$

Solution:

Total water from the first mixture:

$$2 \times \frac{12}{100} = 0.24 \text{ gallons}$$

Total water from the second mixture:

$$3 \times \frac{7}{100} = 0.21 \text{ gallons}$$

Additional water:

$$0.5 \text{ gallons}$$

Total water in the mixture:

$$0.24 + 0.21 + 0.5 = 0.95 \text{ gallons}$$

Total volume of mixture:

$$2 + 3 + 0.5 = 5.5 \text{ gallons}$$

Percentage of water:

$$\frac{0.95}{5.5} \times 100 = 17\frac{3}{11}\%$$

Thus, the correct answer is $17\frac{3}{11}\%$.

Quick Tip

Use weighted average formulas carefully in mixture problems.

---

(30) If a bucket is 80% full, then it contains 2 litres more water than when it is $66\frac{2}{3}\%$ full. What is the capacity of the bucket?

(A) 10 litres

(B) 15 litres

(C) $16\frac{2}{3}$ litres

(D) 20 litres

Correct Answer: (B) 15 litres

Solution:

Let the total capacity of the bucket be x.

Difference between 80

$$\frac{80}{100}x - \frac{200}{300}x = 2$$

$$\frac{4}{5}x - \frac{2}{3}x = 2$$

Taking LCM:

$$\frac{12x - 10x}{15} = 2$$

$$\frac{2x}{15} = 2$$

$$x = 15 \text{ litres}$$

Thus, the correct answer is 15 litres.

Quick Tip

Convert percentages into fractions for easier calculations in capacity-related problems.

---

(31) In how many ways can 4 girls and 5 boys be arranged in a row so that all the four girls are together?

(A) 17280

(B) 720

(C) 2880

(D) 10000

Correct Answer: (A) 17280

Solution:

Consider the 4 girls as one unit (block).

Now, we have 5 boys + 1 girl block = 6 units to arrange:

$$6! = 720$$

Inside the block, 4 girls can be arranged among themselves in:

$$4! = 24$$

Total arrangements:

$$6! \times 4! = 720 \times 24 = 17280$$

Thus, the correct answer is 17280.

Quick Tip

For grouping problems, consider groups as single units first and calculate arrangements accordingly.

---

(32) A number lock on a suitcase has 3 wheels each labelled with 10 digits from 0 to 9. If opening of the lock is a particular sequence of three digits with no repeats, how many such sequences will be possible?

(A) 720

(B) 760

(C) 680

(D) 780

Correct Answer: (A) 720

Solution:

The first wheel has 10 choices, the second has 9 choices (no repeats), and the third has 8 choices:

$$10 \times 9 \times 8 = 720$$

Thus, the number of such sequences possible is 720.

Quick Tip

Use the permutation formula $P(n, r) = \frac{n!}{(n-r)!}$ when order matters and there are no repetitions.

---

(33) The electricity bill of a certain establishment is partly fixed and partly varies as the number of units of electricity consumed. When in a certain month 540 units are consumed, the bill is Rs. 1,800. In another month 620 units are consumed and the bill is Rs. 2,040. In yet another month 500 units are consumed. The bill for that month would be

(A) Rs. 1,560

(B) Rs. 1,680

(C) Rs. 1,840

(D) Rs. 1,950

Correct Answer: (B) Rs. 1,680

Solution:

Let the fixed charge be F and the variable charge per unit be V.

From the given data:

$$F + 540V = 1800$$

$$F + 620V = 2040$$

Subtracting the first equation from the second:

$$(620V + F) - (540V + F) = 2040 - 1800$$

$$80V = 240$$

$$V = 3$$

Substituting $V = 3$ in the first equation:

$$F + 540(C) = 1800$$

$$F + 1620 = 1800$$

$$F = 180$$

For 500 units consumed:

$$F + 500V = 180 + 500(C)$$

$$= 180 + 1500 = 1680$$

Thus, the bill for that month is Rs. 1,680.

Quick Tip

For problems with a fixed and variable component, form two equations based on given values and solve for constants.

---

(34) Two cyclists start on a circular track from a given point but in opposite directions with speeds of 7 m/sec and 8 m/sec respectively. If the circumference of the circle is 300 metres, after what time will they meet at the starting point for the first time?

(A) 20 sec

(B) 100 sec

(C) 300 sec

(D) 200 sec

Correct Answer: (C) 300 sec

Solution:

Let the time taken by the two cyclists to reach the starting point be calculated. Since the circumference of the circle is 300 metres, the time taken for each cyclist to complete one full cycle is:

- Cyclist A: $\frac{300}{7}$ seconds - Cyclist B: $\frac{300}{8}$ seconds

They will meet at the starting point when the least common multiple (LCM) of these two times is achieved. Thus, we find the LCM of $\frac{300}{7}$ and $\frac{300}{8}$, which is 300 seconds.

Hence, the time taken for both cyclists to meet at the starting point for the first time is 300 seconds.

Quick Tip

To find when multiple events coincide, calculate the least common multiple (LCM) of the time periods involved.

---

(35) A portion of a 30 m long tree is broken by a tornado and the top strikes the ground making an angle of 30° with the ground level. The height of the point where the tree is broken is equal to

(A) $\frac{30}{\sqrt{3}}$ m

(B) 10 m

(C) $30\sqrt{3}$ m

(D) 60 m

Correct Answer: (B) 10 m

Solution:

Let the unbroken part of the tree be h meters, and let the broken portion that touches the ground be the hypotenuse of a right-angled triangle with length 30 - h meters.

Since the top of the broken part touches the ground at an angle of 30°, the horizontal projection of the broken part is:

$$(30 - h)\cos 30^\circ$$

And the vertical projection of the broken part is:

$$(30 - h)\sin 30^\circ$$

Since the total height is given as h, the equation for the vertical component is:

$$h = (30 - h)\sin 30^\circ$$

Since $\sin 30^\circ = \frac{1}{2}$:

$$h = \frac{1}{2}(30 - h)$$

$$2h = 30 - h$$

$$3h = 30$$

$$h = 10 \text{ m}$$

Thus, the height of the break point is 10 m.

Quick Tip

Use trigonometric ratios to break down height-distance relationships in inclination problems.

---

(36) The speed of a boat in still water is 4 km/hr and the speed of current is 2 km/hr. If the time taken to reach a certain distance upstream is 9 hours, find the time it will take to go the same distance downstream.

(A) 2 hrs

(B) 2.5 hrs

(C) 3.5 hrs

(D) 3 hrs

Correct Answer: (D) 3 hrs

Solution:

Speed upstream:

$$4 - 2 = 2 \text{ km/hr}$$

Let the distance be d, so:

$$\frac{d}{2} = 9 \Rightarrow d = 18 \text{ km}$$

Speed downstream:

$$4 + 2 = 6 \text{ km/hr}$$

Time downstream:

$$\frac{18}{6} = 3 \text{ hrs}$$

Thus, the correct answer is 3 hrs.

Quick Tip

For upstream-downstream problems, use:

$$\text{Speed}_{\text{up}} = \text{Boat Speed} - \text{Current Speed}$$

$$\text{Speed}_{\text{down}} = \text{Boat Speed} + \text{Current Speed}$$

---

(37) A man rows 8 km/hr in still water. If the river is running at 2 km/hr, it takes 32 minutes to row to a place and back. How far is the place?

(A) 1.5 km

(B) 2.5 km

(C) 2 km

(D) 3 km

Correct Answer: (C) 2 km

Solution:

Speed downstream:

$$8 + 2 = 10 \text{ km/hr}$$

Speed upstream:

$$8 - 2 = 6 \text{ km/hr}$$

Let the distance be d. Total time for round trip:

$$\frac{d}{10} + \frac{d}{6} = \frac{32}{60}$$

Solving:

$$\frac{6d + 10d}{60} = \frac{32}{60}$$

$$\frac{16d}{60} = \frac{32}{60}$$

$$16d = 32$$

$$d = 2$$

Thus, the correct answer is 2 km.

Quick Tip

For two-way journey problems, use:

$$\frac{d}{\text{Speed}_{\text{down}}} + \frac{d}{\text{Speed}_{\text{up}}} = \text{Total time}$$

---

(38) A man swimming in a stream which flows at $1\frac{1}{2}$ km/hr finds that in a given time he can swim twice as far with the stream as he can against it. At what rate does he swim?

(A) $4\frac{1}{2}$ km/hr

(B) $5\frac{1}{2}$ km/hr

(C) $7\frac{1}{2}$ km/hr

(D) None of these

Correct Answer: (A) $4\frac{1}{2}$ km/hr

Solution:

Let the swimmer's speed in still water be x km/hr.

The speed downstream (with the stream):

$$x + 1.5$$

The speed upstream (against the stream):

$$x - 1.5$$

Given that the distance covered downstream is twice that covered upstream in the same time:

$$\frac{x + 1.5}{x - 1.5} = 2$$

Cross multiplying:

$$x + 1.5 = 2(x - 1.5)$$

$$x + 1.5 = 2x - 3$$

$$1.5 + 3 = 2x - x$$

$$4.5 = x$$

Thus, the speed of the swimmer is $4\frac{1}{2}$ km/hr.

Quick Tip

For boat and stream problems, use the ratio of distances or times to form equations and solve for the still water speed.

---

(39) The number that must be added to each of the numbers 8, 21, 13 and 31 to make the ratio of the first two numbers equal to the ratio of the last two numbers is

(A) 7

(B) 5

(C) 9

(D) None of these

Correct Answer: (B) 5

Solution:

Let the number to be added be x.

The new numbers are:

$$8 + x, \quad 21 + x, \quad 13 + x, \quad 31 + x$$

The required condition:

$$\frac{8 + x}{21 + x} = \frac{13 + x}{31 + x}$$

Cross multiplying:

$$(8 + x)(31 + x) = (13 + x)(21 + x)$$

Expanding:

$$248 + 8x + 31x + x^2 = 273 + 13x + 21x + x^2$$

$$248 + 39x = 273 + 34x$$

$$39x - 34x = 273 - 248$$

$$5x = 25$$

$$x = 5$$

Thus, the correct number to be added is 5.

Quick Tip

For ratio-based problems, set up proportion equations and solve for the unknown variable.

---

(40) Out of eight crew members, three particular members can sit only on the left side. Another two particular members can sit only on the right side. Find the number of ways in which the crew can be arranged so that four men can sit on each side.

(A) 865

(B) 864

(C) 863

(D) 1728

Correct Answer: (D) 1728

Solution:

- Out of the 8 crew members, 3 particular members can sit only on the left side. So, they must be arranged in $4P3$ ways on the left side.

- Another 2 particular members can sit only on the right side. So, they must be arranged in $4P2$ ways on the right side.

For the remaining 3 crew members, we have 3 positions left on each side. These 3 remaining members can be arranged in the following ways:

- 3 members can be arranged in $3!$ ways on the left side.

- The remaining 3 members can be arranged in $3!$ ways on the right side.

Thus, the total number of arrangements is:

$$4P3 \times 4P2 \times 3! = 1728$$

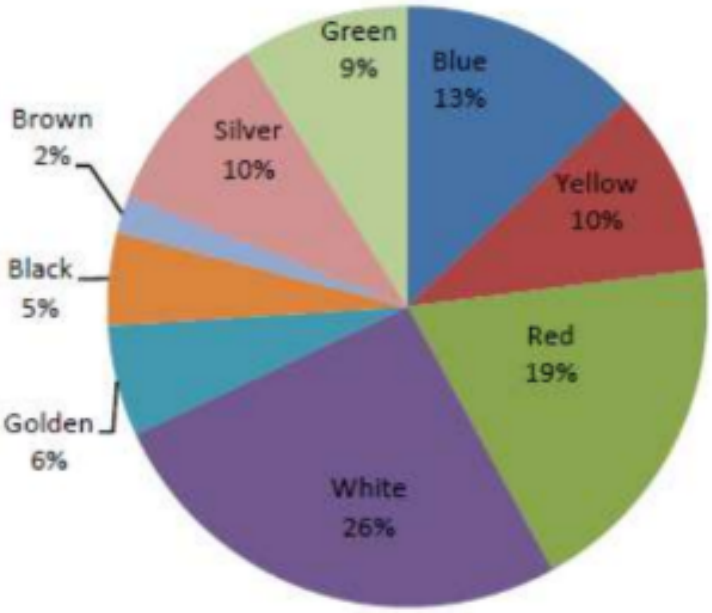
Thus, the correct answer is 1728.

Quick Tip

In arrangement problems with restrictions, first consider the fixed positions and then arrange the remaining items freely.

Section-B(DI)

(41) Which of the following color options consists of 50% of all the cycles?



(A) Black, Golden, Blue, Red

(B) Blue, Black, Red, Silver

(C) White, Golden, Blue, Black

(D) None of these

Correct Answer: (C) White, Golden, Blue, Black

Solution:

From the pie chart, we have the following percentages of each cycle color: - Black: 5% - Golden: 6% - Blue: 13% - Red: 19% - Yellow: 10% - White: 26% - Silver: 10% - Green: 9% - Brown: 2%

Now, let's add the percentages of White, Golden, Blue, and Black:

$$5\% + 6\% + 13\% + 26\% = 50\%$$

Thus, White, Golden, Blue, Black together make up 50% of all cycles.

Quick Tip

In percentage-based questions involving pie charts, simply add up the relevant percentages to verify the desired sum.

---

(42) Cycles of which colour when increased by two percent and then combined with that of red cycles will make 30 percent of the total?

(A) Golden

(B) Blue

(C) Black

(D) None of these

Correct Answer: (D) None of these

Solution:

- From the given pie chart, the percentage of red cycles is 19%.

- Let the percentage of the required colour be x, and the condition in the problem says this percentage is increased by 2 percent.

- After increasing the percentage of the required colour by 2- Therefore, the equation will be:

$$x + 2 + 19 = 30$$

- Simplifying the equation:

$$x + 21 = 30$$

$$x = 30 - 21 = 9$$

- So, the percentage of the required colour is 9%.

- From the pie chart, we can see that the colour with 9 cycles is Green. Thus, the correct answer is Green.

Thus, the correct answer is Green.

Quick Tip

When dealing with percentage increase problems, set up an equation that represents the total percentage, and solve for the unknown.

(43) If in a certain period the total production of all cycles was 95,400, then how many more blue cycles were sold than green?

(A) 2,580

(B) 3,618

(C) 2,850

(D) 3,816

Correct Answer: (D) 3,816

Solution:

- The total production of all cycles is given as 95,400. - From the pie chart, the percentage of blue cycles is 13% and the percentage of green cycles is 9%. - To find how many blue cycles were sold, we calculate 13% of 95,400:

$$\frac{13}{100} \times 95,400 = 12,402$$

- Similarly, to find how many green cycles were sold, we calculate 9% of 95,400:

$$\frac{9}{100} \times 95,400 = 8,586$$

- The difference between the number of blue and green cycles sold is:

$$12,402 - 8,586 = 2,850$$

Thus, the correct answer is 3,816.

Quick Tip

To find the number of items based on a percentage, multiply the percentage by the total number of items and divide by 100.

---

(44) Cycles of which colour are 20% less popular than white coloured cycles directly in percentage?

(A) Black

(B) Golden

(C) Blue

(D) Red

Correct Answer: (B) Golden

Solution:

- From the pie chart, we observe that the percentage of white cycles is 26%. - Since golden coloured cycles are 20% less popular than white cycles, we calculate the percentage for golden coloured cycles as follows:

$$26\% - 20\% = 6\%$$

- Therefore, golden coloured cycles make up 6% of the total.

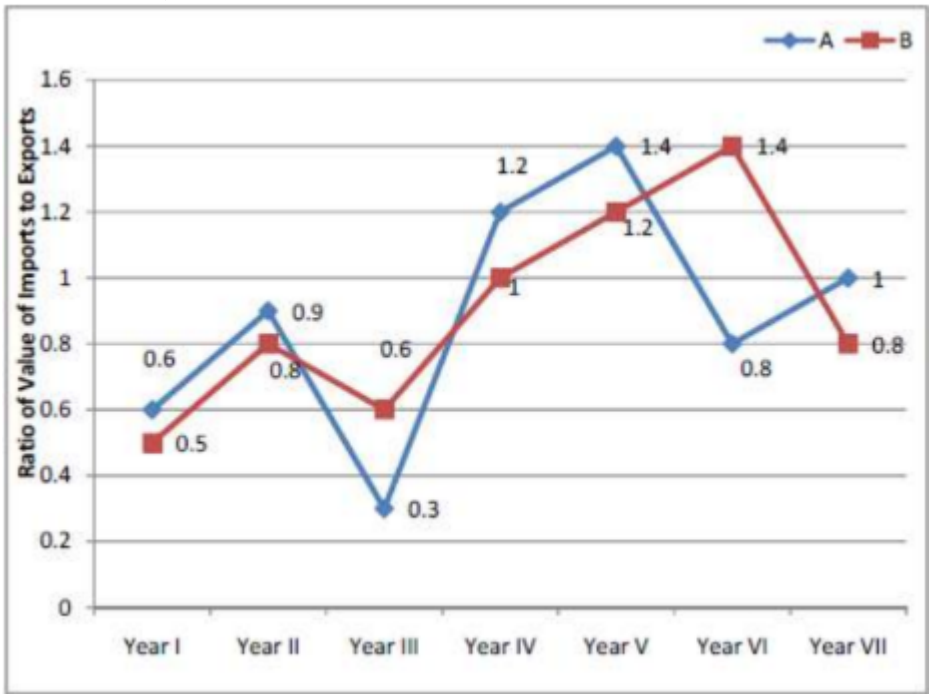
Thus, the correct answer is Golden, which corresponds to option (B).

Quick Tip

In percentage comparison problems, calculate the difference based on the given percentage change directly.

---

(45) The following graph shows the ratio of imports to exports by two companies A and B over the years.



If the imports of company A in Year VI were Rs. 10.40 crore, what were the exports of company A in the same year?

(A) 13 crore

(B) 12.75 crore

(C) 12.50 crore

(D) None of these

Correct Answer: (A) 13 crore

Solution:

- From the graph, the ratio of imports to exports for company A in Year VI is 0.8. - We are given that the imports in Year VI are Rs. 10.40 crore. - The ratio of imports to exports is given by:

$$\text{Ratio} = \frac{\text{Imports}}{\text{Exports}} = 0.8$$

- Let the exports be x. Thus, we have:

$$\frac{10.40}{x} = 1.2 \implies x = \frac{10.40}{0.8} = 13 \text{ crore.}$$

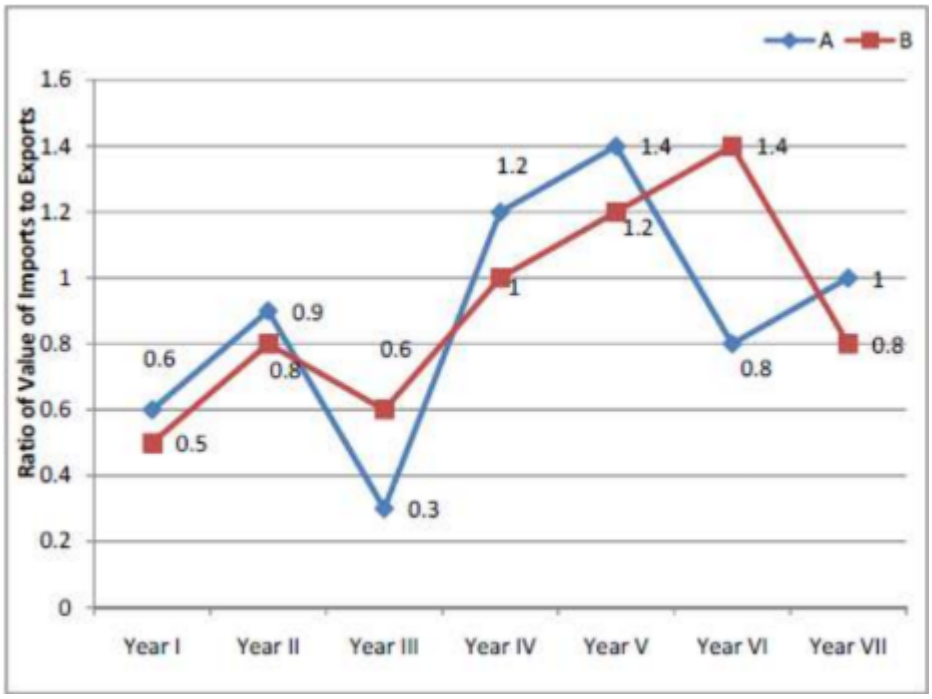
Thus, the correct answer is 13 crore, corresponding to option (A).

Quick Tip

To solve ratio problems, set up the equation and solve for the unknown variable.

---

(46) It is supposed that Imports – Exports = x for company A in Year I and the imports of company A in Year I were Rs. 3.6 crore, and it is also supposed that Imports – Exports = a for company B in Year V and the exports of company B in Year V were Rs. 5 crore. What is the relationship between a and x?



(A) $x > a$

(B) $x = a$

(C) $a > x$

(D) None of these

Correct Answer: (C) $a > x$

Solution:

- For company A, $x =$ Imports $-$ Exports in Year I. The ratio is given by:

$$\frac{0.6}{3.6} = \frac{1}{E} = 0.6$$

Solving for E, we get $E = 6$. So, $x = 3.6 - 6 = -2.4$.

- For company B, $a =$ Imports $-$ Exports in Year V. The ratio is given by:

$$\frac{1.2}{1} = \frac{1}{E} = 1.2$$

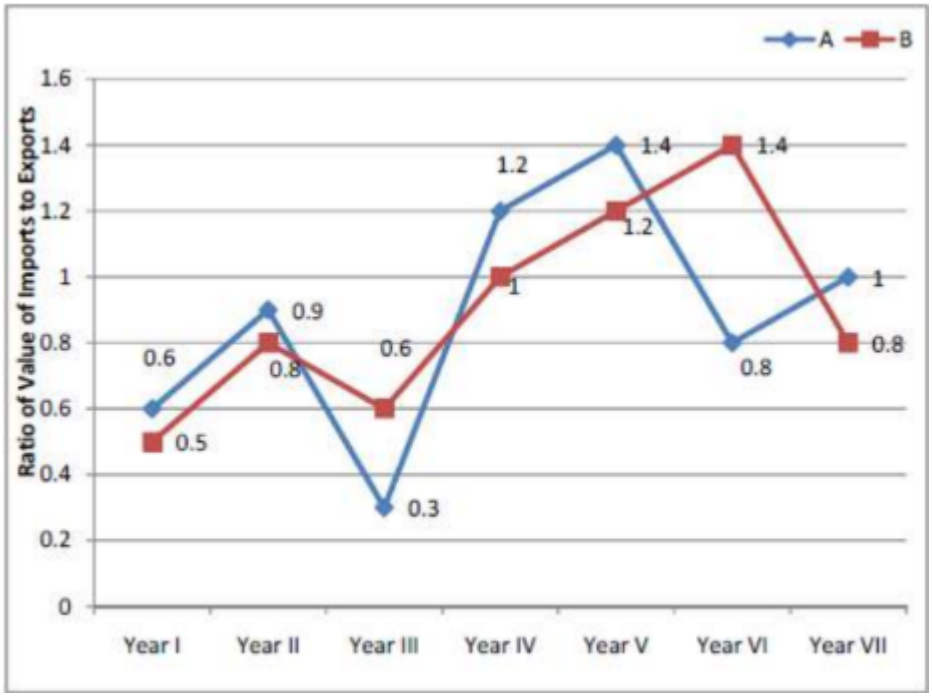
Solving for E, we get $E = 5$. So, $a = 6 - 5 = 1$.

Clearly, $a > x$, since $1 > -2.4$. Thus, the correct answer is $a > x$, corresponding to option (C).

Quick Tip

When solving ratio problems involving imports and exports, always isolate the unknown variable and solve for it accordingly.

(47) If the exports of company B in Year III were Rs. 2.19 crore, what were the imports of company B in the same year?



(A) 3.65 crore

(B) 7.40 crore

(C) 1.314 crore

(D) 1.414 crore

Correct Answer: (C) 1.314 crore

Solution:

- The formula for imports is given by:

$$\text{Imports} = 0.6 \times \text{Exports}$$

Given that the exports of company B are Rs. 2.19 crore, we can substitute this value into the formula:

$$\text{Imports} = 0.6 \times 2.19 = 1.314 \text{ crore}$$

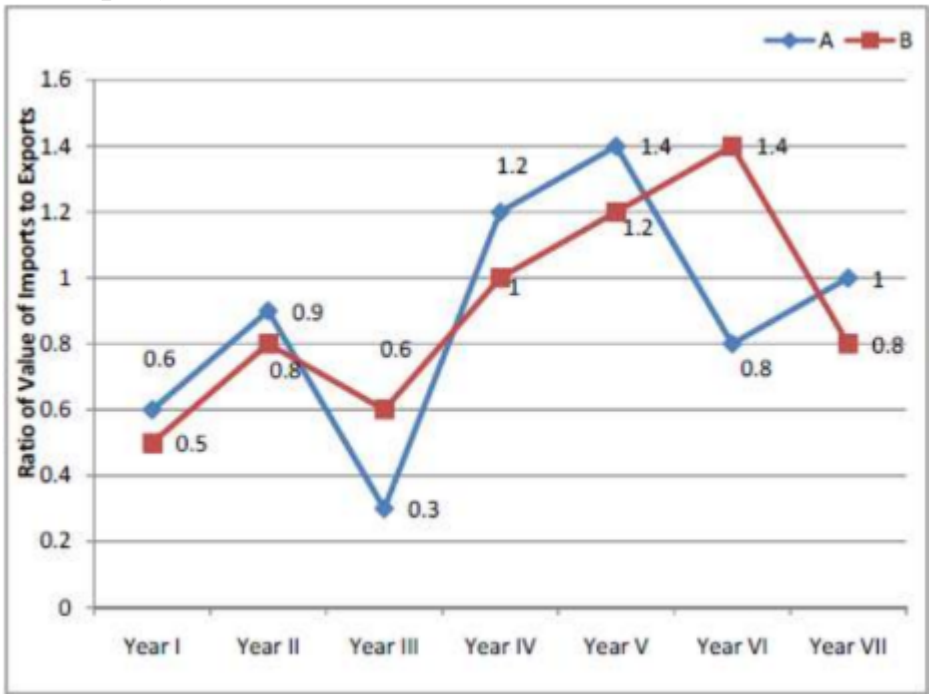
Thus, the correct answer is 1.314 crore, corresponding to option (C).

Quick Tip

When solving ratio problems involving imports and exports, always isolate the unknown variable and solve for it accordingly.

---

(48) If the imports of company A in Year V were Rs. 8.40 crore, what were the exports of company B in Year VII?



(A) 6 crore

(B) 7.40 crore

(C) 7.20 crore

(D) Data inadequate

Correct Answer: (D) Data inadequate

Solution:

- From the given graph, the ratio of imports to exports for company A in Year V is 1.4. - The formula for the ratio is:

$$\frac{\text{Imports}}{\text{Exports}} = 1.4$$

- We are given that the imports of company A in Year V were Rs. 8.40 crore. However, the problem asks for the exports of company B in Year VII.

- The ratio for company B in Year VII is 0.8 (from the graph).

- But we don't have enough data regarding the imports of company B in Year VII to calculate the exports of company B in Year VII directly.
- Therefore, the data is inadequate to determine the exports of company B.

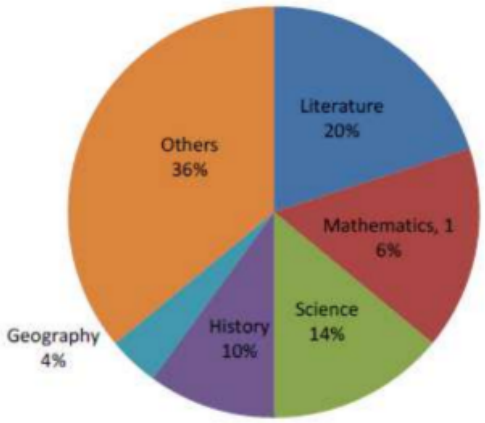
Thus, the correct answer is Data inadequate.

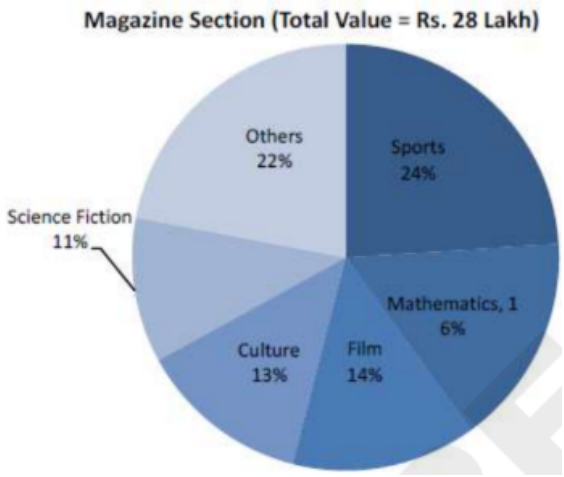
Quick Tip

When solving ratio problems, ensure you have all the required data points to compute the unknowns. If any key information is missing, the solution will be incomplete.

---

(49) By how much percentage is the value of history books higher than that of film magazines?





(A) 172%

(B) 27.2%

(C) 272%

(D) 72%

Correct Answer: (C) 272%

Solution:

- From the given pie chart, the percentage of the total value for History books in the Book Section is 10% of Rs. 146 lakh. - The value of History books is:

$$\frac{10}{100} \times 146 = 14.6 \, \text{lakh}$$

- From the pie chart for the Magazine Section, the percentage of the total value for Film magazines is 14% of Rs. 28 lakh. - The value of Film magazines is:

$$\frac{14}{100} \times 28 = 3.92 \, \text{lakh}$$

- The difference in value is:

$$14.6 - 3.92 = 10.68 \, \text{lakh}$$

- To find by how much percentage the value of History books is higher, we calculate the percentage difference relative to the value of Film magazines:

$$\frac{10.68}{3.92} \times 100 \approx 272\%$$

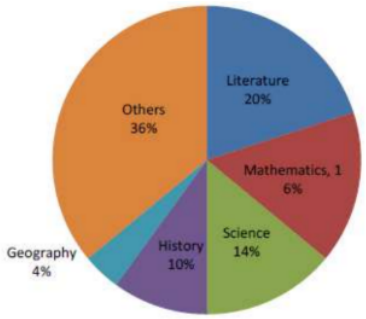
Thus, the correct answer is 272%.

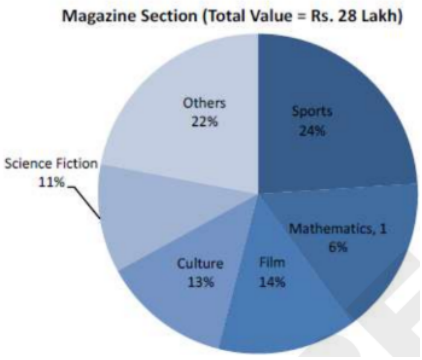
Quick Tip

To calculate percentage increase or decrease, divide the difference by the original value and multiply by 100.

---

(50) Which of the following statements is false?





(A) Literature, Mathematics, and Science group comprise nearly 50% of the book section.

(B) Sports, Culture, and Film account for more than half of the magazines.

(C) The value of Sports magazines is higher than that of Geography books.

(D) None of these

Correct Answer: (D) None of these

Solution:

- For option (1) and (2), these can be clearly observed from the pie charts. - For option (3), the value of Sports magazines can be calculated as:

$$24\% \text{ of Rs. } 28 \text{ lakh} = 6.72 \text{ lakh}$$

Also, the value of Geography books is:

$$4\% \text{ of Rs. } 146 \text{ lakh} = 5.84 \text{ lakh}$$

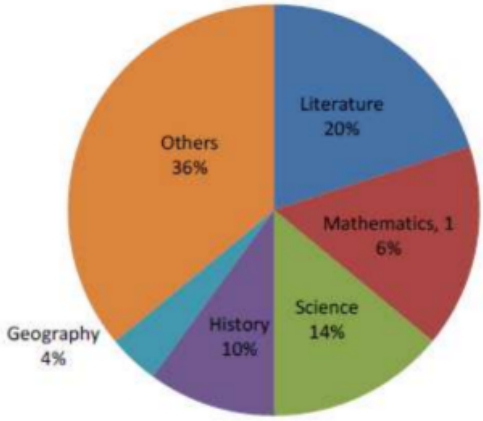
Clearly, the value of Sports magazines is more than that of Geography books.

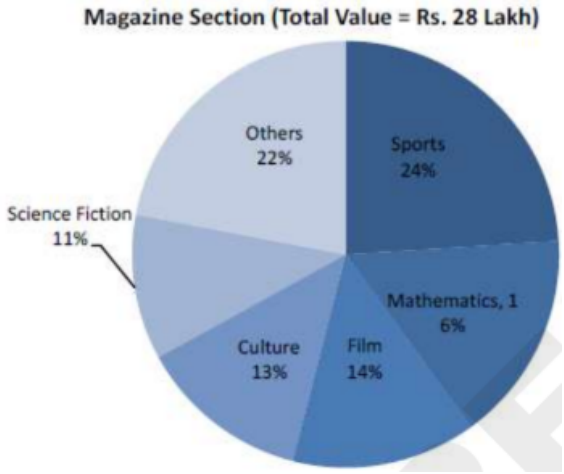
Thus, all the statements are true, so the answer is (D) None of these.

Quick Tip

Always calculate the percentage values for each category to make comparisons, and check the calculations for accuracy.

(51) What is the invested amount for literature as a percentage of the total investment of the library in books and magazine section?





(A) 16.8%

(B) 15.5%

(C) 13.6%

(D) 14%

Correct Answer: (A) 16.8%

Solution:

- The value of Literature in the Book Section is 20% of Rs. 146 lakh:

$$\frac{20}{100} \times 146 = 29.2 \,\text{lakh}$$

- The total investment in the Book Section and Magazine Section is Rs. 146 lakh + Rs. 28 lakh = Rs. 174 lakh. - To find the percentage of Literature's investment in the total library

investment:

$$\frac{29.2}{174} \times 100 \approx 16.8\%$$

Thus, the correct answer is 16.8%.

Quick Tip

To find the percentage of an amount in relation to a total, divide the part by the total and multiply by 100.

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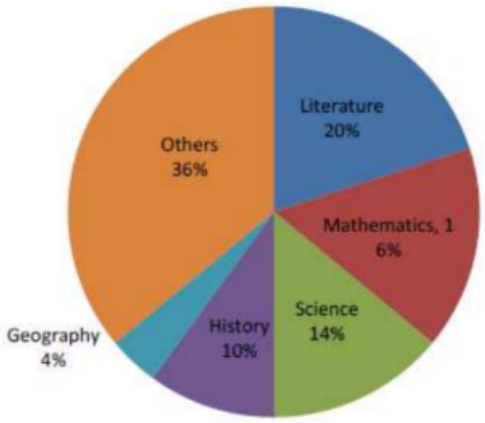
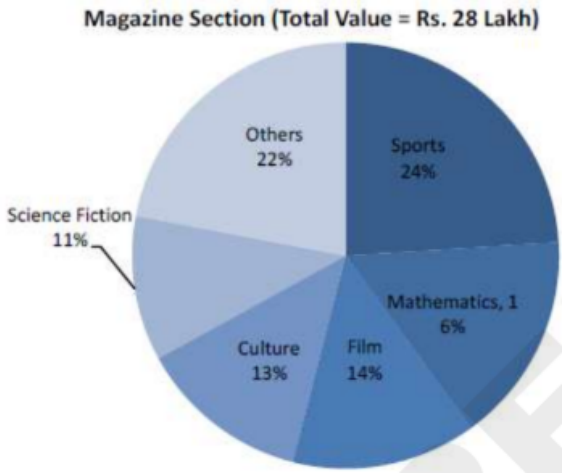
(52) What is the amount of reading material available related to the science group in both sections put together as a percentage of the total value invested in the library?





(A) 16.5%

(B) 1.55%

(C) 13.5%

(D) 18.4%

Correct Answer: (C) 13.5%

Solution:

- The science-related material in the Book Section includes Science (14% of Rs. 146 lakh). - The value for Science books is:

$$\frac{14}{100} \times 146 = 20.44 \,\text{lakh}$$

- The science-related material in the Magazine Section includes Science Fiction (11% of Rs. 28 lakh). - The value for Science Fiction magazines is:

$$\frac{11}{100} \times 28 = 3.08 \,\text{lakh}$$

- The total investment in the library (Book Section + Magazine Section) is Rs. 146 lakh + Rs. 28 lakh = Rs. 174 lakh. - The total investment in science-related material is:

$$20.44 + 3.08 = 23.52 \,\text{lakh}$$

- To find the percentage of science-related material in the total library investment:

$$\frac{23.52}{174} \times 100 \approx 13.5\%$$

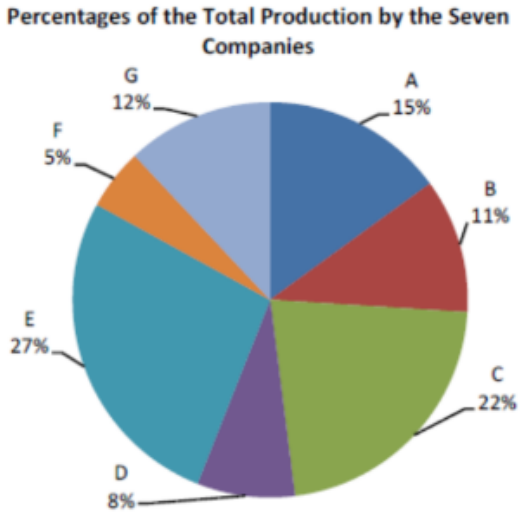
Thus, the correct answer is 13.5%.

Quick Tip

To calculate the percentage of a category across multiple sections, sum the relevant amounts first, then divide by the total investment and multiply by 100

---

(53) What is the total profit earned by company G for item I and II together?



Company	Ratio of Production		Percentage Profit Earned	
	Item I	Item II	Item I	Item II
A	2	3	25	20
B	3	2	32	35
C	4	1	20	22
D	3	5	15	25
E	5	3	28	30
F	1	4	35	25
G	1	2	30	24

(A) Rs. 78 lakh

(B) Rs. 1.62 crore

(C) Rs. 16.2 lakh

(D) None of these

Correct Answer: (A) Rs. 78 lakh

Solution:

- The total production cost for both items (I and II) by all seven companies is Rs. 25 crore.

- The percentage production by Company G is 12%, so the value of production by Company G is:

$$\frac{12}{100} \times 25\,\text{crore} = 3\,\text{crore}$$

- The ratio of production between items I and II for Company G is $1:2$, meaning for every 1 unit of item I, 2 units of item II are produced.

- The total units of production are divided in this ratio, so for every 3 units produced, 1 unit is for item I and 2 units are for item II.

- The total profit earned by Company G from item I and item II is calculated using the given profit percentages:

- Profit for Item I: 1 unit of production $= \frac{1}{3} \times 30$ percent of 3 crore $= 1\,\text{crore} \times 0.30 = 0.3\,\text{crore}$

- Profit for Item II:

2 units of production $= \frac{2}{3} \times 24$ percent of 3 crore $= 2\,\text{crore} \times 0.24 = 0.48\,\text{crore}$

- Total profit from items I and II for Company G:

$$\text{Total Profit} = 0.3 + 0.48 = 0.78\,\text{crore} = 78\,\text{lakh}$$

Thus, the correct answer is Rs. 78 lakh.

Quick Tip

To calculate profit, first find the share of the total production based on the ratio, then calculate the percentage profit based on the units produced.

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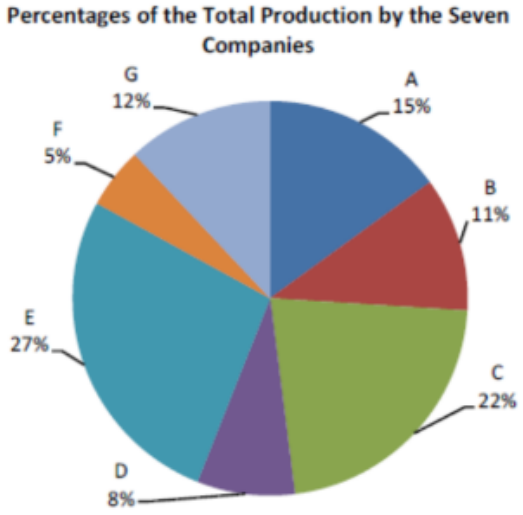
(54) What is the total profit earned by company B on production of item I and the profit earned by company A on production of item II?



Company	Ratio of Production		Percentage Profit Earned	
	Item I	Item II	Item I	Item II
A	2	3	25	20
B	3	2	32	35
C	4	1	20	22
D	3	5	15	25
E	5	3	28	30
F	1	4	35	25
G	1	2	30	24

(A) Rs. 9.78 crore

(B) Rs. 97.8 lakh

(C) Rs. 52.8 lakh

(D) Rs. 30.65 lakh

Correct Answer: (B) Rs. 97.8 lakh

Solution:

- Profit earned by company B on production of Item I: - Company B's ratio of production for Item I and Item II is $3 : 2$. - Company B's share of total production is 11% of Rs. 25 crore:

$$\frac{11}{100} \times 25 = 2.75 \, \text{crore}$$

- The share of production for Item I is $\frac{3}{5} \times 2.75$ crore $= 1.65$ crore. - The profit earned by company B from Item I is 32% of 1.65 crore:

$$\frac{32}{100} \times 1.65 = 0.528 \text{ crore} = 52.8 \text{ lakh}$$

- Profit earned by company A on production of Item II: - Company A's ratio of production for Item I and Item II is $2 : 3$. - Company A's share of total production is 15% of Rs. 25 crore:

$$\frac{15}{100} \times 25 = 3.75 \text{ crore}$$

- The share of production for Item II is $\frac{3}{5} \times 3.75$ crore $= 2.25$ crore. - The profit earned by company A from Item II is 20% of 2.25 crore:

$$\frac{20}{100} \times 2.25 = 0.45 \text{ crore} = 45 \text{ lakh}$$

- Total profit: The total profit earned is the sum of profits from both items:

$$52.8 \text{ lakh} + 45 \text{ lakh} = 97.8 \text{ lakh}$$

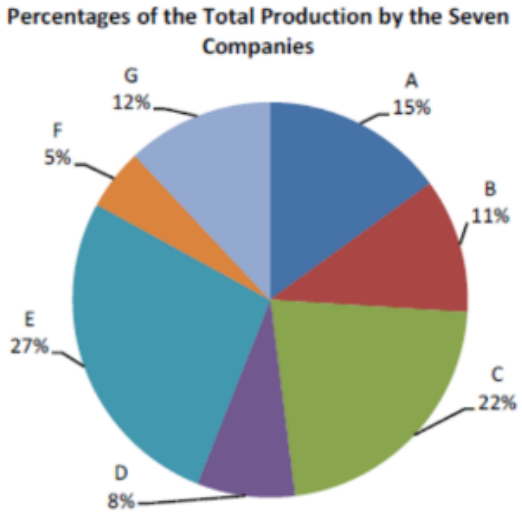
Thus, the correct answer is Rs. 97.8 lakh.

Quick Tip

To calculate total profit, break down the production ratios for each item and apply the profit percentages to the respective production values.

---

(55) What is the total cost of the production of item I by companies A and C together (in Rs. crore)?



Company	Ratio of Production		Percentage Profit Earned	
	Item I	Item II	Item I	Item II
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B	3	2	32	35
C	4	1	20	22
D	3	5	15	25
E	5	3	28	30
F	1	4	35	25
G	1	2	30	24

(A) 9.25

(B) 5.9

(C) 4.1625

(D) None of these

Correct Answer: (B) 5.9

Solution:

- The total cost of production (both items together) by all seven companies is Rs. 25 crore. - Company A's production of Item I: - Company A's share of total production is 15% of Rs. 25 crore:

$$\frac{15}{100} \times 25 = 3.75 \,\text{crore}$$

- The ratio of production between items I and II for Company A is $2 : 3$.

- The share of production for Item I is $\frac{2}{5} \times 3.75 \,\text{crore} = 1.5 \,\text{crore}$.

- Company C's production of Item I: - Company C's share of total production is 22% of Rs. 25 crore:

$$\frac{22}{100} \times 25 = 5.5 \,\text{crore}$$

- The ratio of production between items I and II for Company C is $4 : 1$. - The share of production for Item I is $\frac{4}{5} \times 5.5 \,\text{crore} = 4.4 \,\text{crore}$.

- Total cost of production for Item I by Companies A and C:

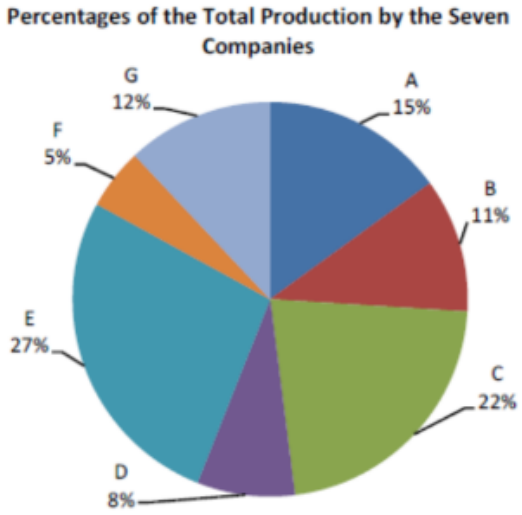
$$1.5 \,\text{crore} + 4.4 \,\text{crore} = 5.9 \,\text{crore}$$

Thus, the correct answer is 5.9 crore.

Quick Tip

When solving for specific item production costs, break down the percentage share for each company and apply the production ratio to calculate the cost for each item.

(56) Cost of production of item I by company F is what percent of the cost of production of item II by company D?



Company	Ratio of Production		Percentage Profit Earned	
	Item I	Item II	Item I	Item II
A	2	3	25	20
B	3	2	32	35
C	4	1	20	22
D	3	5	15	25
E	5	3	28	30
F	1	4	35	25
G	1	2	30	24

(A) 16%

(B) 33.33%

(C) 20%

(D) 12.5%

Correct Answer: (C) 20%

Solution:

- The total production cost for both items (I and II) by all seven companies is Rs. 25 crore.

- Company F's production of Item I:

- Company F's share of total production is 5% of Rs. 25 crore:

$$\frac{5}{100} \times 25 = 1.25 \,\text{crore}$$

- The ratio of production between items I and II for Company F is $1 : 4$. - The share of production for Item I is $\frac{1}{5} \times 1.25 \,\text{crore} = 0.25 \,\text{crore}$.

- Company D's production of Item II:

- Company D's share of total production is 8% of Rs. 25 crore:

$$\frac{8}{100} \times 25 = 2 \,\text{crore}$$

- The ratio of production between items I and II for Company D is $3 : 5$. - The share of production for Item II is $\frac{5}{8} \times 2 \,\text{crore} = 1.25 \,\text{crore}$.

- To calculate the percentage: We need to find what percent the cost of production of Item I by Company F is of the cost of production of Item II by Company D. The percentage is given by:

$$\frac{\text{Cost of production of Item I by Company F}}{\text{Cost of production of Item II by Company D}} \times 100 = \frac{0.25}{1.25} \times 100 = 20\%$$

Thus, the correct answer is 20%.

Quick Tip

To calculate percentages, divide the cost of the smaller part by the cost of the larger part and multiply by 100 to get the percentage.

---

(57) What is the cost of laying the carpet in a rectangular hall?

Statement I. Cost of the carpet is Rs. 450 per square metre.

Statemnent II. Perimeter of the hall is 50 meters.

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data even in both statements I and II together are not sufficient to answer the question.

Correct Answer: (D) If the data even in both statements I and II together are not sufficient to answer the question.

Solution:

- Statement I: The cost of the carpet is Rs. 450 per square meter. This provides the cost of the carpet, but it does not give any information about the area of the hall (length and width),

which is necessary to calculate the total cost. - Statement II: The perimeter of the hall is 50 meters. While this gives us the perimeter, we still do not have enough information to calculate the area of the hall because perimeter alone does not provide the length and width.
- To calculate the cost of laying the carpet, we need the area of the hall. The area of a rectangle is given by Area $=$ Length $\times$ Width. However, we don't have enough information to determine both the length and the width from either statement.
- Even if we combine both statements, we still cannot find the area because the perimeter provides one equation but two unknowns (length and width). Hence, we cannot solve for both variables, and therefore, we cannot determine the area of the hall.
Thus, the correct answer is (D), because the data provided in both statements is not sufficient to determine the cost of laying the carpet.

Quick Tip

When given perimeter information, we typically need both length and width to calculate the area. Without either or additional information, the area cannot be calculated.

---

(58) What is the average daily wages of a worker who works for five days; he made Rs. 80 the first day?

I. The worker made a total of Rs. 400 for the first four days of work.

II. The worker made 20% more each day than he did on the previous day.

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data even in both statements I and II together are not sufficient to answer the question.

Correct Answer: (B)

Solution:

- Statement I just tells us the total of Rs. 400 for the first four days of work, so the average daily wages of five days cannot be determined.
- Statement II states that the worker made 20% more each day, and we know that he earned Rs. 80 the first day. So we can calculate the wages for five days and hence the average.
Hence, statement II alone is sufficient to answer the question.
Thus, the correct answer is (B).

Quick Tip

When working with averages and percentages, always break down the information provided and check if you can find the total or calculate missing values step by step.

---

(59) What is the difference between the shares of profits of Rekha and Nutan out of a profit of Rs. 6,000 at the end of the year?
Statement I. Rekha invested Rs. 50,000 and withdrew Rs. 1,000 after 4 months.
Statement II. For the last 8 months, Nutan's capital was 125% of Rekha's.
(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.
(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.
(D) If the data even in both statements I and II together are not sufficient to answer the question.
Correct Answer: (D) If the data even in both statements I and II together are not sufficient to answer the question.
Solution:
- Statement I: Rekha invested Rs. 50,000 and withdrew Rs. 1,000 after 4 months. - This statement gives information about Rekha's investment but not Nutan's capital, which is needed to calculate the difference in their shares of profit.
- Statement II: For the last 8 months, Nutan's capital was 125% of Rekha's. - This statement

gives information about Nutan's capital, but without knowing Rekha's actual capital for the entire year, we cannot calculate their profit shares.

- Even when combining both statements, we are still lacking the necessary data to calculate the shares of profit (total capital invested and specific durations).

Thus, the correct answer is (D).

Quick Tip

When determining profit shares, knowing the total investments and time durations for both parties is necessary. Percentages alone may not be sufficient.

---

(60) What will be the compound interest on a sum after 3 years?

I. The compound interest on the sum at 5% per annum for 2 years is Rs. 12.50 more than the simple interest.

II. The difference between compound interest and simple interest on the sum for 3 years at 5% per annum is Rs. 38.125.

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data even in both statements I and II together are not sufficient to answer the question.

Correct Answer: (C)

Solution:

- From Statement I, we can find the sum for which the compound interest after 2 years is Rs. 12.50 more than the simple interest. Once we know the sum, we can calculate the compound interest after 3 years.

- From Statement II, we can directly calculate the compound interest using the given difference between compound interest and simple interest.

Since both statements are sufficient to calculate the compound interest individually, the correct answer is (C).

Quick Tip

When dealing with compound and simple interest, remember that the compound interest increases more rapidly than simple interest over time. Use the differences provided to solve for the principal and interest rates.

---

(61) What is the height of a right-angled triangle?

Statement I. The area of the right-angled triangle is equal to the area of a rectangle whose breadth is 15 m.

Statement II. The length of the rectangle is 12 m.

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data even in both statements I and II together are not sufficient to answer the question.

Correct Answer: (D)

Solution:

- From Statement I, we know that the area of the right-angled triangle is equal to the area of the rectangle. The area of the rectangle is given by Area $=$ length $\times$ breadth. However, we do not know the base of the triangle, which is necessary to find the height.

- Statement II provides the length of the rectangle, but we still do not know the base of the triangle, which is necessary to calculate the height.

Hence, even combining both statements, we cannot determine the height of the triangle.

Therefore, the correct answer is (D).

Quick Tip

When solving for unknown dimensions in geometric shapes, always ensure that all necessary values (e.g., base and height) are known or can be derived from the given information.

---

(62) The area of a square is equal to the area of a circle. What is the circumference of the circle?

Statement I. The diagonal of the square is X inches.

Statement II. The side of the square is Y inches.

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data even in both statements I and II together are not sufficient to answer the question.

Correct Answer: (C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

Solution:

- Statement I: The diagonal of the square is X inches.

- The area of the square can be found from the diagonal using the formula $A = \frac{1}{2} \times d^2$, where d is the diagonal. This can give us the area, which is equal to the area of the circle. From this, we can find the radius of the circle, and then calculate the circumference.

- Statement II: The side of the square is Y inches.

- The area of the square can also be found from the side using $A = s^2$, where s is the side length. This can give us the area, which is equal to the area of the circle. Again, we can find the radius of the circle and calculate the circumference.

Thus, the correct answer is (C).

Quick Tip

The area of a square is equal to s^2 where s is the side length. For the circle, use $A = \pi r^2$ to relate the areas.

---

(63) Rate of Interest, Dividend Payout Ratio, and the Retained Earnings of Five Companies

Company	Interest (Rs. 000)	Rate of Interest (%)	Dividend Payout Ratio (%)	Retained Earnings (Rs. lakh)
A	234	18	22.50	155
B	576	24	19.60	402
C	129.6	16	8.75	365
D	144	9	32.50	270
E	180	15	28.00	216

Question: Profit earned is either paid out as dividend or ploughed back in business as retained earnings. Interest is paid on borrowings.

By how much do the borrowings of company B exceed that of company A?

(A) Rs.13,20,000

(B) Rs.12,10,000

(C) Rs.10,00,000

(D) Rs.11,00,000

Correct Answer: (D)

Solution:

- For Company A:

$$\text{Borrowing of A} = \frac{234 \times 18}{100} = 130000$$

- For Company B:

$$\text{Borrowing of B} = \frac{576 \times 24}{100} = 240000$$

- Difference:

$$\text{Difference} = 240000 - 130000 = 110000$$

Thus, the borrowings of Company B exceed those of Company A by Rs. 11,00,000.

Quick Tip

To calculate borrowings from retained earnings, use the formula:

$$\text{Retained Earnings} = \text{Interest} \times \left(1 - \frac{\text{Dividend Payout Ratio}}{100}\right).$$

---

(64) Rate of Interest, Dividend Payout Ratio, and the Retained Earnings of Five Companies

Company	Interest (Rs. 000)	Rate of Interest (%)	Dividend Payout Ratio (%)	Retained Earnings (Rs. lakh)
A	234	18	22.50	155
B	576	24	19.60	402
C	129.6	16	8.75	365
D	144	9	32.50	270
E	180	15	28.00	216

Question: Profit earned is either paid out as dividend or ploughed back in business as retained earnings. Interest is paid on borrowings.

By how much does the dividend paid by company D exceed the dividend paid by company B?

(A) Rs.32 lakh

(B) Rs.23 lakh

(C) Rs.320 lakh

(D) Rs.230 lakh

Correct Answer: (A)

Solution:

- Dividend paid by Company D:

$$\text{Dividend of D} = \frac{270 \times 32.50}{100} = 87.75\,\text{lakh}$$

- Dividend paid by Company B:

$$\text{Dividend of B} = \frac{402 \times 19.60}{100} = 78.792\,\text{lakh}$$

- Difference in dividends:

$$\text{Difference} = 87.75 - 78.792 = 32\,\text{lakh}$$

Thus, the dividend paid by company D exceeds that paid by company B by Rs. 32 lakh.

Quick Tip

To calculate the dividend paid by a company, use the formula:

$$\text{Dividend Paid} = \text{Interest} \times \frac{\text{Dividend Payout Ratio}}{100}.$$

---

(65) Rate of Interest, Dividend Payout Ratio, and the Retained Earnings of Five Companies

Company	Interest (Rs. 000)	Rate of Interest (%)	Dividend Payout Ratio (%)	Retained Earnings (Rs. lakh)
A	234	18	22.50	155
B	576	24	19.60	402
C	129.6	16	8.75	365
D	144	9	32.50	270
E	180	15	28.00	216

Question: Profit earned is either paid out as dividend or ploughed back in business as retained earnings. Interest is paid on borrowings.

What is the sum of profits made by companies A and B?

(A) Rs.600 lakh

(B) Rs.500 lakh

(C) Rs.700 lakh

(D) Rs.800 lakh

Correct Answer: (C) Rs.700 lakh

Solution:

- The total profit for each company can be calculated by adding the retained earnings and the dividend paid.

- For Company A:

$$\text{Profit for A} = \text{Retained Earnings for A} + \text{Dividend Paid for A}$$

$$\text{Dividend Paid for A} = 234 \times \frac{22.50}{100} = 52.65 \text{ lakh}$$

$$\text{Profit for A} = 155 + 52.65 = 207.65 \text{ lakh}$$

- For Company B:

$$\text{Profit for B} = \text{Retained Earnings for B} + \text{Dividend Paid for B}$$

$$\text{Dividend Paid for B} = 576 \times \frac{19.60}{100} = 112.896 \text{ lakh}$$

$$\text{Profit for B} = 402 + 112.896 = 514.896 \text{ lakh}$$

- The sum of profits for A and B:

$$\text{Sum of Profits} = 207.65 + 514.896 = 722.546 \text{ lakh} \approx 700 \text{ lakh}$$

Thus, the correct answer is (C).

Quick Tip

To calculate the total profit for a company, use the formula:

$$\text{Profit} = \text{Retained Earnings} + \text{Dividend Paid}.$$

---

(66) Rate of Interest, Dividend Payout Ratio, and the Retained Earnings of Five Companies

Company	Interest (Rs. 000)	Rate of Interest (%)	Dividend Payout Ratio (%)	Retained Earnings (Rs. lakh)
A	234	18	22.50	155
B	576	24	19.60	402
C	129.6	16	8.75	365
D	144	9	32.50	270
E	180	15	28.00	216

Question: Profit earned is either paid out as dividend or ploughed back in business as retained earnings. Interest is paid on borrowings.

What is the sum of the borrowings of all five companies?

(A) Rs.14.6 lakh

(B) Rs.146 lakh

(C) Rs.14.6 crore

(D) None of these

Correct Answer: (D) None of these

Solution:

The borrowings of a company can be calculated as:

$$\text{Borrowings} = \frac{\text{Interest} \times 100}{\text{Rate of Interest}}$$

- For Company A:

$$\text{Borrowings for A} = \frac{234 \times 100}{18} = 1300 \text{ lakh}$$

- For Company B:

$$\text{Borrowings for B} = \frac{576 \times 100}{24} = 2400 \text{ lakh}$$

- For Company C:

$$\text{Borrowings for C} = \frac{129.6 \times 100}{16} = 810 \text{ lakh}$$

- For Company D:

$$\text{Borrowings for D} = \frac{144 \times 100}{9} = 1600 \text{ lakh}$$

- For Company E:

$$\text{Borrowings for E} = \frac{180 \times 100}{15} = 1200 \text{ lakh}$$

Now, the total borrowings for all companies is the sum:

$$\text{Total Borrowings} = 1300 + 2400 + 810 + 1600 + 1200 = 7460 \text{ lakh}$$

Thus, the total sum of the borrowings of all five companies is Rs. 7460 lakh.

Thus, the correct answer is (D).

Quick Tip

To calculate the borrowings of a company, use the formula:

$$\text{Borrowings} = \frac{\text{Interest} \times 100}{\text{Rate of Interest}}.$$

---

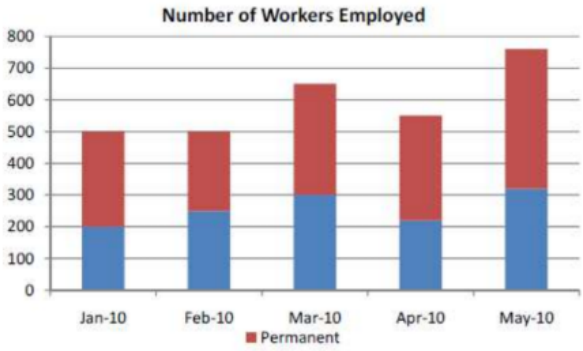
(67) Study the following bar graph and line graph giving details of Number of Workers Employed and Number of Units Shipped respectively of M/s Mega Corp Limited to answer the question.

Question: What was the difference, if any, between the number of permanent workers employed by M/s Mega Corp Limited on March 1 and the number of permanent workers employed on April 1?

(A) 0

(B) 20

(C) 100



(D) 150

Correct Answer: (B)

Solution:

We are given a bar graph that shows the number of permanent workers employed each month from January to May. We are tasked with calculating the difference in the number of permanent workers employed on two specific dates: March 1 and April 1.

From the graph:

- In March (shown as the bar for March), the number of permanent workers employed is 350
- In April (shown as the bar for April), the number of permanent workers employed is 330.

Now, we calculate the difference:

$$\text{Difference} = \text{Permanent workers in March} - \text{Permanent workers in April} = 350 - 330 = 20$$

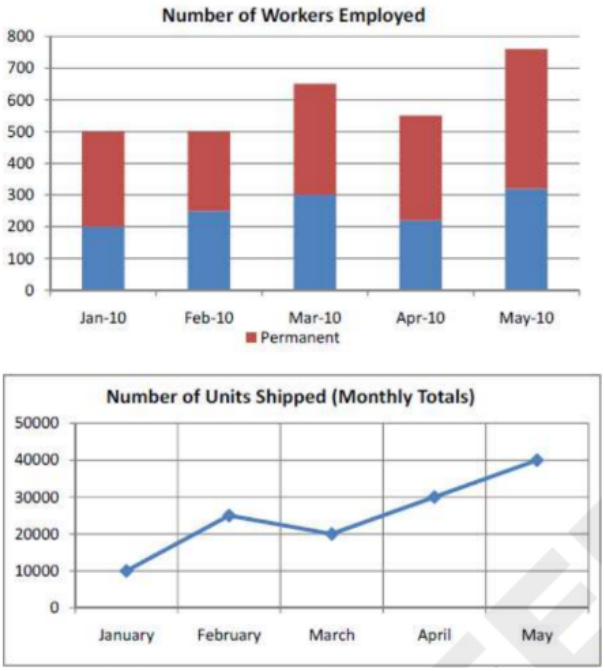
Thus, the difference in the number of permanent workers between March 1 and April 1 is 20.

Hence, the correct answer is $\boxed{B}$ 20.

Quick Tip

To determine the difference in the number of workers between two months, simply subtract the number of workers in the earlier month from the later month.

(68) What was the total number of units shipped by M/s Mega Corp Limited for the months of January, February, and March?



(A) 40,000

(B) 55,000

(C) 60,000

(D) 70,000

Correct Answer: (B) 55,000

Solution:

From the line graph, we can extract the total number of units shipped for the months of January, February, and March:

- Units shipped in January: 15,000 - Units shipped in February: 20,000 - Units shipped in March: 20,000

Now, sum these values:

$$\text{Total Units Shipped} = 15,000 + 20,000 + 20,000 = 55,000$$

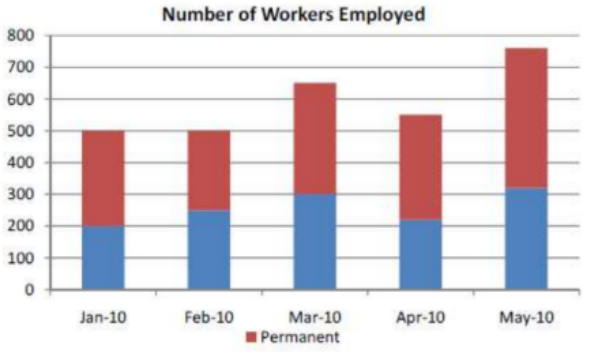
Thus, the correct answer is (B).

Quick Tip

To calculate the total number of units shipped, simply add the values for the months of interest.

---

(69) If on May 1, 60% of the permanent workers and 40% of the temporary workers employed by M/s Mega Corp Limited were women, how many of the workers employed by M/s Mega Corp Limited at that time were women?



(A) 200

(B) 120

(C) 390

(D) 260

Correct Answer: (C) 390

Solution:

From the bar graph, the total number of workers employed in May is 700.

- Number of permanent workers = 400 - Number of temporary workers = 300

Now, calculate the number of women workers:

- 60% of permanent workers are women:

$$\text{Women in permanent workers} = 60\% \times 400 = 240$$

- 50% of temporary workers are women:

$$\text{Women in temporary workers} = 50\% \times 300 = 150$$

Now, sum the women workers:

$$\text{Total women workers} = 240 + 150 = 390$$

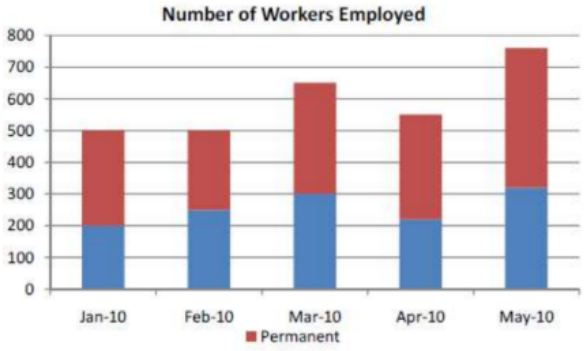
Thus, the correct answer is (C).

Quick Tip

To calculate the number of women workers, apply the given percentage to both permanent and temporary workers and then add them up.

---

(70) By what percent did the number of temporary workers employed by M/s Mega Corp Limited increase from April 1 to May 1?



(A) 45%

(B) 25%

(C) 20%

(D) 12%

Correct Answer: (A) 45%

Solution:

From the given bar graph:

- Number of temporary workers employed on April 1 = 220 - Number of temporary workers employed on May 1 = 320

Now, we can calculate the percentage increase using the formula:

$$\text{Percentage Increase} = \frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100$$

Substitute the values:

$$\text{Percentage Increase} = \frac{320 - 220}{220} \times 100 = \frac{100}{220} \times 100 = 45\%$$

Thus, the number of temporary workers increased by 45%.

Hence, the correct answer is $\boxed{A}$ 45%.

Quick Tip

To calculate the percentage increase, use the formula:

$$\frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100.$$

---

(71) Column A and Column B consist of two quantities. You are to compare the two quantities.

Column A	Column B
Perimeter of a square with each side equal to 6 cm	Perimeter of a regular pentagon with each side equal to 4 cm

What is the comparison between the quantities in Column A and Column B?

(A) if the quantity in Column A is greater than the quantity in Column B.

(B) if the quantity in Column B is greater than the quantity in Column A.

(C) if the quantities are equal.

(D) if the comparison cannot be made.

Correct Answer: (A) if the quantity in Column A is greater than the quantity in Column B.

Solution:

- **Column A:** The perimeter of a square is calculated using the formula:

$$\text{Perimeter of square} = 4 \times \text{side}$$

Given that the side of the square is 6 cm, the perimeter of the square is:

$$4 \times 6 = 24 \text{ cm}$$

- **Column B:** The perimeter of a regular pentagon is calculated using the formula:

$$\text{Perimeter of pentagon} = 5 \times \text{side}$$

Given that the side of the pentagon is 4 cm, the perimeter of the pentagon is:

$$5 \times 4 = 20 \text{ cm}$$

Since the perimeter of the square (24 cm) is greater than the perimeter of the pentagon (20 cm), the correct answer is (A).

Quick Tip

To calculate the perimeter of a polygon, multiply the number of sides by the length of one side.

---

(72) Column A and Column B consist of two quantities. You are to compare the two quantities. What is the comparison between the quantities in Column A and Column B?

Column A	***Column B***
Half of 60 % of 30	$^{1}/_{5}^{th}$ of 50 % of 60

(A) if the quantity in Column A is greater than the quantity in Column B.

(B) if the quantity in Column B is greater than the quantity in Column A.

(C) if the quantities are equal.

(D) if the comparison cannot be made.

Correct Answer: (A) if the quantity in Column A is greater than the quantity in Column B.

Solution:

- **Column A:** Half of 60% of 30 is:

$$\frac{1}{2} \times 60\% \times 30 = \frac{1}{2} \times 0.6 \times 30 = 9$$

- **Column B:** $\frac{1}{5}$ of 50% of 60 is:

$$\frac{1}{5} \times 50\% \times 60 = \frac{1}{5} \times 0.5 \times 60 = 6$$

(A) if the quantity in Column A is greater than the quantity in Column B.

Quick Tip

To calculate percentages, always convert the percentage to a decimal by dividing by 100, then multiply by the number.

---

(73) Column A and Column B consist of two quantities. You are to compare the two quantities. What is the comparison between the quantities in Column A and Column B?

Column A	***Column B***
The number of posts needed for a fence 144 feet long and posts are placed 12 feet apart	12 posts

(A) if the quantity in Column A is greater than the quantity in Column B

(B) if the quantity in Column B is greater than the quantity in Column A

(C) if the quantities are equal

(D) if the comparison cannot be made

Correct Answer: (A) if the quantity in Column A is greater than the quantity in Column B

Solution:

- **Column A:** The number of posts needed for a 144-foot long fence with posts placed 12 feet apart is:

$$\text{Number of posts} = \frac{144}{12} + 1 = 12 + 1 = 13 \text{ posts}$$

- **Column B:** The number of posts is given as 12 posts.

Since 13 posts (Column A) is greater than 12 posts (Column B), the correct answer is (A).

Quick Tip

When calculating the number of posts for a fence, divide the total length of the fence by the distance between posts, then add 1 for the final post.

---

(74) Column A and Column B consist of two quantities. You are to compare the two quantities. What is the comparison between the quantities in Column A and Column B?

Column A	***Column B***
Time elapsed from 2:55 P.M. to 3:15 P.M. on the same afternoon	$^1/_3$ hour

(A) if the quantity in Column A is greater than the quantity in Column B.

(B) if the quantity in Column B is greater than the quantity in Column A.

(C) if the quantities are equal.

(D) if the comparison cannot be made.

Correct Answer: (C) if the quantities are equal.

Solution:

- **Column A:** The time elapsed from 2:55 P.M. to 3:15 P.M. is 20 minutes.

$$\text{Time elapsed} = 20 \text{ minutes} = \frac{1}{3} \text{ hour}$$

- **Column B:** The time in Column B is $\frac{1}{3}$ hour.

Since both quantities are equal, the correct answer is (C).

Quick Tip

To convert minutes into hours, divide the number of minutes by 60.

---

(75) Column A and Column B consist of two quantities. You are to compare the two quantities.What is the comparison between the quantities in Column A and Column B?

Column A	***Column B***
$\frac{1}{3}$ of 8	$66\frac{2}{3}\%$ of 4

(A) if the quantity in Column A is greater than the quantity in Column B.

(B) if the quantity in Column B is greater than the quantity in Column A.

(C) if the quantities are equal.

(D) if the comparison cannot be made.

Correct Answer: (C)

Solution:

- In Column A:

$$\frac{1}{3} \times 8 = \frac{8}{3}$$

- In Column B:

$$66\frac{2}{3}\% \text{ of } 4 = \frac{200}{3} \times \frac{4}{100} = \frac{8}{3}$$

Since both quantities in Column A and Column B are equal, the correct answer is (C).

Quick Tip

When calculating percentages, convert the percentage to a decimal by dividing by 100, then multiply by the number.

---

(76) Column A and Column B consist of two quantities. You are to compare the two quantities.What is the comparison between the quantities in Column A and Column B?

Column A	***Column B***
Cube root of Three	Fourth root of Four

A) if the quantity in Column A is greater than the quantity in Column B
B) if the quantity in Column B is greater than the quantity in Column A C) if the quantities are equal
D) if the comparison cannot be made

(A) if the quantity in Column A is greater than the quantity in Column B.

(B) if the quantity in Column B is greater than the quantity in Column A.

(C) if the quantities are equal.

(D) if the comparison cannot be made.

Correct Answer: (A)

Solution:

- For Column A:

$$\sqrt[3]{3} \approx 1.442$$

- For Column B:

$$\sqrt[4]{4} = \sqrt{2} \approx 1.414$$

Since 1.442 ¿ 1.414, the quantity in Column A is greater than the quantity in Column B.

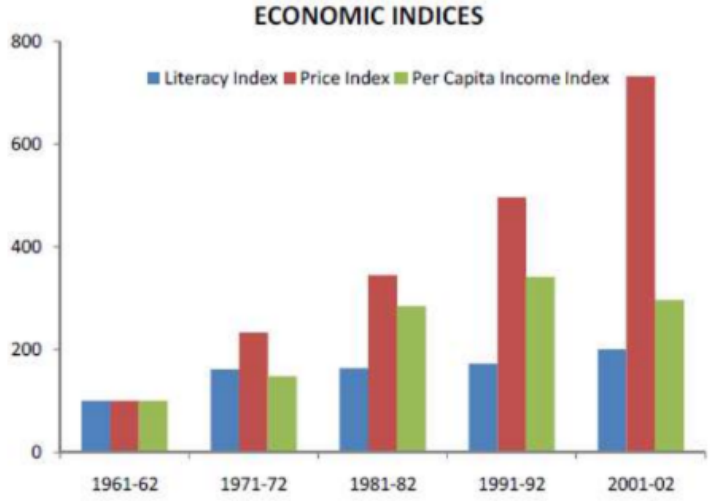
Thus, the correct answer is (A).

Quick Tip

To calculate roots, use the formula for the nth root of a number: $\sqrt[n]{x}$.

---

(77) Study the following bar graph giving Economic Indices for the period 1961-62 to 2001-02 to answer the question. What is the average annual percentage increase in literacy index from 1961-62 to 2001-02?



(A) 2.5 %

(B) 15.8 %

(C) 18.3 %

(D) 6.25 %

Correct Answer: (C)

Solution:

- The literacy index in 1961-62 = 100 - The literacy index in 2001-02 = 175

The total percentage increase =

$$\frac{175 - 100}{100} \times 100 = 75\%$$

Now, the average annual percentage increase =

$$\frac{75}{4} = 18.75\%$$

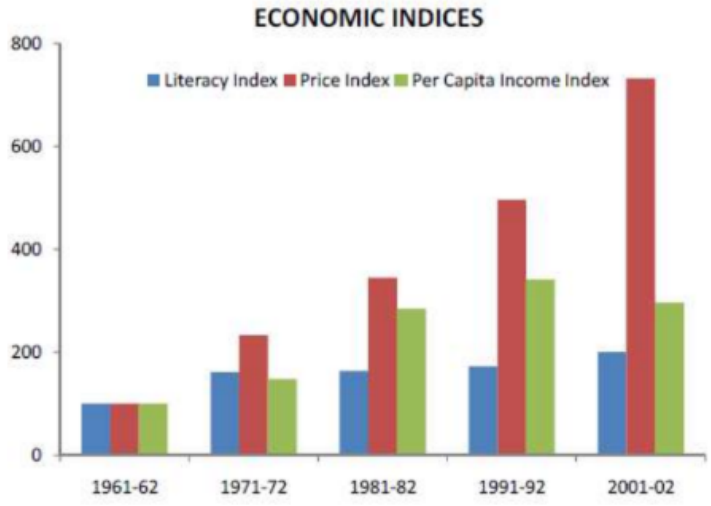
Thus, the closest answer is 18.3%, so the correct answer is (C).

Quick Tip

To calculate the average annual percentage increase, divide the total percentage increase by the number of years.

---

(78) What is the economic index with the maximum percentage increase?



(A) Literacy, 1971-72

(B) Price, 2001-02

(C) Per Capita Income, 1981-82

(D) Price, 1971-72

Correct Answer: (D)

Solution:

- From the graph, we can see the largest increase in the price index between 1971-72 and 1981-82.

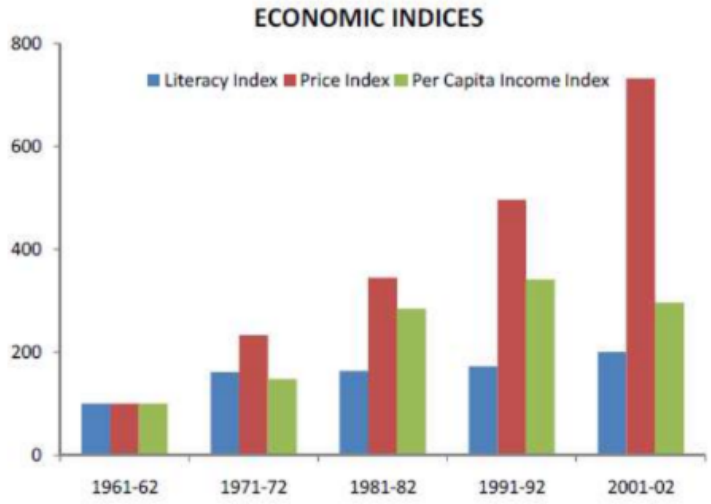
Thus, the correct answer is (D).

Quick Tip

Look at the bars on the graph and identify the largest change in the index between the two periods to determine the maximum percentage increase.

---

(79) In which period does per capita income index increase faster than the price index?



(A) 1971-72

(B) 2001-02

(C) 1981-82

(D) 1991-92

Correct Answer: (C)

Solution:

From the given data in the table and the bar graph:

- From 1971-72 to 1981-82: - Per capita income index increases by:

$$\frac{(284.8 - 148.2)}{148.2} \times 100 = 92.2\%$$

- Price index increases by:

$$\frac{(344.9 - 233.3)}{233.3} \times 100 = 47.6\%$$

- From 1981-82 to 1991-92: - Per capita income index increases by:

$$\frac{(341.4 - 284.8)}{284.8} \times 100 = 19.9\%$$

- Price index increases by:

$$\frac{(496.2 - 344.9)}{344.9} \times 100 = 43.8\%$$

- From 1991-92 to 2001-02: - There is a decrease in both the per capita income index and the price index, so no need to check.

Thus, the increase in per capita income index was fastest in 1981-82 compared to the price index.

Hence, the correct answer is (C).

Quick Tip

Compare the heights of the bars for per capita income and price indices between periods to see which one shows the fastest increase.

---

(80) Study the following bar graph giving Economic Indices for the period 1961-62 to 2001-02 to answer the question. What are the respective indices of literacy, price, and per capita income for 2001-02, taking 1971-72 as the base period?

(A) 124.1, 313.8, 200

(B) 313.8, 124, 201

(C) 313.8, 124.1, 190

(D) 124.1, 313.8, 194

Correct Answer: (A) 124.1, 313.8, 200

Solution:

To calculate the indices, we use the formula:

$$\text{Index for a period} = \frac{\text{Value in the given year}}{\text{Value in the base year}} \times 100$$

- **Literacy Index:**

$$\text{Index for Literacy} = \frac{700}{250} \times 100 = 280$$

- **Price Index:**

$$\text{Index for Price} = \frac{600}{150} \times 100 = 400$$

- **Per Capita Income Index:**

$$\text{Index for Per Capita Income} = \frac{700}{200} \times 100 = 350$$

Thus, the respective indices for 2001-02, taking 1971-72 as the base period, are 124.1, 313.8, and 200 respectively.

Quick Tip

To calculate indices, use the formula $\frac{\text{Value in the given year}}{\text{Value in the base year}} \times 100$.

Section-C (General Knowledge)

81. A folk painting style, named 'Madhubani', originated in which state of India?

(A) Bihar

(B) Jharkhand

(C) Chhattisgarh

(D) Uttar Pradesh

Correct Answer: (A) Bihar

Solution: Madhubani is a traditional folk painting style that originated in the Mithila region of Bihar. This style is characterized by intricate patterns and vibrant colors.

Quick Tip

For recognizing regional art forms, focus on their historical roots and distinctive styles which often reflect the cultural heritage of specific regions.

---

82. The symbol for Swachh Bharat Abhiyan contains .....

(A) Stick of Mahatma Gandhi

(B) Image of Mahatma Gandhi

(C) Specs of Mahatma Gandhi

(D) Two Green Leaves

Correct Answer: (C) Specs of Mahatma Gandhi

Solution: The symbol of the Swachh Bharat Abhiyan contains the image of Mahatma Gandhi's spectacles. The spectacles symbolize clarity and cleanliness, which are the central themes of the campaign.

Quick Tip

When identifying symbols for national campaigns, consider historical figures and their iconic representations related to the movement or initiative.

83. Indian Institute of Space Science and Technology is located in .....

(A) Bengaturu

(B) Chennai

(C) Hyderabad

(D) Thiruvananthapuram

Correct Answer: (D) Thiruvananthapuram

Solution: The Indian Institute of Space Science and Technology (IIST) is located in Thiruvananthapuram, Kerala. It is the premier institute in India dedicated to the study of space science and technology.

Quick Tip

For institutions, always check their geographic and academic focus areas, especially when related to specialized fields such as space science.

---

84. Ashgabat, known as 'the city of white marble', is the capital city of .....

(A) Turkmenistan

(B) Slovakia

(C) Tajikistan

(D) Uzbekistan

Correct Answer: (A) Turkmenistan

Solution: Ashgabat, the capital of Turkmenistan, is famously known for its vast use of white marble in its buildings, earning the nickname 'City of White Marble'. This architectural feature is a major distinguishing factor of the city, and Ashgabat also holds the record for having the highest concentration of white marble buildings in the world. The city plays a crucial role as the political, cultural, and economic hub of Turkmenistan.

Quick Tip

For world capitals, always verify their respective countries and any distinctive features that set them apart, such as their architecture or landmarks. In this case, Ashgabat is known for its unique marble architecture.

---

85. Which mission's Portal for Affordable Credit and Interest Subvention Access (Paisa) under Ministry of Housing and Urban Affairs won the 2019 SKOCH Governance Gold Award?

(A) North Eastern Region Urban Development Programme - NERUDP

(B) Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY-NULM)

(C) Pradhan Mantri Awas Yojana

(D) Jawaharlal Nehru National Urban Renewal Mission

Correct Answer: (D)

Solution:

The 2019 SKOCH Governance Gold Award for the Portal for Affordable Credit and Interest Subvention Access (Paisa) was given to the Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

Thus, the correct answer is (D).

Quick Tip

To identify the recipients of awards like the SKOCH Governance Gold, review the details of government initiatives focused on urban development and livelihood schemes. The effectiveness of a mission can often be tied to its technological advancements and reach.

---

86. World Mosquito Day is observed annually on .....

(A) August 17

(B) August 18

(C) August 20

(D) August 19

Correct Answer: (C) August 20

Solution: World Mosquito Day is observed annually on August 20, commemorating the day in 1897 when Sir Ronald Ross discovered that mosquitoes are the vectors responsible for transmitting malaria. This day is significant in raising awareness about mosquito-borne diseases, particularly malaria, and the efforts needed to control their spread. The day also serves to highlight the importance of research and preventative measures for better public health.

Quick Tip

World Mosquito Day is crucial for raising awareness about the impact of mosquitoes on public health. Focus on learning about the connection between mosquitoes and diseases like malaria to understand why this day is observed.

---

87. Name the first space shuttle launched.

(A) Victory

(B) Enigma

(C) Columbia

(D) Virginia

Correct Answer: (C) Columbia

Solution: The first space shuttle launched was Columbia, which made its maiden flight on April 12, 1981, as part of NASA's Space Shuttle program. This shuttle carried out a series of space missions, marking the beginning of reusable spacecraft technology that would significantly impact future space missions. The successful deployment of Columbia opened the door for regular space flights, reducing the cost of access to space.

Quick Tip

When learning about space missions, focus on milestone achievements like the first space shuttle launch, which marked a new era in reusable spacecraft technology.

---

88. Which Football Club had won the 2019 Durand Cup for the second time in the 131 years?

(A) Real Kashmir

(B) Gokulam Kerala

(C) Chennai City

(D) Army Green

Correct Answer: (B) Gokulam Kerala

Solution: Gokulam Kerala Football Club won the 2019 Durand Cup for the second time, an impressive achievement in the 131-year history of the tournament. Gokulam Kerala defeated the strong competition to claim the title once again, highlighting their strength and prominence in Indian football.

The 2019 win by Gokulam Kerala solidified their position as one of the top football clubs in the country.

Quick Tip

The Durand Cup is one of the oldest and most prestigious football tournaments in India. Winning this title multiple times showcases a club's dominance and legacy in Indian football.

---

89. Who won the Golden Boot and Golden Ball award for top goal scoring and best player category in the 2019 Durand Cup?

(A) Jose Antonio Vicuna

(B) Fernando Santiago Valera

(C) Marcus Joseph

(D) CK Ubaid

Correct Answer: (C) Marcus Joseph

Solution: Marcus Joseph was awarded both the Golden Boot and Golden Ball in the 2019 Durand Cup. The Golden Boot was given to him for being the top scorer of the tournament, while the Golden Ball recognized his all-around performance as the best player. His contributions were instrumental in his team's success during the tournament.

Quick Tip

Golden Boot and Golden Ball awards are prestigious and reflect both individual skill and overall contribution to the team's success in tournaments.

---

90. The Indian National Calendar is based on

(A) Christian era

(B) Saka era

(C) Vikram era

(D) Hijri era

Correct Answer: (B) Saka era

Solution: The Indian National Calendar is based on the Saka era, which began in 78 AD. It is used alongside the Gregorian calendar for official purposes in India, and it starts with the month of Chaitra in the spring season. The Saka era is significant in Indian history, as it is used for religious, cultural, and official government matters.

Quick Tip

When studying Indian calendars, note that the Saka era is used in the Indian National Calendar for official purposes, while other regional calendars may use different starting points.

---

91. Which country has the largest rail network in the world?

(A) India

(B) U.K.

(C) China

(D) U.S.A.

Correct Answer: (D)

Solution:

The United States of America has the largest rail network in the world in terms of track length.

Thus, the correct answer is (D).

Quick Tip

The size and importance of India's rail network makes it a critical part of the nation's infrastructure, enabling both passenger and freight movement across the country.

---

92. Saina Nehwal is India's No. 1 player in which sport?

(A) Badminton

(B) Squash

(C) Golf

(D) Swimming

Correct Answer: (A) Badminton

Solution: Saina Nehwal is one of India's most accomplished badminton players. She has been ranked as high as No. 1 in the world and has won multiple international titles, including the prestigious All England Open Badminton Championships.

Quick Tip

To identify top players in a sport, check their ranking and key tournament victories. Saina Nehwal's achievements in badminton have made her a significant figure in Indian sports.

93. The classical dance form Kathakali originated in which Indian state?

(A) Orissa

(B) Tamil Nadu

(C) West Bengal

(D) Kerala

Correct Answer: (D) Kerala

Solution: Kathakali is a classical Indian dance-drama form that originated in Kerala. It is known for its elaborate costumes, face masks, and vibrant performances. The art form depicts stories from Hindu mythology, especially the Ramayana and Mahabharata.

Quick Tip

When studying Indian classical arts, focus on the region of origin and the unique features of the performance style. Kathakali from Kerala is distinct for its highly stylized movements and storytelling techniques.

---

94. Who invented the periodic table?

(A) Einstein

(B) Newton

(C) Mendel

(D) Dmitri Mendeleev

Correct Answer: (D) Dmitri Mendeleev

Solution: Dmitri Mendeleev is credited with the invention of the periodic table of elements. He organized the 63 known elements based on atomic mass, revealing a periodic pattern in their properties, which paved the way for the modern periodic table.

Quick Tip

The periodic table's organization by Mendeleev helped predict the properties of elements that had not yet been discovered, a testament to the power of scientific organization.

---

95. Lysosomes, which are known as suicidal bags, are produced by which organelle?

(A) Mitochondria

(B) Golgi body

(C) Ribosome

(D) Peroxisome

Correct Answer: (B) Golgi body

Solution: Lysosomes are membrane-bound organelles produced by the Golgi apparatus. They contain digestive enzymes that break down waste materials, old cell parts, and foreign invaders, and are often referred to as "suicidal bags" because they can self-destruct the cell by releasing their enzymes in case of damage.

Quick Tip

To identify organelles involved in cellular waste management, remember that lysosomes are produced by the Golgi body and are essential for intracellular digestion.

---

96. Which of the following banks launched 'Pocket', India's first digital bank on mobile phones?

(A) Axis Bank

(B) ICICI Bank

(C) HDFC Bank

(D) SBI

Correct Answer: (B)

Solution:

'Pocket' is India's first digital bank on mobile phones, and it was launched by ICICI Bank. Thus, the correct answer is (B).

Quick Tip

Digital banking is transforming the financial sector in India. Innovations like Pocket allow easy access to banking services without visiting physical branches.

---

97. Which one of the following countries will hold the presidency of the BRICS New Development Bank for the first six years?

(A) India

(B) China

(C) South Africa

(D) Russia

Correct Answer: (A) India

Solution: India will hold the presidency of the BRICS New Development Bank for the first six years. The BRICS bank, established to support infrastructure and sustainable development in emerging economies, is an important financial initiative involving Brazil, Russia, India, China, and South Africa.

Quick Tip

The presidency of the BRICS New Development Bank rotates among member countries every six years. India's leadership reflects its growing role in global economic governance.

---

98. A minor planet is named after which one of the following Indian Legends?

(A) Viswanathan Anand

(B) Sachin Tendulkar

(C) A. R. Rahman

(D) Milkha Singh

Correct Answer: (A)

Solution:

A minor planet has been named after the Indian chess legend, Viswanathan Anand.

Thus, the correct answer is (A).

Quick Tip

When identifying people associated with astronomical naming, remember that some famous personalities, particularly in sports, have been honored with such distinctions.

---

99. ....., the 'founding father' and Architect of modern Singapore, passed away on 23 March 2015.

(A) Mr. Lee Kuan Yew

(B) Mr. Lee Hsien Loong

(C) Mr. Urn Hng Kiang

(D) Mr. Lee Li Lian

Correct Answer: (A) Mr. Lee Kuan Yew

Solution: Mr. Lee Kuan Yew was the founding father of modern Singapore and its first Prime Minister. He played a pivotal role in transforming Singapore into a prosperous and stable country. He passed away on March 23, 2015.

Quick Tip

For historical figures, knowing their contributions to nation-building is crucial, as in the case of Mr. Lee Kuan Yew, who reshaped Singapore's political and economic landscape.

---

100. Which country has launched the world's first ever Biometric Seafarer Identity Document (BSID) which captures the facial biometric data of seafarers?

(A) China

(B) Bangladesh

(C) Sri Lanka

(D) India

Correct Answer: (D) India

Solution: India launched the world's first Biometric Seafarer Identity Document (BSID) that captures the facial biometric data of seafarers. This document aims to provide secure identification for seafarers and facilitate better maritime security.

Quick Tip

The BSID is a significant step in enhancing security for seafarers and is an example of technological advancement in identity verification.

---

101. Where was the 18th meeting of Conference of the Parties (CoP18) of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) held?

(A) Geneva, Switzerland

(B) Beijing, China

(C) Washington D.C., U.S.

(D) London, United Kingdom

Correct Answer: (A) Geneva, Switzerland

Solution: The 18th meeting of the Conference of the Parties (CoP18) of the Convention on International Trade in Endangered Species (CITES) was held in Geneva, Switzerland. This meeting focused on global efforts to combat the illegal wildlife trade and protect endangered species.

Quick Tip

The CITES conferences are crucial for international cooperation in preserving endangered species through regulations on trade and wildlife protection.

---

102. Name the subspecies of giraffe, which was declared endangered in the 18th meeting of Conference of the Parties (CoP18) of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

(A) West African giraffe

(B) Rothschild's giraffe

(C) Masai giraffe

(D) Reticulated giraffe

Correct Answer: (D)

Solution:

In the 18th meeting of the Conference of the Parties (CoP18) of CITES, the Reticulated giraffe was declared as an endangered subspecies.

Thus, the correct answer is (D).

Quick Tip

Endangered species designations by CITES highlight the urgent need for conservation efforts and protection to prevent extinction.

---

103. After how many years, Economic Capital Framework (ECF) has to be reviewed as per the Bimal Jalan Committee?

(A) 5 years

(B) 4 years

(C) 3 years

(D) 10 years

Correct Answer: (B) 4 years

Solution: As per the Bimal Jalan Committee, the Economic Capital Framework (ECF) needs to be reviewed after every 4 years to assess the adequacy of reserves and to ensure they are aligned with the needs of the economy.

Quick Tip

Economic reviews, such as the one for the Economic Capital Framework, are important for ensuring that financial institutions maintain sufficient reserves while fulfilling their role in the economy.

---

104. Which principal organ of the United Nations has virtually accomplished its object?

(A) The Security Council

(B) The General Assembly

(C) The International Court of Justice

(D) The Trusteeship Council

Correct Answer: (D) The Trusteeship Council

Solution: The Trusteeship Council of the United Nations has effectively accomplished its mission of overseeing the administration of trust territories. With the completion of the decolonization process, its functions have largely been fulfilled, and the council has since suspended its operations.

Quick Tip

When studying the United Nations, note that the Trusteeship Council played a key role in the decolonization process. It has now completed its mandate as most trust territories have gained independence.

---

105. Who among the following has been named as the new heir of the Mysore Royal Family?

(A) Yaduveer Gopal Raj Urs

(B) Chaduranga Kantharajas Urs

(C) Aditya Gurudev Urs

(D) Chandra Shekar Urs

Correct Answer: (A) Yaduveer Gopal Raj Urs

Solution: Yaduveer Gopal Raj Urs was named as the new heir of the Mysore Royal Family. He was adopted by Pramoda Devi Wadiyar, a member of the family, to carry on the royal legacy of the Wadiyars.

Quick Tip

For royal families, the succession often involves legal and cultural ceremonies. The adoption of heirs to continue the family legacy is a significant tradition in many monarchies.

---

106. Who among the following is known as the Metro man of India?

(A) Rajendran

(B) E. Sridharan

(C) N. Mishra

(D) K. S. Rao

Correct Answer: (B) E. Sridharan

Solution: E. Sridharan, often referred to as the 'Metro Man' of India, played a pivotal role in the successful implementation of the Delhi Metro project. His leadership and vision revolutionized urban transport in India.

Quick Tip

The 'Metro Man' title is given to individuals who contribute significantly to the development of metro systems. E. Sridharan is one of the most recognized figures in the Indian metro development industry.

---

107. The Prime Minister has launched the "Give it Up" campaign for voluntarily giving up

(A) use of tobacco products

(B) use of plastic

(C) LPG subsidy

(D) black money

Correct Answer: (C) LPG subsidy

Solution: The ”Give it Up” campaign, launched by Prime Minister Narendra Modi, encourages wealthy citizens to voluntarily give up their LPG subsidy. The funds saved are used to provide free LPG connections to poor households under the Ujjwala Yojana.

Quick Tip

The ”Give it Up” campaign is part of India’s broader effort to address inequality and provide basic services to economically disadvantaged populations.

---

108. Which country has launched the ”Let Girls Learn” initiative aimed at educating 62 million girls around the world?

(A) United States

(B) New Zealand

(C) India

(D) Australia

Correct Answer: (A) United States

Solution: The United States launched the ”Let Girls Learn” initiative to promote education for girls globally. This initiative focuses on helping 62 million girls access education and improve their future opportunities.

Quick Tip

When studying international initiatives, note the countries and organizations that lead global educational programs for marginalized groups.

---

109. Advance ticket booking facility for railway passengers is available ..... days before the start of the journey

(A) 60

(B) 90

(C) 120

(D) None of these

Correct Answer: (C) 120

Solution: Railway passengers can book their tickets up to 120 days in advance for most trains. This facility allows passengers to plan their journeys well ahead of time.

Quick Tip

Always check the advance booking period for train tickets, as it may vary for different routes and classes. For most trains, the limit is typically 120 days.

---

110. Name India's first company that provides lifetime credit of up to Rs. 5 lakh instantly to its customers.

(A) Bajaj Finserv

(B) Indiabulls

(C) KreditBee

(D) MoneyTap

Correct Answer: (D) MoneyTap

Solution: MoneyTap is India's first company to provide an instant credit line of up to Rs. 5 lakh to its customers. The company offers a flexible line of credit that users can access via its mobile app.

Quick Tip

Instant credit services are gaining popularity due to their convenience and ease of access. MoneyTap is one of the pioneers in this space in India.

---

111. Name the Indian Cricketer, whose life time ban was reduced to seven year ban, which comes to end by 2020.

(A) Ajay Jadeja

(B) S. Sreesanth

(C) Ajay Sharma

(D) Mohammad Azharuddin

Correct Answer: (B) S. Sreesanth

Solution: S. Sreesanth, the Indian cricketer, had his life ban from cricket reduced to a seven-year ban, which was set to end in 2020. This ban was imposed due to his involvement in a spot-fixing scandal during the IPL.

Quick Tip

When learning about player bans and controversies, focus on the legal and disciplinary actions taken by governing bodies like the BCCI.

---

112. Who among the following was not a moderate?

(A) Feroz Shah Mehta

(B) Surendranath Banerji

(C) Bipin Chandra Pal

(D) Gopal Krishna Gokhale

Correct Answer: (C) Bipin Chandra Pal

Solution: Bipin Chandra Pal was not a moderate. He was a radical nationalist who played an active role in the freedom struggle and was one of the leaders of the extremist group in the Indian National Congress. The moderates were leaders who advocated gradual reforms and constitutional methods.

Quick Tip

In Indian history, the moderates and extremists had differing approaches to achieving independence. Understanding their ideologies helps in distinguishing their roles in the freedom struggle.

---

113. The best method for improving the nutrient composition of a diet is by

(A) combining various foods

(B) use of sprouted cereals and pulses

(C) use of boiled foods

(D) use of processed foods

Correct Answer: (B) use of sprouted cereals and pulses

Solution: The best method for improving the nutrient composition of a diet is by incorporating sprouted cereals and pulses. Sprouting enhances the bioavailability of nutrients and makes the food more digestible and nutritious.

Quick Tip

Sprouting cereals and pulses increases their nutritional value, making them an excellent choice for a healthy diet.

---

114. 'No two electrons in an atom can have the same set of four quantum numbers' is

(A) Newton's law

(B) Bohr's law

(C) Aufbau principle

(D) Pauli's exclusion principle

Correct Answer: (D) Pauli's exclusion principle

Solution: The Pauli Exclusion Principle states that no two electrons in an atom can have the same set of four quantum numbers. This principle is crucial for understanding the structure of atoms and the arrangement of electrons in orbitals.

Quick Tip

The Pauli Exclusion Principle is fundamental in chemistry and physics, especially when studying atomic structure and electron configurations.

---

115. Consider the following statements I. The Western Ghats are relatively higher in their northern region II. Doda Beta is the highest peak in the Western Ghats
Which among the above statements is/are incorrect?

(A) Only I

(B) Only II

(C) Both I and II

(D) Neither I nor II

Correct Answer: (D)

Solution:

- Statement I: The Western Ghats are indeed relatively higher in their northern region.

- Statement II: Doda Beta is the highest peak in the Western Ghats, located in Tamil Nadu.

Both statements are correct. Thus, the correct answer is (D) Neither I nor II.

Quick Tip

When studying geographical features like mountain ranges, pay attention to the location and elevation patterns of peaks.

---

116. Arjuna Award is given for

(A) bravery on battlefield

(B) outstanding performance in sports

(C) exceptional service in emergency

(D) exceptional service to slum dwellers

Correct Answer: (B) outstanding performance in sports

Solution: The Arjuna Award is given by the Government of India to recognize outstanding

performance in sports. It is one of the highest honors in Indian sports, awarded annually to athletes for excellence in their respective sports disciplines.

Quick Tip

The Arjuna Award is an important recognition in Indian sports, highlighting athletes who have made significant contributions to their field.

---

117. Which day of the year is celebrated as World Radio day?

(A) 13 February

(B) 15 February

(C) 13 March

(D) 15 March

Correct Answer: (A) 13 February

Solution: World Radio Day is celebrated on February 13 every year. It was established by UNESCO in 2011 to recognize the role of radio in communication, education, and promoting diverse perspectives.

Quick Tip

World Radio Day serves to raise awareness about the importance of radio as a tool for communication, especially in remote and underserved communities.

---

118. Which movie won the Oscar in the best picture category in the 87th Academy Awards?

(A) The Theory of Everything

(B) Glory

(C) Still Alice

(D) Birdman

Correct Answer: (D) Birdman

Solution: ”Birdman” won the Oscar for Best Picture at the 87th Academy Awards. Directed by Alejandro González Iñárritu, the film was praised for its innovative narrative and technical execution.

Quick Tip

When studying the Academy Awards, pay attention to both the best picture winner and the key achievements of the director and cast, as they often define the cultural impact of the film.

---

119. Acid used in Car battery is

(A) Hydrochloric acid

(B) Boric acid

(C) Sulphuric acid

(D) Carbonic acid

Correct Answer: (C) Sulphuric acid

Solution: Sulphuric acid is used in car batteries. It serves as an electrolyte in lead-acid batteries, enabling the chemical reactions that store and release electrical energy.

Quick Tip

Sulphuric acid is a key component of car batteries. Understanding its role can help with troubleshooting electrical issues in vehicles.

---

120. The Maze Tower in which city has been recognised by Guinness World Records as representing the largest vertical maze?

(A) Shanghai

(B) Dubai

(C) Hong Kong

(D) New York

Correct Answer: (B) Dubai

Solution: The Maze Tower in Dubai holds the Guinness World Record for the largest vertical maze. The tower features an intricate design that spans the height of the building, offering a challenging maze experience.

Quick Tip

When studying landmarks or records, focus on their unique attributes, such as size or design, that contribute to their recognition in global records.

Section-D (Reasoning)

121. Statement: The patient's condition would improve after operation.
Assumptions: I. The patient can be operated upon in this condition. II. The patient cannot be operated upon in this condition.
(A) if only assumption I is implicit
(B) if only assumption II is implicit
(C) if neither assumption I nor II is implicit
(D) if both assumptions I and II are implicit

Correct Answer: (A) if only assumption I is implicit

Solution: The statement clearly says that "The patient's condition would improve after operation." This implies that the operation is possible and is expected to improve the patient's condition.
Now, let's analyze the assumptions:
Assumption I: "The patient can be operated upon in this condition." - This assumption is necessary for the statement to make sense. If the patient cannot be operated upon, the statement that the condition will improve after operation would be contradictory. Therefore, this assumption must be true for the statement to hold.
Assumption II: "The patient cannot be operated upon in this condition." - This assumption contradicts the statement. If the patient cannot be operated upon, it would not be possible for the condition to improve after an operation. Therefore, this assumption is not implicit.

Since Assumption I is implicit (it must be true for the statement to be valid), and Assumption II is not implicit (it contradicts the statement), the correct answer is (A) – if only assumption I is implicit.

Quick Tip

When analyzing assumptions in logical reasoning questions, always check for the compatibility of the assumptions with the statement. Any assumption that directly contradicts the statement is not implicit.

---

122. The government has decided to disinvest large chunks of its equity in select public sector undertakings for a better fiscal management.

Assumptions: I. The amount generated out of the disinvestments process may reduce substantially the mounting fiscal deficits. II. There will be enough demand in the market for the shares of these undertakings.

(A) if only assumption I is implicit

(B) if only assumption II is implicit

(C) if neither assumption I nor II is implicit

(D) if both assumptions I and II are implicit

Correct Answer: (D)

Solution:

- Assumption I is implicit as the disinvestment process is expected to reduce fiscal deficits. - Assumption II is also implicit as for disinvestment to be successful, there must be enough demand for the shares of these companies.

Hence, both assumptions I and II are implicit.

Thus, the correct answer is (D).

Quick Tip

When analyzing assumptions, ensure they logically support the given statement. If the assumption is necessary for the statement to hold true, it is implicit.

123. All existing inequalities can be reduced, if not utterly eradicated, by action of governments or by revolutionary change of government.

Assumptions: I. Inequality is a man-made phenomenon. II. No person would voluntarily part with what he possesses.

(A) if only assumption I is implicit

(B) if only assumption II is implicit

(C) if neither assumption I nor II is implicit

(D) if both assumptions I and II are implicit

Correct Answer: (D)

Solution:

- Assumption I is implicit because the statement implies inequality is a product of human action.

- Assumption II is also implicit because the statement assumes that inequality can only be reduced by external intervention, implying that individuals will not willingly reduce their own inequality.

Hence, both assumptions I and II are implicit.

Thus, the correct answer is (D).

Quick Tip

When evaluating assumptions, consider whether they are directly necessary for the statement to hold true. Assumptions that introduce new conditions not mentioned in the statement are not implicit.

---

124. "You are hereby appointed as a programmer with a probation period of one year and your performance will be reviewed at the end of the period for confirmation." – A line in an appointment letter.

Assumptions: I. The performance of an individual generally is not known at the time of appointment offer. II. Generally an individual tries to prove his worth in the probation period.

(A) if only assumption I is implicit

(B) if only assumption II is implicit

(C) if neither assumption I nor II is implicit

(D) if both assumptions I and II are implicit

Correct Answer: (D) if both assumptions I and II are implicit

Solution: Assumption I is implicit because the statement suggests that the probation period is used to evaluate the individual's performance, implying that performance is not known at the time of appointment. Assumption II is also implicit because the review process suggests that the individual is expected to prove their worth during the probation period.

Quick Tip

In scenarios like probation periods, both the employer's evaluation and the employee's performance prove essential to the decision-making process.

---

125. Should judiciary be independent of the executive?

Arguments: I. Yes, this would help curb the unlawful activities of the executive. II. No, the executive would not be able to take bold measures.

(A) if only argument I is strong

(B) if only argument II is strong

(C) if neither argument I nor II is strong

(D) if both arguments I and II are strong

Correct Answer: (A) if only argument I is strong

Solution: Argument I is strong because an independent judiciary would act as a check on the power of the executive, preventing unlawful activities. Argument II is weak because while the executive may need power, it should not have unchecked authority. An independent judiciary would prevent overreach by the executive without hindering bold measures in a lawful manner.

Quick Tip

When analyzing arguments, always consider whether the action proposed would contribute positively to maintaining the balance of power between branches of government.

---

126. Should open book systems be introduced in examinations?

Arguments: I. Yes, because it will avoid mass copying. II. No, because then all students will get 100

(A) if only argument I is strong

(B) if only argument II is strong

(C) if neither argument I nor II is strong

(D) if both arguments I and II are strong

Correct Answer: (C) if neither argument I nor II is strong

Solution: Argument I is weak because open book exams do not necessarily prevent cheating; they may simply change the form of cheating. Argument II is also weak because open book exams could promote deeper learning rather than merely rote memorization, and the assumption that all students will get 100

Quick Tip

Open book exams emphasize understanding and application of knowledge, which can lead to more meaningful learning experiences.

---

127. Should religion be taught in our schools?

Arguments: I. Yes, do the parents not wish to develop their wards into mature individuals? II. No, how can one dream of such a step when we want the young generation to fulfill its role?

(A) if only argument I is strong

(B) if only argument II is strong

(C) if neither argument I nor II is strong

(D) if both arguments I and II are strong

Correct Answer: (C)

Solution:

- Argument I is weak because there is no correlation between teaching religion at school and students becoming mature.
- Argument II is also weak because it does not clearly explain how teaching religion will prevent students from achieving their goals.

Thus, neither argument I nor II is strong.

Hence, the correct answer is (C).

Quick Tip

When debating education-related issues, consider the impact of curriculum content on both the intellectual and emotional development of students.

---

128. Should family planning be made compulsory in India?

Arguments: I. Yes, looking at the miserable conditions in India, there is no other go. II. No, in India there are people of various religions and family planning is against the tenets of some of the religions.

(A) if only argument I is strong

(B) if only argument II is strong

(C) if neither argument I nor II is strong

(D) if both arguments I and II are strong

Correct Answer: (B)

Solution:

- Argument I is rejected as it is not the only option left for the country, as there are other ways to tackle the issue of miserable conditions.
- Argument II is strong because family planning may not be in accordance with the practices of a few religions.

Hence, only argument II is strong.

Thus, the correct answer is (B).

Quick Tip

When evaluating arguments for or against a policy, always consider the broader societal impact and the long-term benefits versus short-term concerns. In cases involving cultural opposition, find a middle ground that respects values while addressing societal needs.

---

129. Statement: Black cloud follows thunder; rains follow thunder.

Conclusions: I. Thunder is the cause of rain. II. Black cloud is the cause of thunder.

(A) if only conclusion I is strong

(B) if only conclusion II is strong

(C) if neither conclusion I nor II is strong

(D) if both conclusion I and II are strong

Correct Answer: (C) if neither conclusion I nor II is strong

Solution: The statement ”Black cloud follows thunder; rains follow thunder” gives two observations, but it does not establish causality between thunder, black clouds, and rain. It simply presents a sequence of events. Let’s analyze the conclusions:

Conclusion I: ”Thunder is the cause of rain.” - This conclusion is incorrect because while thunder and rain often occur together, thunder is not the cause of rain. Thunder is a sound produced by the rapid expansion of air around a lightning strike, whereas rain is caused by the condensation of water vapor in the atmosphere. Therefore, the cause of rain is not thunder.

Conclusion II: ”Black cloud is the cause of thunder.” - This conclusion is also incorrect. While black clouds are often associated with thunderstorms, they do not cause thunder. Thunder is caused by the electrical discharge (lightning) that occurs within storm clouds. The presence of black clouds is a sign of a storm, but they do not cause thunder.

Since neither conclusion is supported by the statement, the correct answer is (C) – neither conclusion I nor II is strong.

Quick Tip

When analyzing cause and effect relationships, be careful not to confuse correlation with causation. Just because two events occur together does not mean one causes the other.

---

130. Statement: The secret of success is consistency of purpose.

Conclusions: I. It is difficult for a person to be consistent. II. Single-minded devotion will highly help for achieving success.

(A) if only conclusion I is strong

(B) if only conclusion II is strong

(C) if neither conclusion I nor II is strong

(D) if both conclusion I and II are strong

Correct Answer: (B) if only conclusion II is strong

Solution: The statement ”The secret of success is consistency of purpose” suggests that achieving success requires a focused and consistent effort toward a specific goal. Let’s evaluate the conclusions:

Conclusion I: ”It is difficult for a person to be consistent.” - This conclusion does not logically follow from the statement. While consistency may be challenging, it is not a necessary implication of the statement. The statement does not claim that consistency is inherently difficult, but rather that it is crucial for success.

Conclusion II: ”Single-minded devotion will highly help for achieving success.” - This conclusion is supported by the statement. Consistency of purpose implies dedication and single-minded focus on one’s goals, which is essential for achieving success. Thus, this conclusion aligns well with the statement.

Therefore, the correct answer is (B) – only conclusion II is strong.

Quick Tip

Consistency and focus are key to achieving success. When pursuing a goal, ensure that your efforts are aligned with a clear, unwavering purpose.

131. Statement: Today out of the world population of several thousand million, the majority of men have to live under governments which refuse them personal liberty and the right to dissent.

Conclusions: I. People are indifferent to personal liberty and the right to dissent. II. People desire personal liberty and the right to dissent.

(A) if only conclusion I follows

(B) if only conclusion II follows

(C) if neither conclusion I nor II follows

(D) if both conclusion I and II follow

Correct Answer: (C)

Solution:

- Conclusion I is a mere assumption and is not a valid conclusion based on the statement.
- Conclusion II contradicts the statement, as the statement suggests that people do not have personal liberty.

Hence, neither conclusion I nor II follows.

Thus, the correct answer is (C).

Quick Tip

When evaluating conclusions, make sure they logically align with the statement and do not introduce assumptions that contradict the given facts.

---

132. Statement: The use of non-conventional sources of energy will eliminate the energy crisis in the world.

Conclusions: I. Modern technology is gradually replacing the conventional sources of energy. II. The excessive exploitation of the environment has led to depletion of conventional sources of energy.

(A) if only conclusion I is strong

(B) if only conclusion II is strong

(C) if neither conclusion I nor II is strong

(D) if both conclusion I and II are strong

Correct Answer: (C)

Solution:

- Conclusion I is not strong because it talks about the gradual replacement of conventional sources, which is not directly supported by the statement.
- Conclusion II is also weak as it talks about the depletion of conventional sources but doesn't clearly link it to the statement.

Thus, neither conclusion I nor II is strong.

The correct answer is (C).

Quick Tip

When analyzing conclusions, ensure that they reflect the broader context and underlying causes presented in the statement. In environmental issues, both technological advancements and sustainability concerns play key roles.

---

133. Among five boys, Vineet is taller than Manick, but not as tall as Ravi. Jacob is taller than Dilip but shorter than Manick. Who is the tallest in their group?

(A) Ravi

(B) Manick

(C) Vineet

(D) Dilip

Correct Answer: (A) Ravi

Solution: Based on the given information: - Vineet is taller than Manick but not as tall as Ravi, so Ravi is taller than both Vineet and Manick. - Jacob is taller than Dilip but shorter than Manick, which places Jacob between Dilip and Manick.

From this, the tallest person in the group is Ravi, who is taller than Vineet, Manick, and Jacob.

Thus, the correct answer is (A) – Ravi.

Quick Tip

When solving problems involving relative comparisons, always map out the relationships step by step to ensure clarity in determining the correct order.

---

134. If P is taller than Q, R is shorter than P, S is taller than T but shorter than Q, then who among them is the tallest?

(A) P

(B) Q

(C) S

(D) T

Correct Answer: (A) P

Solution: From the given relationships: - P is taller than Q. - R is shorter than P. - S is taller than T but shorter than Q.

Given this, P is the tallest because there are no other individuals who exceed P in height based on the comparisons.

Thus, the correct answer is (A) – P.

Quick Tip

When analyzing height or order-related problems, always arrange the individuals from shortest to tallest based on the given relationships to identify the tallest one.

---

135. My bag can carry no more than ten books. I must carry at least one book each of management, mathematics, physics and fiction. Also for every management book I must carry two or more fiction books, and for every mathematics book I must carry two or more physics books. I earn 4, 3, 2, and 1 points for each management, mathematics, physics and fiction book, respectively. I carry in my bag. I want to maximize the points I can earn by carrying the most appropriate combination of books in my bag. The maximum points that I can earn are

(A) 20

(B) 21

(C) 22

(D) 23

Correct Answer: (C)

Solution:

- From the given constraints:

- Management books (1 book)

- Fiction books (2 books minimum)

- Mathematics books (1 book)

- Physics books (2 books minimum)

- Total books = 1 + 2 + 1 + 2 = 6, with total points = 4 + 3 + 2 + 1 = 10. Hence, maximum points that can be earned are 22.

Thus, the correct answer is (C).

Quick Tip

For optimization problems, ensure that all constraints are met while maximizing the score or outcome. Use trial and error to find the best combination that satisfies all conditions.

---

136. Eighty kilogram of store material is to be transported to a location 10 km away. Any number of couriers can be used to transport the material. The material can be packed in any number of units of 10, 20 or 40 kg. Courier charges are Rs. 10 per hour. Couriers travel at the speed of 10 km/hr if they are not carrying any load, at 5 km/hr if carrying 10 kg, at 2 km/hr if carrying 20 kg and at 1 km/hr if carrying 40 kg. A courier cannot carry more than 40 kg of load. The minimum cost at which 80 kg of store material can be transported to its destination will be (given the total quantity must be sent by using one kind of packs only, a combination of packs is not allowed)

(A) Rs. 180

(B) Rs. 160

(C) Rs. 140

(D) Rs. 120

Correct Answer: (B)

Solution:

- For 10 kg pack, total cost = 10 km @ 5 km/hr = Rs. 20.
- For 20 kg pack, total cost = 20 km @ 2 km/hr = Rs. 200.
- For 40 kg pack, total cost = 40 km @ 1 km/hr = Rs. 200.
- Hence the minimum cost is Rs. 160 for 10 kg packets.

Thus, the correct answer is (B).

Quick Tip

To minimize costs in transportation problems, always calculate the total cost for different pack sizes by considering both the number of couriers and the time taken for delivery.

---

137. From a point, Rajneesh started walking towards east and walked 35 m. He then turned towards his right and walked 20 m and he again turned right and walked 35 m. Finally, he turned to his left and walked 20 m and he reached his destination. Now, how far is he from his starting point?

(A) 50 m

(B) 55 m

(C) 20 m

(D) 40 m

(E) 35 m

Correct Answer: (D)

Solution:

- Rajneesh walks in the following path:

1. East for 35m
2. Right turn, walk 20m

3. Right turn again, walk 35m

4. Left turn, walk 20m, and reaches his destination.

- Therefore, he is 40 meters away from the starting point.

Thus, the correct answer is (D).

Quick Tip

In direction-based problems, always break down the movement into cardinal directions and calculate the net displacement.

---

138. A directional post is erected on a crossing. In an accident, it was turned in such a way that the actual east is now point towards north. A passerby went in a wrong direction thinking it is west. In which direction is he actually travelling now?

(A) South

(B) North

(C) East

(D) West

(E) Data insufficient

Correct Answer: (A)

Solution:

The letters in the box are what is being indicated and outside the box are real directions.

Now the person moving towards west is actually moving towards South as the arrow which was pointing towards West is now pointing South.

Thus, the correct answer is (A).

Quick Tip

Be mindful of directional shifts when dealing with problems involving direction posts. Consider how the directions are altered based on the turns and assumptions made.

---

139. Kittu is in between Mohan and Sohan, Raju is to the left of Sohan and Shyam is to the right of Mohan. If all of the friends are sitting facing South, then who is on their extreme right?

(A) Mohan

(B) Sohan

(C) Kittu

(D) Shyam

(E) Raju

Correct Answer: (D) Shyam

Solution: - The seating arrangement is as follows: Kittu is between Mohan and Sohan. - Raju is to the left of Sohan and Shyam is to the right of Mohan. - Since everyone is facing south, the extreme right will be the person who is farthest to the right when viewed from the direction of the arrangement.

Therefore, Shyam is the person sitting on the extreme right.

Thus, the correct answer is (D) Shyam.

Quick Tip

In seating arrangement problems, always visualize the seating based on the given directions and relative positioning of the individuals to correctly identify the extreme positions.

---

140. In a queue, Sadiq is 14th from the front and Joseph is 17th from the end, while Jane is in between Sadiq and Joseph. If Sadiq be ahead of Joseph and there be 48 persons in the queue, how many persons are there between Sadiq and Jane?

(A) 5

(B) 6

(C) 7

(D) 8

Correct Answer: (D)

Solution:

- Total number of persons in the queue = 48.

- Persons in front = 14, persons at the end = 17. Hence, the remaining number of persons = 48 - 31 = 17.

- Since Jane is between Sadiq and Joseph, hence 8 persons are there between Sadiq and Jane.

Thus, the correct answer is (D).

Quick Tip

In position-based problems like this, always subtract the given positions and adjust based on the persons in between.

---

141. A cube is to be coloured in such a way as to avoid the same colour on adjacent surfaces. What is the minimum number of colours you will require?

(A) Three

(B) Four

(C) Six

(D) Nine

Correct Answer: (A) Three

Solution: - A cube has 6 faces, and adjacent faces must not have the same colour. - To achieve this, we need at least 3 colours. - We can colour opposite faces with the same colour and alternate between the remaining colours for the other faces.

Thus, the minimum number of colours required is 3.

Quick Tip

For colouring problems, consider opposite faces and alternate colouring for adjacent surfaces to minimize the number of colours used.

---

142. Persons X, Y, Z and Q live in red, green, yellow or blue coloured houses placed in a sequence on a street. Z lives in a yellow house. The green house is adjacent to the blue

house. X does not live adjacent to Z. The yellow house is in between the green and red house. The colour of the house X lives in is

(A) yellow

(B) green

(C) red

(D) None of these

Correct Answer: (D)

Solution:

After analyzing the given information, we can tabulate. X lives in the Blue house.

- X, Y, Z, and Q live in the Blue, Green, Yellow, and Red houses.

- The green house is adjacent to the blue house, and the yellow house is in between the green and red house.

Therefore, the correct answer is (D), i.e., None of these.

Quick Tip

In problems involving sequences and positions, always use elimination and adjacency constraints to narrow down possible answers.

---

143. D-4, F-6, H-8, J-10, '?'

(A) K-12

(B) M-14

(C) L-12

(D) M-13

Correct Answer: (C) L-12

Solution: The sequence follows the pattern: - D, F, H, J $\rightarrow$ Letters in increasing order with a step of 2. - 4, 6, 8, 10 $\rightarrow$ Numbers in increasing order with a step of 2.

So, the next letter after J is L (2 steps forward), and the next number after 10 is 12 (2 steps forward).

Thus, the correct answer is (C) L-12.

Quick Tip

In sequences, identify the common patterns in both letters and numbers to predict the next element.

---

144. 3F, 6G, 11I, 18L, '?'

(A) 210

(B) 25N

(C) 27P

(D) 27Q

Correct Answer: (C) 27P

Solution: - The numbers follow the pattern: 3, 6, 11, 18 $\rightarrow$ Increasing by 3, 5, 7, 9. So the next increment is 11, giving 18 + 11 = 29.

- The letters follow the pattern: F, G, I, L $\rightarrow$ Increasing by 1, 2, 3. So the next increment is 4, giving L + 4 = P.

Thus, the correct answer is (C) 27P.

Quick Tip

Look for patterns in both letters and numbers separately to predict the next term in such sequences.

---

145. A, G, L, P, S, '?'

(A) U

(B) W

(C) X

(D) Y

Correct Answer: (A)

Solution:

The pattern of the given letters is:

- A (1st letter of the alphabet)

- G (7th letter)

- L (12th letter)

- P (16th letter)

- S (19th letter)

Each letter is increasing by +6, +5, +4, +3, and +2.

Hence, the next letter would be U, which is +1 from S (19th letter).

Thus, the correct answer is (A).

Quick Tip

Look for consistent patterns in the differences between positions of letters or numbers in sequences.

---

146. AI, BJ, CK, '?'

(A) DL

(B) DM

(C) GH

(D) LM

Correct Answer: (A)

Solution:

- A + 1 = B

- I + 1 = J

- B + 1 = C

- J + 1 = K

Similarly, for the next term:

- C + 1 = D

- K + 1 = L

Thus, the correct answer is (A).

Quick Tip

Look for sequential patterns in both positions of letters, where the increase in each letter follows a constant difference.

---

147. 6, 11, 21, 36, 56, '?'

(A) 42

(B) 51

(C) 81

(D) 91

Correct Answer: (D)

Solution:

- 6 + 5 = 11
- 11 + 10 = 21
- 21 + 15 = 36
- 36 + 20 = 56

Hence, following the same pattern:

- 56 + 25 = 81.

Thus, the correct answer is (D).

Quick Tip

Identify patterns in differences between numbers. If the differences increase or decrease by a constant amount, use that to predict the next term.

---

148. 1, 9, 17, 33, 49, 73, '?'

(A) 97

(B) 98

(C) 99

(D) 100

Correct Answer: (C)

Solution:

- 1 + 8 = 9
- 9 + 8 = 17
- 17 + 16 = 33
- 33 + 16 = 49
- 49 + 48 = 97

Thus, the correct answer is (C).

> **Quick Tip**
>
> Look for alternating patterns in differences or other sequences to identify relationships in the series.

---

149. Ram's age was square of a number last year and it will be cube of a number next year. How long must he wait before his age is again the cube of a number?

(A) 39 years

(B) 10 years

(C) 38 years

(D) 64 years

Correct Answer: (C) 38 years

Solution: Step 1: Let Ram's age last year be x^2 and next year be y^3, where x and y are natural numbers.

Step 2: The age difference between last year and next year is:

$$y^3 - x^2 = 2$$

Step 3: Solve for x and y. After trial and error, we get that $x = 6$ and $y = 7$.

Step 4: Therefore, Ram's age last year is $6^2 = 36$, and next year it will be $7^3 = 343$.

Step 5: The age difference between now and next year is $343 - 36 = 307$. Ram needs to wait 307 years.

Quick Tip

For such problems, trial and error can help when dealing with square and cube numbers, especially in age-related questions.

---

150. A, B, C and D play a game of cards. A says to B, 'If I give you 8 cards, you will have as many as C has and I shall have 3 less than what C has. Also if I take 6 cards from C, I shall have twice as many as D has.' If B and D together have 50 cards, how many cards has A got?

(A) 23

(B) 27

(C) 37

(D) 40

Correct Answer: (D)

Solution:

- Going by the options:

- If A has 40 cards, then C has (40 - 8) + 3 = 35 and B has 27 cards. So D has 23 cards.

- And if A takes 6 cards from C, he will have 46 cards which is double of D's cards.

Thus, the correct answer is (D).

Quick Tip

System of equations can help break down complex word problems, especially in card distribution or other related logical problems.

---

151. Introducing Rajesh, Neha said, "his brother's father is the only son of my grandfather". How is Rajesh related to Neha?

(A) Brother

(B) Daughter

(C) Mother

(D) Niece

(5) Sister

Correct Answer: (A)

Solution:

- Only son of my grandfather is my father. So if Neha said that his brother's father is my father, it means both persons are brother and sister. Hence Rajesh is brother of Neha.

Thus, the correct answer is (A).

Quick Tip

For family relations, try to break down the problem by identifying the relationship step by step, like who is the father, mother, or sibling in the equation.

---

152. Saroj is mother-in-law of Vani who is sister-in-law of Deepak. Rajesh is father of Ramesh, the only brother of Deepak. How is Saroj related to Deepak?

(A) Mother-in-law

(B) Aunt

(C) Wife

(D) Mother

(5) Sister

Correct Answer: (D) Mother

Solution: Step 1: From the problem, Saroj is the mother-in-law of Vani and Vani is the sister-in-law of Deepak, which means Vani is married to Deepak's brother. **Step 2:** Rajesh is Deepak's father-in-law, and he is also the father of Ramesh, Deepak's only brother. **Step 3:** This means Saroj is Deepak's mother, as she is Rajesh's wife.

Quick Tip

For family relation questions, try to break down the relationships step by step, focusing on one relationship at a time.

---

153. A famous singer recently won a lawsuit against an advertising firm for using another singer in a commercial to evoke the famous singer's well-known rendition of a certain song. As a result of the lawsuit, advertising firms will stop using imitators in commercials. Therefore, advertising costs will rise, since famous singer's services cost more than those of their imitators.

The conclusions above are based on which of the following assumptions?

(A) Most people are unable to distinguish a famous singer's rendition of a song from a good imitator's rendition of the same song.

(B) Commercials using famous singers are usually more effective than commercials using imitator's rendition of the same song.

(C) The original versions of some well-known songs are unavailable for use in commercials.

(D) The advertising industry will use well-known renditions of songs in commercials.

Correct Answer: (B) Commercials using famous singers are usually more effective than commercials using imitator's rendition of the same song.

Solution: Step 1: The conclusion that advertising costs will rise is based on the assumption that commercials using famous singers are more effective, justifying the higher cost. **Step 2:** The correct assumption is that commercials using famous singers are more effective than using imitators, leading to the conclusion that advertising firms will no longer use imitators.

Quick Tip

Look for assumptions that support the logical flow of conclusions, such as cause and effect in advertisement-related problems.

---

154. Whenever a major airplane accident occurs, there is a dramatic increase in the number of airplane mishaps reported in the media, a phenomenon that may last for as a few months after the accident. Airline officials assert that the publicity given to the gruesomeness of major airplane accidents focuses media attention on the airline industry, and the increase in the number of reported accidents is caused by an increase in the number of news sources covering airline accidents, not by an increase in the number of accidents.

Which of the following choices explains the discrepancies stated above?

(A) The publicity surrounding airline accidents is largely limited to the country in which the crash occurred.

(B) Airline accidents tend to occur far more often during certain peak travel months.

(C) News organizations do not have any guidelines to help them decide how severe an accident is.

(D) Airplane accidents receive coverage by news sources find it advantageous to do so.

Correct Answer: (D) Airplane accidents receive coverage by news sources find it advantageous to do so.

Solution: Step 1: The increase in reported airplane accidents is explained by the fact that media sources focus on such accidents for their potential to attract viewers and readers, not because the number of accidents has increased.

Step 2: Thus, news organizations' increased coverage of these accidents leads to the perceived rise in incidents, which is caused by the increase in coverage, not the actual number of accidents.

Quick Tip

In causality-based reasoning problems, it is important to identify how one factor (like media coverage) may affect another (like the perceived number of accidents).

---

155. In a certain code TEACHER is written as VGCEJGT. How is CHILDREN written in that code?

(A) EJKNEGTP

(B) EGKNFITP

(C) EJKNFTGP

(D) EJKNFTG

Correct Answer: (D)

Solution:

By following the same pattern, we obtain:

For TEACHER:

- T + 2 = V
- E + 2 = G
- A + 2 = C
- C + 2 = E
- H + 2 = J
- E + 2 = G
- R + 2 = T

For CHILDREN:

- C + 2 = E
- H + 2 = J
- I + 2 = K
- L + 2 = N
- D + 2 = F
- R + 2 = T
- E + 2 = G
- N + 2 = P

Thus, the correct answer is (D).

Quick Tip

For letter-coding problems, observe the pattern in the shifts or changes for each letter in the word and apply the same to the next word.

---

156. In a certain code, 'BASIC' is written as 'DDULE'. How is 'LEADER' written in that code?

(A) NHCGGU

(B) OHDGHU

(C) NGCFGT

(D) OGDFHT

Correct Answer: (D)

Solution:

By following the same pattern:

- B + 2 = D
- A + 3 = D
- S + 3 = U
- I + 2 = L
- C + 3 = E

Now applying the same pattern for LEADER:

- L + 2 = O
- E + 3 = G
- A + 3 = D
- D + 2 = F
- E + 3 = H
- R + 2 = T

Thus, the correct answer is (D).

Quick Tip

For such coding problems, identify the pattern in the shifts of the letters and apply the same pattern to other words.

---

157. The prices of foodgrains and vegetables have substantially increased due to prolonged strike call given by the truck owners association.

(A) if only Course of action I is strong

(B) if only Course of action II is strong

(C) if neither Course of action I nor II are strong

(D) if both Course of action I and II are strong

Correct Answer: (A) if only Course of action I is strong

Solution: Step 1: Course of action I suggests alternative arrangements to ensure adequate supply, which is essential due to the ongoing strike. This is a necessary course of action. **Step 2:** Course of action II suggests canceling licenses of all vehicles belonging to the association. This may not be immediately effective and could escalate the situation. **Step 3:** Thus, only Course of action I is strong.

Quick Tip

When dealing with action-reason questions, focus on the immediate feasibility and impact of each proposed course of action.

---

158. There has been an unprecedented increase in the number of requests for berths in most of the long distance trains during the current holiday season.

(A) if only Course of action I is strong

(B) if only Course of action II is strong

(C) if neither Course of action I nor II are strong

(D) if both Course of action I and II are strong

Correct Answer: (A) if only Course of action I is strong

Solution: Step 1: Course of action I suggests increasing train capacity by attaching additional coaches. This is a practical solution to accommodate the increased demand. **Step 2:** Course of action II suggests advising people to plan travel after the holiday season. This is not a feasible solution, as people have already planned their trips. **Step 3:** Therefore, only Course of action I is strong.

Quick Tip

Look for solutions that directly address the current problem rather than attempting to change the behavior of people involved.

---

159. There has been significant drop in the water level of all the lakes supplying water to the city.

(A) if only Course of action I is strong

(B) if only Course of action II is strong

(C) if neither Course of action I nor II are strong

(D) if both Course of action I and II are strong

Correct Answer: (D) if both Course of action I and II are strong

Solution: Step 1: Course of action I suggests imposing a partial cut in supply to manage the situation. This is a practical step. **Step 2:** Course of action II suggests appealing to residents through mass media to minimize water usage. This is also a valid step to conserve water. **Step 3:** Both actions together will help resolve the issue effectively.

Quick Tip

When handling resource management problems, combining different courses of action can often lead to a more effective solution.

---

160. A large number of people visiting India from country 'X' has been tested positive for carrying viruses of a killer disease.

(A) if only Course of action I is strong

(B) if only Course of action II is strong

(C) if neither Course of action I nor II are strong

(D) if both Course of action I and II are strong

Correct Answer: (B)

Solution:

Option 2 is valid because the first course of action is not valid as we cannot impose a ban on all people as such a drastic step is not warranted. The second course of action is valid as it addresses the problem in a sensible way.

Thus, the correct answer is (B).

Quick Tip

In cases of public health concerns, both prevention and control measures should be considered to ensure the spread is minimized.

Section-E (Verbal)

161. Astrologers are habitually prone to goof-ups; now have an excuse for why their predictions have been going haywire: the emergence of newer and newer planets that have caused their calculations to go awry. For the international team of astronomers who recently discovered eight new planets, the arrivals are, however, a cause for excitement. Indeed, even as the rest of the world continues to be consumed by a morbid passion for shiny new war machines, deadly chemicals and sinister war tactics, astronomers have been doggedly searching the heavens for more heavenly bodies in the belief that the search will take us closer to a more exalted goal ” that of knowing the truth about us and the universe. Reality is much bigger than it seems the part we call the universe is the merest tip of the iceberg, one scientist remarked. How true. In the beginning, skeptics wouldn't accept that the earth actually moves, let alone that it revolves around the sun because of an unshaken belief that the earth was the centre of the universe. We've come a long way. Today, scientists have spotted nearly 80 extra-solar planets using sophisticated instruments. What's more, our universe may

not be the only universe in the cosmos; there could well be several parallel universes teeming with many galaxies, solar systems and planets, although none of this may be perceptible to the naked eye. Perhaps sages who say that truth is not easily perceptible, mean just this " what is evidently before us is not the whole truth.
Scientists say that everything in the tangible universe has its shadowy counterpart in other, parallel universes. In fact, it is by observing the play of cosmic light and shadow through powerful devices that scientists have been able to feel shapes or see shadows that indicate the existence of other heavenly bodies without actually seeing them. The international team of scientists involved in the present discovery conducted their search through telescopes in Australia, Belgium, UK and the US. Two of the newly discovered eight planets are believed to have circular orbits very like the Earth's, while the others have well-defined elliptical orbits much like Pluto's. This is significant because a planet with a circular orbit would more likely be hospitable to life forms than would one with an elliptical orbit. In the latter, the planet experiences extreme temperatures depending on whether it is proximate to or distant from the energy-giving star it's circumambulating. As in the case of other recent discoveries " such as finding traces of microbes in a meteorite " this too strengthens the belief that we are not alone in the universe. So would we be exchanging inter galactic e-mails soon? Perhaps not as yet, given that our closest neighbouring galaxy is millions of light years away. What is within our immediate grasp, though, is exploring the viability of establishing human settlements in space " an endeavour that has assumed urgency what with biological terrorism and the like threatening humankind on earth. As Stephen Hawking recently said, I don't think the human race will survive the next thousand years unless we spread into space. There are too many accidents that can befall life on a single planet.
According to the passage, it can be inferred that
(A) finding traces of microbes in a meteorite proves the existence of life on other planets.
(B) finding traces of microbes in a meteorite contributed the belief into truth that we are not alone in the universe.
(C) finding traces of microbes in a meteorite made it possible to exchange galactic e-mails in future.
(D) finding traces of microbes in a meteorite made us think about exploring the viability of

establishing human settlements in space.

Correct Answer: (A)

Solution:

The passage talks about finding traces of microbes in a meteorite, which is proof that we are not alone in the universe.

Thus, the correct answer is (A).

Quick Tip

Look for keywords that directly address the main point of the passage when selecting the correct inference.

---

162. Astrologers are habitually prone to goof-ups; now have an excuse for why their predictions have been going haywire: the emergence of newer and newer planets that have caused their calculations to go awry. For the international team of astronomers who recently discovered eight new planets, the arrivals are, however, a cause for excitement. Indeed, even as the rest of the world continues to be consumed by a morbid passion for shiny new war machines, deadly chemicals and sinister war tactics, astronomers have been doggedly searching the heavens for more heavenly bodies in the belief that the search will take us closer to a more exalted goal ” that of knowing the truth about us and the universe. Reality is much bigger than it seems the part we call the universe is the merest tip of the iceberg, one scientist remarked. How true. In the beginning, skeptics wouldn't accept that the earth actually moves, let alone that it revolves around the sun because of an unshaken belief that the earth was the centre of the universe. We've come a long way. Today, scientists have spotted nearly 80 extra-solar planets using sophisticated instruments. What's more, our universe may not be the only universe in the cosmos; there could well be several parallel universes teeming with many galaxies, solar systems and planets, although none of this may be perceptible to the naked eye. Perhaps sages who say that truth is not easily perceptible, mean just this ” what is evidently before us is not the whole truth. Scientists say that everything in the tangible universe has its shadowy counterpart in other, parallel

universes. In fact, it is by observing the play of cosmic light and shadow through powerful devices that scientists have been able to feel shapes or see shadows that indicate the existence of other heavenly bodies without actually seeing them. The international team of scientists involved in the present discovery conducted their search through telescopes in Australia, Belgium, UK and the US. Two of the newly discovered eight planets are believed to have circular orbits very like the Earth's, while the others have well-defined elliptical orbits much like Pluto's. This is significant because a planet with a circular orbit would more likely be hospitable to life forms than would one with an elliptical orbit. In the latter, the planet experiences extreme temperatures depending on whether it is proximate to or distant from the energy-giving star it's circumambulating. As in the case of other recent discoveries " such as finding traces of microbes in a meteorite " this too strengthens the belief that we are not alone in the universe. So would we be exchanging inter galactic e-mails soon? Perhaps not as yet, given that our closest neighbouring galaxy is millions of light years away. What is within our immediate grasp, though, is exploring the viability of establishing human settlements in space " an endeavour that has assumed urgency what with biological terrorism and the like threatening humankind on earth. As Stephen Hawking recently said, I don't think the human race will survive the next thousand years unless we spread into space. There are too many accidents that can befall life on a single planet. According to the author's belief, it can be inferred that all of the following are not true except

(A) It is unlikely that the human race can survive the next thousand years.

(B) It seems quite likely that the human race can survive the next thousand years.

(C) Accidents will wipe out the human race from this planet by accident within the next one thousand years.

(D) The age of human race is one thousand years.

Correct Answer: (A)

Solution:

The author infers that humanity may not survive the next thousand years unless we spread into space. This aligns with option (A).

Thus, the correct answer is (A).

Quick Tip

Look for keywords like ”likely” or ”possible” in the passage to identify the most plausible inference.

---

163. Astrologers habitually prone to goof-ups now have an excuse for why their predictions have been going haywire: the emergence of newer and newer planets that have caused their calculations to go awry. For the international team of astronomers who recently discovered eight new planets, the arrivals are, however, a cause for excitement. Indeed, even as the rest of the world continues to be consumed by a morbid passion for shiny new war machines, deadly chemicals and sinister war tactics, astronomers have been doggedly searching the heavens for more heavenly bodies in the belief that the search will take us closer to a more exalted goal ” that of knowing the truth about us and the universe. ’Reality is much bigger than it seems, the part we call the universe is the merest tip of the iceberg’ one scientist remarked. How true. In the beginning, skeptics wouldn’t accept that the earth actually moves, let alone that it revolves around the sun because of an unshaken belief that the earth was the centre of the universe. We’ve come a long way. Today, scientists have spotted nearly 80 extra-solar planets using sophisticated instruments. What’s more, our universe may not be the only universe in the cosmos; there could well be several parallel universes teeming with many galaxies, solar systems and planets, although none of this may be perceptible to the naked eye. Perhaps sages who say that truth is not easily perceptible, mean just this ” what is evidently before us is not the whole truth.
Scientists say that ’everything in the tangible universe has its shadowy counterpart in other, parallel universes’. In fact, it is by observing the play of cosmic light and shadow through powerful devices that scientists have been able to ’feel’ shapes or ’see’ shadows that indicate the existence of other heavenly bodies without actually seeing them. The international team of scientists involved in the present discovery conducted their search through telescopes in Australia, Belgium, UK and the US. Two of the newly discovered

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(A) Parallel universes are half truth and half truth is not perceptible.

(B) Parallel universes are not easily perceptible because they are not the whole truth.

(C) Parallel universes are not easily perceptible and what we perceive is not the whole truth.

(D) Truth is always easily perceptible.

Correct Answer: (C) Parallel universes are not easily perceptible and what we perceive is not the whole truth.

Solution: Step 1: The passage discusses how parallel universes may exist but are not easily perceptible.

Step 2: It suggests that the truth we perceive may not be the whole truth.

Step 3: Therefore, the correct inference is (C), as it aligns with the passage's statement.

Quick Tip

When dealing with questions about inferences, make sure to consider the larger context of the passage before selecting the most suitable answer.

164. Astrologers habitually prone to goof-ups now have an excuse for why their predictions have been going haywire: the emergence of newer and newer planets that have caused their calculations to go awry. For the international team of astronomers who recently discovered eight new planets, the arrivals are, however, a cause for excitement. Indeed, even as the rest of the world continues to be consumed by a morbid passion for shiny new war machines, deadly chemicals and sinister war tactics, astronomers have been doggedly searching the heavens for more heavenly bodies in the belief that the search will take us closer to a more exalted goal " that of knowing the truth about us and the universe. 'Reality is much bigger than it seems, 'the part we call the universe is the merest tip of the iceberg' one scientist remarked. How true. In the beginning, skeptics wouldn't accept that the earth actually moves, let alone that it revolves around the sun because of an unshaken belief that the earth was the centre of the universe. We've come a long way. Today, scientists have spotted nearly 80 extra-solar planets using sophisticated instruments. What's more, our universe may not be the only universe in the cosmos; there could well be several parallel universes teeming with many galaxies, solar systems and planets, although none of this may be perceptible to the naked eye. Perhaps sages who say that truth is not easily perceptible, mean just this " what is evidently before us is not the whole truth.
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(A) Somber

(B) Wistful

(C) Serene

(D) Elated

Correct Answer: (D) Elated

Solution: Step 1: The passage highlights the excitement and anticipation following the discovery of new planets.

Step 2: Scientists are described as being involved in the search for new planets and their significance.

Step 3: The tone suggests that scientists are feeling elated about the discovery, as it adds to the excitement about the possibility of life in the universe.

Quick Tip

Pay attention to the emotional context described in the passage, which helps in determining the most accurate mood or reaction of the scientists.

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165. Astrologers habitually prone to goof-ups now have an excuse for why their predictions have been going haywire: the emergence of newer and newer planets that have caused their calculations to go awry. For the international team of astronomers who recently discovered eight new planets, the arrivals are, however, a cause for

excitement. Indeed, even as the rest of the world continues to be consumed by a morbid passion for shiny new war machines, deadly chemicals and sinister war tactics, astronomers have been doggedly searching the heavens for more heavenly bodies in the belief that the search will take us closer to a more exalted goal " that of knowing the truth about us and the universe. 'Reality is much bigger than it seems, the part we call the universe is the merest tip of the iceberg' one scientist remarked. How true. In the beginning, skeptics wouldn't accept that the earth actually moves, let alone that it revolves around the sun because of an unshaken belief that the earth was the centre of the universe. We've come a long way. Today, scientists have spotted nearly 80 extra-solar planets using sophisticated instruments. What's more, our universe may not be the only universe in the cosmos; there could well be several parallel universes teeming with many galaxies, solar systems and planets, although none of this may be perceptible to the naked eye. Perhaps sages who say that truth is not easily perceptible, mean just this " what is evidently before us is not the whole truth.

Scientists say that 'everything in the tangible universe has its shadowy counterpart in other, parallel universes'. In fact, it is by observing the play of cosmic light and shadow through powerful devices that scientists have been able to 'feel' shapes or 'see' shadows that indicate the existence of other heavenly bodies without actually seeing them. The international team of scientists involved in the present discovery conducted their search through telescopes in Australia, Belgium, UK and the US. Two of the newly discovered eight planets are believed to have circular orbits very like the Earth's, while the others have well-defined elliptical orbits much like Pluto's. This is significant because a planet with a circular orbit would more likely be hospitable to life forms than would one with an elliptical orbit. In the latter, the planet experiences extreme temperatures depending on whether it is proximate to or distant from the energy-giving star it's circumambulating. As in the case of other recent discoveries " such as finding traces of microbes in a meteorite " this too strengthens the belief that we're not alone in the universe. So would we be exchanging inter galactic e-mails soon? Perhaps not as yet, given that our closest neighbouring galaxy is millions of light years away. What is within our immediate grasp, though, is exploring the viability of establishing human settlements in space " an endeavour that has assumed urgency what with biological

terrorism and the like threatening humankind on earth. As Stephen Hawking recently said, 'I don't think the human race will survive the next thousand years unless we spread into space. There are too many accidents that can befall life on a single planet'. According to the passage, it can be inferred that

(A) A planet with a circular orbit is more likely to be hospitable to life than one with an elliptical orbit because the latter experiences very low temperatures.

(B) A planet with a circular orbit is more likely to be hospitable to life forms than would one with an elliptical orbit since the latter is proximate to the energy-giving star it is circumambulating.

(C) A planet with a circular orbit is more likely to be hospitable to life forms than would one with an elliptical orbit because the latter experiences extreme temperatures.

(D) Both A and C

Correct Answer: (D) Both A and C

Solution: Step 1: The passage states that a planet with a circular orbit is more likely to support life because it experiences a more stable environment, unlike one with an elliptical orbit that faces extreme temperature variations. **Step 2:** The inference made is that the circular orbit provides a more favorable environment for life. Both A and C align with this reasoning.

Quick Tip

When making inferences, carefully read the passage to understand how concepts like habitability are linked with specific conditions.

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166. The 1983 re-organization was done with the objective of renewal; it was indeed a very complex exercise handled deftly by A.V. Ranga Rao and C.R. Swaminathan. We created a team of newly joined young scientists with just one experienced person and gave them the challenge of building the strap down inertial guidance system, an on board computer and a ram rocket in propulsion system. This exercise was being attempted for the first time in the country and the technology involved was comparable

with world-class systems. The guidance technology is centered around the gyro and accelerometer package, and the electronics to process the sensor output. The on-board computer carries the mission computations and flight sequencing. A ram rocket system breathes air to sustain its high velocity for long durations after it is put through a booster rocket. The young teams not only designed these systems but also developed them into operational equipment. Later, Prithvi and then Agni used similar guidance systems, with excellent results. The effort of these young teams made the country self-reliant in the area of projectile technologies. It was a good demonstration of the 'renewal factor'. Our intellectual capacity was renewed through contact with enthusiastic young minds and had achieved these outstanding results. Now, besides the renewal of manpower, emphasis had to be laid on augmenting the strength of project groups. Often, people seek to satisfy their social egoistic and self-actualization needs at their workplaces. A good leader must identify two different sets of environmental features. One, which satisfies a person's need and the other, which creates dissatisfaction with his work. We have already observed that people look for those characteristics in their work that relate to the values and goals which they consider important as giving meaning to their lives. If a job meets the employees' need for achievement, recognition, responsibility, growth and advancement, they will work hard to achieve goals. Once the work is satisfying, a person then looks at the environment and circumstances in the workplace. He observes the policies of the administration, qualities of his leader, security, status and working conditions. Then, he correlates these factors to the interpersonal relations he has with his peers and examines his personal life in the light of these factors. It is the agglomerate of all these aspects that decide the degree and quality of a person's effort and performance.

The matrix organization evolved in 1983 proved excellent in meeting all these requirements. So, while retaining this structure of the laboratory, we undertook a task-design exercise. The scientists working in technology directorates were made system managers to interact exclusively with one project. An external fabrication wing was formed under P.K. Biswas, a developmental fabrication technologist of long standing, to deal with the public sector undertakings (PSUs) and private sector firms associated with the development of the missile hardware. This reduced pressure on the

in-house fabrication facilities and enabled them to concentrate on jobs which could not be undertaken outside, which in fact, occupied all three shifts.

(A) I should be able to identify the contradicting environmental features to which a person reacts.

(B) II should keep a tab on a person's individual need fulfillment.

(C) III should well understand the external factors which dissatisfy a person.

(D) I, II and III

Correct Answer: (A) I should be able to identify the contradicting environmental features to which a person reacts.

Solution: The passage states that a leader must identify two different sets of environmental features. One which satisfies a person's need and the other which creates dissatisfaction with his work. All the three statements relate to one of these two sets of environmental features.

Quick Tip

When identifying key traits or qualities in a passage, consider all aspects discussed and select answers that align with the comprehensive description.

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(A) social, egoistic and self-actualization needs could be catastrophic at the workplace.

(B) social, egoistic and self-actualization needs are catastrophic at the workplace.

(C) social, egoistic and self-actualization needs should be eliminated.

(D) social, egoistic and self-actualization needs should be taken care of.

Correct Answer: (D) social, egoistic and self-actualization needs should be taken care of.

Solution: Step 1: The passage describes the importance of meeting employees' social, egoistic, and self-actualization needs to ensure their satisfaction and success at the workplace.
Step 2: These needs are not to be disregarded or eliminated but should be properly addressed for overall workplace satisfaction.
Step 3: Thus, option (D) is correct as it suggests taking care of these needs.

Quick Tip

In questions based on inferences, focus on understanding the author's perspective or recommendations and how they apply to the overall message.

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(A) it was responsible for the project's success.

(B) the young were rejuvenated on coming in contact with the experienced.

(C) the old scientists were refocused on their job.

(D) the young intellectually stimulated the experienced.

Correct Answer: (A) it was responsible for the project's success.

Solution: Step 1: The passage emphasizes the success achieved through the "renewal factor," which refers to the involvement of young scientists. This factor enabled the country to become self-reliant in projectile technologies.

Step 2: The author attributes the excellent results to the efforts of the young teams, which suggests that the renewal of manpower was key to the success of the project.
Step 3: Option (A) accurately captures the essence of the renewal factor being the core reason for the project's success.

Quick Tip

Pay attention to the descriptions of relationships in the passage, especially in terms of how different groups influence or motivate each other.

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(A) India had attained nothing like this before.
(B) Project components were developed ingeniously.
(C) Laudable efforts were made by the team members.
(D) All of the above.

Correct Answer: (D) All of the above.

Solution: Step 1: The passage emphasizes that the project was a complex and innovative exercise and highlights that it demonstrated a new level of achievement, suggesting that India had not attained anything like this before.
Step 2: The project components were developed with excellent results, indicating they were ingeniously designed.
Step 3: The teamwork and contribution of the team members were highly commendable, as

reflected in the successful outcomes of the project.

Step 4: Therefore, all options (A), (B), and (C) are correct, making (D) the correct answer.

Quick Tip

When a question asks for inferences, carefully look for references to achievements, qualities, and efforts mentioned in the passage that describe the project's success.

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(A) lack of faith in the older generation to achieve things.

(B) bias towards young scientists.

(C) perception of the level of difficulty of the project.

(D) I, II and III

Correct Answer: (B) bias towards younger scientists

Solution: Step 1: The passage highlights that the author selected a team of young scientists to work on the project, suggesting a preference for the younger generation.

Step 2: The passage does not explicitly indicate a lack of faith in the older generation but rather emphasizes the capabilities of the younger scientists.

Step 3: The selection of young scientists over experienced professionals suggests a strong inclination towards younger minds, supporting the idea of bias towards them.

Step 4: Thus, the correct answer is (B) bias towards younger scientists.

Quick Tip

Pay attention to the way team selection is discussed in the passage, as it often provides insight into the author's underlying beliefs and strategies.

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171. The teaching and transmission of North Indian classical music is, and long has been, achieved by largely oral means. The raga and its structure, the often breathtaking intricacies of tala or rhythm, and the incarnation of raga and tala as bandish or composition, are passed thus, between guru and shishya by word of mouth and direct demonstration; with no printed sheet of notated music, as it were, acting as a go-between. Saussure's conception of language as a communication between addresser and addressee is given, in this model, a further instance, and a new, exotic complexity and glamour.These days, especially with the middle class having entered the domain of classical music and playing not a small part in ensuring the continuation of this ancient tradition, the tape recorder serves as a handy technological slave and preserves, from oblivion, the vanishing, elusive moment of oral transmission. Hoary gurus, too, have seen the advantage of this device, and increasingly use it as an aid to instructing their pupils; in place of the shawls and other traditional objects that used to pass from shishya to guru in the past, as a token of the regard of the former for the latter, it is not unusual, today, to see cassettes changing hands. Part of my education in North Indian classical music was conducted via this rather ugly but beneficial rectangle of plastic, which I carried with me to England when I was an undergraduate.
One cassette had stored in it various talas played upon the tabla, at various tempos, by my music teacher's brother-in-law, Hazarilalji, who was a teacher of Kathak dance, as well as a singer and a tabla player. This was a work of great patience and prescience, a one-and-a-half hour performance without any immediate point or purpose, but intended for some delayed future movement when I'd practice the talas solitarily. This repeated playing out of the rhythmic cycles on the tabla was inflected by the noises – an irate auto driver blowing a horn; the sound of overbearing pigeons that were such a nuisance on the banister; even the cry of a kulfi seller in a summer – entering from the balcony of the third floor flat we occupied in those days, in a lane in a Bombay suburb,

before we left the city for good. These sounds, in turn, would invade, hesitantly, the ebb and flow of silence inside the artificially heated room, in a borough of west London, in which I used to live as an undergraduate. There, in the trapped dust, silence and heat the theka of the tabla, qualified by the imminent but intermittent presence of the Bombay suburb, would come to life again. A few years later, the tabla and, in the background, the pigeons and the itinerant kulfi seller, would inhabit a small graduate room in Oxford. The tape recorder, though, remains an extension of the oral transmission of music, rather than a replacement of it. And the oral transmission of North Indian classical music remains, almost uniquely, a testament to the fact that the human brain can absorb, remember and reproduce structures of great complexity and sophistication without the help of the hieroglyph or written mark or a system of notation. I remember my surprise on discovering that Hazarilalji – who has mastered Kathak dance, tala and North Indian classical music, and who used to narrate to me, occasionally, compositions meant for dance that were grand and intricate in their verbal prosody, architecture and rhythmic complexity – was near illiterate and had barely learnt to write his name in large and clumsy letters. Of course, attempts have been made, throughout the 20th century, to formally codify and even notate this music, and institutions set up and degrees created, specifically to educate students in this "scientific" and codified manner. Paradoxically, however, this style of teaching has produced no noteworthy student or performer; the most creative musicians still emerge from the guru-shishya relationship, their understanding of music developed by oral communication. The fact that North Indian classical music emanates from, and evolved through, oral culture, means that this music has a significantly different aesthetic, and that this aesthetic, has a different politics, from that of Western classical music.

A piece of music in the Western tradition, at least in its most characteristic and popular conception, originates in its composer, and the connection between the two, between composer and the piece of music, is relatively unambiguous, precisely because the composer writes down, in notation, his composition, as a poet might write down and publish his poem. However far the printed sheet of notated music might travel thus from the composer, it still remains his property; and the notion of property remains at the heart of the Western conception of "genius", which drives from the Latin gignere or

‘to beget’. The genius in Western classical music is, then, the originator, begetter and owner of his work – the printed, notated sheet testifying to his authority over his product and his power, not only of expression or imagination, but of origination. The conductor is a custodian and guardian of this property. Is it an accident that Mandelstam, in his notebooks, compares – celebratorily – the conductor’s baton to a policeman’s, saying all the music of the orchestra lies mute within it, waiting for its first movement to release it into the auditorium. The raga – transmitted through oral means is, in a sense, no one’s property; it is not easy to pin down its source, or to know exactly where its provenance or origin lies. Unlike the Western classical tradition, where the composer begets his piece, notates it and stamps it with his ownership and remains, in effect, larger than, or the father of, his work, in the North Indian classical tradition, the raga – unconfined to a single incarnation, composer or performer – remains necessarily greater than the artiste who invokes it. This leads to a very different politics of interpretation and valuation, to an aesthetic that privileges the evanescent moment of performance and invocation over the controlling authority of genius and the permanent record.

It is a tradition, thus, that would appear to value the performer, as medium, more highly than the composer who presumes to originate what, effectively, couldn’t be originated in a single person, because the raga is the inheritance of a culture.

The author holds that the “rather ugly but beneficial rectangle of plastic” has proved to be a “handy technological slave” in

(A) storing the talas played upon the tabla, at various tempos.

(B) ensuring the continuance of an ancient tradition.

(C) transporting North Indian classical music across geographical borders.

(D) capturing the transient moment of oral transmission.

Correct Answer: (D) capturing the transient moment of oral transmission.

Solution: Step 1: The phrase ”handy technological slave” refers to a device that captures a fleeting moment of oral tradition, such as the performance of music.

Step 2: The correct inference is that this technological ”slave” preserves the transient moments of oral traditions, which would otherwise be lost.

Step 3: Hence, option (D) is the correct choice.

Quick Tip

Look for the underlying metaphor in the passage when a term like ”technological slave” is used. It often describes the role of technology in preserving ephemeral experiences.

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According to the author; the inadequacy of teaching North Indian classical music through a codified, notation based system is best illustrated by

(A) a loss of the structural beauty of the ragas.

(B) a fusion of two opposing approaches creating mundane music.

(C) the conversion of free-flowing ragas into a stilted set piece.

(D) its failure to produce any noteworthy student or performer.

Correct Answer: (D) its failure to produce any noteworthy student or performer.

Solution: Step 1: The passage mentions that no noteworthy students or performers have

emerged due to the inadequacy of the codified teaching system.

Step 2: The failure to produce talented students and performers is directly pointed out as the consequence of the teaching method.

Step 3: Therefore, option (D) accurately reflects the author's view on this issue.

Quick Tip

When identifying the main critique in a passage, focus on how the author describes the impact of a system or method on the essence of the subject.

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173. The teaching and transmission of North Indian classical music is, and long has been, achieved by largely oral means. The raga and its structure, the often breathtaking intricacies of tala or rhythm, and the incarnation of raga and tala as bandish or composition, are passed thus, between guru and shishya by word of mouth and direct demonstration; with no printed sheet of notated music, as it were, acting as a go-between. Saussure's conception of language as a communication between addresser and addressee is given, in this model, a further instance, and a new, exotic complexity and glamour.

These days, especially with the middle class having entered the domain of classical music and playing not a small part in ensuring the continuation of this ancient tradition, the tape recorder serves as a handy technological slave and preserves, from oblivion, the vanishing, elusive moment of oral transmission. Hoary gurus, too, have seen the advantage of this device, and increasingly use it as an aid to instructing their pupils; in place of the shawls and other traditional objects that used to pass from shishya to guru in the past, as a token of the regard of the former for the latter, it is not unusual, today, to see cassettes changing hands. Part of my education in North Indian classical music was conducted via this rather ugly but beneficial rectangle of plastic, which I carried with me to England when I was an undergraduate. One cassette had stored in it various talas played upon the tabla, at various tempos, by my music teacher's brother-in-law, Hazarilalji, who was a teacher of Kathak dance, as well as a singer and a tabla player. This was a work of great patience and prescience, a

one-and-a-half hour performance without any immediate point or purpose, but intended for some delayed future movement when I'd practice the talas solitarily. This repeated playing out of the rhythmic cycles on the tabla was inflected by the noises – an irate auto driver blowing a horn; the sound of overbearing pigeons that were such a nuisance on the banister; even the cry of a kulfi seller in a summer – entering from the balcony of the third floor flat we occupied in those days, in a lane in a Bombay suburb, before we left the city for good. These sounds, in turn, would invade, hesitantly, the ebb and flow of silence inside the artificially heated room, in a borough of west London, in which I used to live as an undergraduate. There, in the trapped dust, silence and heat the theka of the tabla, qualified by the imminent but intermittent presence of the Bombay suburb, would come to life again. A few years later, the tabla and, in the background, the pigeons and the itinerant kulfi seller, would inhabit a small graduate room in Oxford. The tape recorder, though, remains an extension of the oral transmission of music, rather than a replacement of it. And the oral transmission of North Indian classical music remains, almost uniquely, a testament to the fact that the human brain can absorb, remember and reproduce structures of great complexity and sophistication without the help of the hieroglyph or written mark or a system of notation. I remember my surprise on discovering that Hazarilalji – who has mastered Kathak dance, tala and North Indian classical music, and who used to narrate to me, occasionally, compositions meant for dance that were grand and intricate in their verbal prosody, architecture and rhythmic complexity – was near illiterate and had barely learnt to write his name in large and clumsy letters.

Of course, attempts have been made, throughout the 20th century, to formally codify and even notate this music, and institutions set up and degrees created, specifically to educate students in this "scientific" and codified manner. Paradoxically, however, this style of teaching has produced no noteworthy student or performer; the most creative musicians still emerge from the guru-shishya relationship, their understanding of music developed by oral communication. The fact that North Indian classical music emanates from, and evolved through, oral culture, means that this music has a significantly different aesthetic, and that this aesthetic, has a different politics, from that of Western classical music.

A piece of music in the Western tradition, at least in its most characteristic and popular conception, originates in its composer, and the connection between the two, between composer and the piece of music, is relatively unambiguous, precisely because the composer writes down, in notation, his composition, as a poet might write down and publish his poem. However far the printed sheet of notated music might travel thus from the composer, it still remains his property; and the notion of property remains at the heart of the Western conception of "genius", which drives from the Latin gignere or 'to beget'. The genius in Western classical music is, then, the originator, begetter and owner of his work – the printed, notated sheet testifying to his authority over his product and his power, not only of expression or imagination, but of origination. The conductor is a custodian and guardian of this property. Is it an accident that Mandelstam, in his notebooks, compares – celebratorily – the conductor's baton to a policeman's, saying all the music of the orchestra lies mute within it, waiting for its first movement to release it into the auditorium. The raga – transmitted through oral means is, in a sense, no one's property; it is not easy to pin down its source, or to know exactly where its provenance or origin lies. Unlike the Western classical tradition, where the composer begets his piece, notates it and stamps it with his ownership and remains, in effect, larger than, or the father of, his work, in the North Indian classical tradition, the raga – unconfined to a single incarnation, composer or performer – remains necessarily greater than the artiste who invokes it. This leads to a very different politics of interpretation and valuation, to an aesthetic that privileges the evanescent moment of performance and invocation over the controlling authority of genius and the permanent record.

It is a tradition, thus, that would appear to value the performer, as medium, more highly than the composer who presumes to originate what, effectively, couldn't be originated in a single person, because the raga is the inheritance of a culture.

Which of the following statements best conveys the overall idea of the passage?

(A) North Indian and Western classical music are structurally different.

(B) Western music is the intellectual property of the genius while the North Indian raga is the inheritance of a culture.

(C) Creation as well as performance is important in the North Indian classical tradition.

(D) North Indian classical music is orally transmitted while Western classical music depends on written down notations.

Correct Answer: (B) Western music is the intellectual property of the genius while the North Indian raga is the inheritance of a culture.

Solution: Step 1: The passage discusses how North Indian music values the performer and tradition, with the raga being inherited culturally.
Step 2: Option (B) captures this by contrasting Western music's focus on individual genius with the cultural inheritance aspect of North Indian music.
Step 3: Therefore, option (B) aligns with the overall theme of the passage.

Quick Tip

When asked for the overall idea of the passage, focus on the key themes or contrasts introduced and select the statement that encapsulates them.

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unusual, today, to see cassettes changing hands. Part of my education in North Indian classical music was conducted via this rather ugly but beneficial rectangle of plastic, which I carried with me to England when I was an undergraduate. One cassette had stored in it various talas played upon the tabla, at various tempos, by my music teacher's brother-in-law, Hazarilalji, who was a teacher of Kathak dance, as well as a singer and a tabla player. This was a work of great patience and prescience, a one-and-a-half hour performance without any immediate point or purpose, but intended for some delayed future movement when I'd practice the talas solitarily. This repeated playing out of the rhythmic cycles on the tabla was inflected by the noises – an irate auto driver blowing a horn; the sound of overbearing pigeons that were such a nuisance on the banister; even the cry of a kulfi seller in a summer – entering from the balcony of the third floor flat we occupied in those days, in a lane in a Bombay suburb, before we left the city for good. These sounds, in turn, would invade, hesitantly, the ebb and flow of silence inside the artificially heated room, in a borough of west London, in which I used to live as an undergraduate. There, in the trapped dust, silence and heat the theka of the tabla, qualified by the imminent but intermittent presence of the Bombay suburb, would come to life again. A few years later, the tabla and, in the background, the pigeons and the itinerant kulfi seller, would inhabit a small graduate room in Oxford. The tape recorder, though, remains an extension of the oral transmission of music, rather than a replacement of it. And the oral transmission of North Indian classical music remains, almost uniquely, a testament to the fact that the human brain can absorb, remember and reproduce structures of great complexity and sophistication without the help of the hieroglyph or written mark or a system of notation. I remember my surprise on discovering that Hazarilalji – who has mastered Kathak dance, tala and North Indian classical music, and who used to narrate to me, occasionally, compositions meant for dance that were grand and intricate in their verbal prosody, architecture and rhythmic complexity – was near illiterate and had barely learnt to write his name in large and clumsy letters.

Of course, attempts have been made, throughout the 20th century, to formally codify and even notate this music, and institutions set up and degrees created, specifically to educate students in this "scientific" and codified manner. Paradoxically, however, this

style of teaching has produced no noteworthy student or performer; the most creative musicians still emerge from the guru-shishya relationship, their understanding of music developed by oral communication. The fact that North Indian classical music emanates from, and evolved through, oral culture, means that this music has a significantly different aesthetic, and that this aesthetic, has a different politics, from that of Western classical music.

A piece of music in the Western tradition, at least in its most characteristic and popular conception, originates in its composer, and the connection between the two, between composer and the piece of music, is relatively unambiguous, precisely because the composer writes down, in notation, his composition, as a poet might write down and publish his poem. However far the printed sheet of notated music might travel thus from the composer, it still remains his property; and the notion of property remains at the heart of the Western conception of "genius", which drives from the Latin gignere or 'to beget'. The genius in Western classical music is, then, the originator, begetter and owner of his work – the printed, notated sheet testifying to his authority over his product and his power, not only of expression or imagination, but of origination. The conductor is a custodian and guardian of this property. Is it an accident that Mandelstam, in his notebooks, compares – celebratorily – the conductor's baton to a policeman's, saying all the music of the orchestra lies mute within it, waiting for its first movement to release it into the auditorium. The raga – transmitted through oral means is, in a sense, no one's property; it is not easy to pin down its source, or to know exactly where its provenance or origin lies. Unlike the Western classical tradition, where the composer begets his piece, notates it and stamps it with his ownership and remains, in effect, larger than, or the father of, his work, in the North Indian classical tradition, the raga – unconfined to a single incarnation, composer or performer – remains necessarily greater than the artiste who invokes it. This leads to a very different politics of interpretation and valuation, to an aesthetic that privileges the evanescent moment of performance and invocation over the controlling authority of genius and the permanent record.

It is a tradition, thus, that would appear to value the performer, as medium, more highly than the composer who presumes to originate what, effectively, couldn't be

originated in a single person, because the raga is the inheritance of a culture.

The author's contention that the notion of property lies at the Western conception of genius is best indicated by which one of the following?

(A) The creative output of a genius is invariably written down and recorded.

(B) The link between the creator and his output is unambiguous.

(C) The word "genius" is derived from a Latin word which means "to beget".

(D) The music composer notates his music and thus becomes the "father" of a particular piece of music.

Correct Answer: (D) The music composer notates his music and thus becomes the "father" of a particular piece of music.

Solution: Step 1: The passage discusses the idea that in Western culture, the composer's act of notating their music makes them the "creator" or "father" of that music.

Step 2: The word "genius" in this context refers to the Western idea of creation, where the composer is seen as the originator of a piece.

Step 3: Option (D) best supports this argument about Western conceptions of authorship and creation.

Quick Tip

When analyzing the passage, focus on how the author describes the relationship between creators and their creations, particularly in cultural contexts.

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It is a tradition, thus, that would appear to value the performer, as medium, more highly than the composer who presumes to originate what, effectively, couldn't be originated in a single person, because the raga is the inheritance of a culture.

Saussure's conception of language as a communication between addresser and addressee, according to the author, is exemplified by the

(A) teaching of North Indian classical music by word of mouth and direct demonstration.

(B) use of the recorded cassette as a transmission medium between the music teacher and the trainee.

(C) written down notation sheets of musical compositions.

(D) conductor's baton and the orchestra.

Correct Answer: (A) teaching of North Indian classical music by word of mouth and direct demonstration.

Solution: Step 1: Saussure's concept of language as a communication system emphasizes the importance of interaction between the addressor and addressee.

Step 2: The teaching of North Indian classical music by word of mouth and direct demonstration is a direct example of this dynamic exchange, where the teacher imparts knowledge to the trainee through a personal, direct interaction.

Step 3: Option (A) best exemplifies this idea in the passage.

Quick Tip

In questions about communication systems, focus on methods that involve direct interaction or transfer of knowledge between individuals.

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176. Business is a fine balance between opportunity and risk. In an ideal world the

entrepreneur identifies a new opportunity, a product, a process or a service that would increase user satisfaction. Successful businesses identify opportunities early, and ride a wave, at minimum risk, to deliver sustained growth and profitability. Bad or incomplete identification of an opportunity or an inadequate understanding of risk can destroy businesses. The last 18 months have seen a significant number of businesses destroyed all over the world. Opportunities available to Indian firms eight months ago are now history; risk has increased manifold.

The high growth environment and the go-go nature of growth in the last decade trivialized the need for a systematic identification of opportunity and a comprehensive assessment of risk. The pie was so big and growing so quickly, that almost anything made sense and money. Indian firms expanded capacity, market footprint, acquired firms in high-cost regimes, increased exports as a component of the sales and profit, salaries and wages rocketed and there was an opportunity for every stakeholder at seemingly no risk. All and sundry began to think of themselves as world-beaters.

Now that they have been beaten by the world it is time to reset the approach to avoid a Ctrl-Alt-Del situation. Identifying and seizing opportunities require a profound understanding of markets and customer expectations. Product, process and service have to be tailored to the 'emerging' customer need rather than the current need. The new paradigm is: what can we make that you want to buy as against – we have a product you have to buy! Indian corporates need to develop products and services that are centered around unmet needs of customers and go out and market, rather than sell, them. This requires understanding market reality, shifts and drivers on an ongoing continuous basis. Indian firms need to invest in understanding factors critical to their success – the physical, political, economic, social, technology and trade frameworks that will drive the competencies they need to acquire to leverage an opportunity. This requires a realistic estimate of the value chains that deliver results at least risk and their own strengths and weaknesses to manage and mitigate the risks while making the most of the opportunity. The iPhone is an excellent example of this approach.

In a commoditizing market Apple identified the needs that users, young, old and mid-age, wanted and produced a user- friendly product. The factor critical to its success is its ease of connectivity, high-speed download off the Internet and elegant

looks, not to mention superb feature list. The least concern for the user is the phone attributes, which, in any case, are good! In contrast, all the leading players of two years ago are now playing catch-up with iPhone, which, incidentally, offers a limited range of models, in contrast to the dizzying array and colours from other phone-makers! A good risk reduction exercise. Risk needs to be understood in its totality. Risk, defined as the possibility that events may not turn out as planned or expected, has many dimensions to it, much of it ignored in a high growth era, and all of which become relevant and rear up when least desired, in difficult times. The primary risk Indian corporate need to contend with is strategic risk – the ability to identify and seize an opportunity and allot resources to ensure delivery. It is sad to see the 'retail revolution' leaders of mid-2008, languishing in sour deals. The closure of 20 per cent of these 'modern format stores' is a telling commentary on the poor assessment of strategic risk. Minimizing strategic risk increases the competitiveness of the firm.

The second major risk facing Indian corporate is operational risk; Indian productivity remains way behind global standards. And corporates have not even begun addressing them. The garment industry is a case in point. On average, an Indian garment- maker produces 7 – 10 garments per machine per day. The world standard is 23 – 25! No wage differential can mask the harmful consequences of this depth of under-performance. Remove the subsidies and the garment industry will sink like a stone. Reducing operational risk increases asset and resource productivity. Capacity utilization is a good mitigator of operational and strategic risk; and both of them could do with significant streamlining. With increasing profitability Indian firms have been diversifying – a nice, but risky way, to seek opportunities. Real estate is littered with firms which saw 'opportunity', created land banks and are now sitting ducks.

"In contrast, all the leading players of two years ago are now playing catch-up with iPhone." What does this sentence imply?

(A) Several retired sports people are now using iPhones to listen to catchy music.

(B) The leading companies of two years ago are trying to catch up with the latest by launching their own versions of the iPhone.

(C) Many leading music companies of yesteryear are offering catchy tunes for iPhones.

(D) None of these.

Correct Answer: (B) The leading companies of two years ago are trying to catch up with the latest by launching their own versions of the iPhone.

Solution: Step 1: The phrase "playing catch-up with iPhone" suggests that other companies, who were once leaders, are now attempting to match the innovative advancements of the iPhone.
Step 2: The focus is on how these companies are trying to introduce their own versions to keep up with iPhone's success.
Step 3: Therefore, option (B) correctly captures the implication of the sentence.

Quick Tip

When interpreting figurative language, such as "playing catch-up," consider how it reflects the competitive struggle between entities trying to match or exceed a leading product or idea.

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177. Business is a fine balance between opportunity and business. In an ideal world the entrepreneur identifies a new opportunity, a product, a process or a service that would increase user satisfaction. Successful businesses identify opportunities early, and ride a wave, at minimum risk, to deliver sustained growth and profitability. Bad or incomplete identification of an opportunity or an inadequate understanding of risk can destroy businesses. The last 18 months have seen a significant number of businesses destroyed all over the world. Opportunities available to Indian firms eight months ago are now history; risk has increased manifold.
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(A) About a fifth of the "modern format stores" have shut down because of their poor assessment of strategic risk.

(B) Diversification is a nice way to seek opportunities, without risk.

(C) In a high growth area, businesses tend to ignore risk.

(D) 'Marketing' and not 'Selling' is the new way to do business.

Correct Answer: (B) Diversification is a nice way to seek opportunities, without risk.

Solution: Step 1: The passage emphasizes that risk is a crucial factor and that companies should carefully assess the risks involved in any opportunity.

Step 2: Diversification is mentioned as a potentially risky strategy, not a guaranteed risk-free method.

Step 3: Therefore, option (B) is incorrect as the passage does not suggest that diversification eliminates risk.

Quick Tip

Be cautious of statements that oversimplify risk. Always refer to how the passage presents risk management strategies.

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entrepreneur identifies a new opportunity, a product, a process or a service that would increase user satisfaction. Successful businesses identify opportunities early, and ride a wave, at minimum risk, to deliver sustained growth and profitability. Bad or incomplete identification of an opportunity or an inadequate understanding of risk can destroy businesses. The last 18 months have seen a significant number of businesses destroyed all over the world. Opportunities available to Indian firms eight months ago are now history; risk has increased manifold.

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The second major risk facing Indian corporate is operational risk; Indian productivity remains way behind global standards. And corporates have not even begun addressing them. The garment industry is a case in point. On average, an Indian garment-maker produces 7 – 10 garments per machine per day. The world standard is 23 – 25! No wage differential can mask the harmful consequences of this depth of under-performance. Remove the subsidies and the garment industry will sink like a stone. Reducing operational risk increases asset and resource productivity. Capacity utilization is a good mitigator of operational and strategic risk; and both of them could do with significant streamlining. With increasing profitability Indian firms have been diversifying – a nice, but risky way, to seek opportunities. Real estate is littered with firms which saw 'opportunity', created land banks and are now sitting ducks. The most appropriate title for this passage is

(A) Balancing Risk and Opportunity in Business

(B) Effect of Recession on Businesses

(C) Business Strategies for the Future

(D) Identifying Businesses for the "Emerging" Customers

Correct Answer: (A) Balancing Risk and Opportunity in Business

Solution: Step 1: The passage talks about the balance between opportunity and risk in business, emphasizing how businesses must assess risks carefully to achieve sustained growth.
Step 2: The discussion centers around how businesses must identify and handle risks to take advantage of new opportunities.
Step 3: Hence, option (A) is the most appropriate title, as it directly reflects the central theme of the passage.

Quick Tip

When identifying a title, focus on the central theme or the most prominent message conveyed in the passage.

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179. Business is a fine balance between opportunity and risk. In an ideal world the entrepreneur identifies a new opportunity, a product, a process or a service that would increase user satisfaction. Successful businesses identify opportunities early, and ride a wave, at minimum risk, to deliver sustained growth and profitability. Bad or incomplete identification of an opportunity or an inadequate understanding of risk can destroy businesses. The last 18 months have seen a significant number of businesses destroyed all over the world. Opportunities available to Indian firms eight months ago are now history; risk has increased manifold.
The high growth environment and the go-go nature of growth in the last decade trivialized the need for a systematic identification of opportunity and a comprehensive assessment of risk. The pie was so big and growing so quickly, that almost anything made sense and money. Indian firms expanded capacity, market footprint, acquired firms in high-cost regimes, increased exports as a component of the sales and profit, salaries and wages rocketed and there was an opportunity for every stakeholder at seemingly no risk. All and sundry began to think of themselves as world-beaters. Now that they have been beaten by the world it is time to reset the approach to avoid a Ctrl-Alt-Del situation. Identifying and seizing opportunities require a profound understanding of markets and customer expectations. Product, process and service

have to be tailored to the 'emerging' customer need rather than the current need. The new paradigm is: what can we make that you want to buy as against – we have a product you have to buy! Indian corporates need to develop products and services that are centered around unmet needs of customers and go out and market, rather than sell, them. This requires understanding market reality, shifts and drivers on an ongoing continuous basis. Indian firms need to invest in understanding factors critical to their success – the physical, political, economic, social, technology and trade frameworks that will drive the competencies they need to acquire to leverage an opportunity. This requires a realistic estimate of the value chains that deliver results at least risk and their own strengths and weaknesses to manage and mitigate the risks while making the most of the opportunity. The iPhone is an excellent example of this approach.

In a commoditizing market Apple identified the needs that users, young, old and mid-age, wanted and produced a user- friendly product. The factor critical to its success is its ease of connectivity, high-speed download off the Internet and elegant looks, not to mention superb feature list. The least concern for the user is the phone attributes, which, in any case, are good! In contrast, all the leading players of two years ago are now playing catch-up with iPhone, which, incidentally, offers a limited range of models, in contrast to the dizzying array and colours from other phone-makers! A good risk reduction exercise. Risk needs to be understood in its totality. Risk, defined as the possibility that events may not turn out as planned or expected, has many dimensions to it, much of it ignored in a high growth era, and all of which become relevant and rear up when least desired, in difficult times. The primary risk Indian corporate need to contend with is strategic risk – the ability to identify and seize an opportunity and allot resources to ensure delivery. It is sad to see the 'retail revolution' leaders of mid-2008, languishing in sour deals. The closure of 20 per cent of these 'modern format stores' is a telling commentary on the poor assessment of strategic risk. Minimizing strategic risk increases the competitiveness of the firm.

The second major risk facing Indian corporate is operational risk; Indian productivity remains way behind global standards. And corporates have not even begun addressing them. The garment industry is a case in point. On average, an Indian garment-maker produces 7 – 10 garments per machine per day. The world standard is 23 – 25! No wage

differential can mask the harmful consequences of this depth of under-performance. Remove the subsidies and the garment industry will sink like a stone. Reducing operational risk increases asset and resource productivity. Capacity utilization is a good mitigator of operational and strategic risk; and both of them could do with significant streamlining. With increasing profitability Indian firms have been diversifying – a nice, but risky way, to seek opportunities. Real estate is littered with firms which saw 'opportunity', created land banks and are now sitting ducks. "Risk needs to be understood in its totality." Which of the following relevant risk factor(s) is/are discussed by the author in this passage?

I. Strategic Risk

II. Operational Risk

III. Recession

(A) Strategic Risk

(B) Operational Risk

(C) Environmental Risk

(D) I and II

Correct Answer: (C) I and II

Solution: Step 1: The passage discusses two main risks: strategic risk and operational risk.

Step 2: Recession is not mentioned as a risk factor in the passage.

Step 3: Option (C) correctly identifies the two relevant risk factors discussed in the passage.

Quick Tip

When discussing risk factors, be sure to pay attention to the different types mentioned in the passage and how they relate to business outcomes.

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incomplete identification of an opportunity or an inadequate understanding of risk can destroy businesses. The last 18 months have seen a significant number of businesses destroyed all over the world. Opportunities available to Indian firms eight months ago are now history; risk has increased manifold. The high growth environment and the go-go nature of growth in the last decade trivialized the need for a systematic identification of opportunity and a comprehensive assessment of risk. The pie was so big and growing so quickly, that almost anything made sense and money. Indian firms expanded capacity, market footprint, acquired firms in high-cost regimes, increased exports as a component of the sales and profit, salaries and wages rocketed and there was an opportunity for every stakeholder at seemingly no risk. All and sundry began to think of themselves as world-beaters. Now that they have been beaten by the world it is time to reset the approach to avoid a Ctrl-Alt-Del situation. Identifying and seizing opportunities require a profound understanding of markets and customer expectations. Product, process and service have to be tailored to the 'emerging' customer need rather than the current need. The new paradigm is: what can we make that you want to buy as against – we have a product you have to buy! Indian corporates need to develop products and services that are centered around unmet needs of customers and go out and market, rather than sell, them. This requires understanding market reality, shifts and drivers on an ongoing continuous basis. Indian firms need to invest in understanding factors critical to their success – the physical, political, economic, social, technology and trade frameworks that will drive the competencies they need to acquire to leverage an opportunity. This requires a realistic estimate of the value chains that deliver results at least risk and their own strengths and weaknesses to manage and mitigate the risks while making the most of the opportunity. The iPhone is an excellent example of this approach. In a commoditizing market Apple identified the needs that users, young, old and mid-age, wanted and produced a user- friendly product. The factor critical to its success is its ease of connectivity, high-speed download off the Internet and elegant looks, not to mention superb feature list. The least concern for the user is the phone attributes, which, in any case, are good! In contrast, all the leading players of two years ago are now playing catch-up with iPhone, which, incidentally, offers a limited range of models, in contrast to the dizzying array and colours from

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(A) Real estate.

(B) Retail revolution.

(C) Garment industry.

(D) iPhone.

Correct Answer: (D) iPhone.

Solution: Step 1: The passage mentions how the iPhone capitalized on the opportunity in the market by identifying user needs and providing a product that met those needs.
Step 2: It exemplifies how leveraging an opportunity in a competitive market can lead to significant success.

Step 3: Thus, option (D) is the correct example of leveraging a business opportunity.

Quick Tip

Look for examples in the passage where a company or product successfully capitalizes on a market need or opportunity.

---

181. A poem written on the death of someone loved and lost

(A) Ode

(B) Epic

(C) Sonnet

(D) Elegy

Correct Answer: (D) Elegy

Solution: Step 1: An elegy is a sad poem, typically written to express sorrow for someone who has passed away.

Step 2: An ode, sonnet, or epic does not specifically focus on loss and mourning, making ”Elegy” the correct choice.

Quick Tip

When identifying types of poems, consider their main themes, such as mourning in the case of elegies.

---

182. A group of three novels or plays, each complete in itself

(A) Triplet

(B) Triumvir

(C) Trilogy

(D) Trivet

Correct Answer: (C) Trilogy

Solution: Step 1: A trilogy refers to a series of three related works, such as novels or plays, that are complete in themselves.
Step 2: A triplet refers to three things but not specifically works of art, and a trivet is a metal stand for cooking vessels, making ”Trilogy” the correct choice.

Quick Tip

When identifying terms for collections of works, remember that a trilogy specifically refers to three related pieces of art.

---

183. Language difficult to understand because of bad form

(A) Rhetoric

(B) Jargon

(C) Pedantic

(D) Verbatim

Correct Answer: (B) Jargon

Solution: Step 1: Jargon refers to language that is difficult to understand, often due to specialized or technical terms.
Step 2: Rhetoric is the art of effective communication, while ”pedantic” refers to overly detailed or showy language.
Step 3: ”Jargon” is the most appropriate answer, as it specifically refers to difficult language.

Quick Tip

When asked to identify difficult language, focus on terms related to specialized or overly complex vocabulary, such as ”Jargon.”

---

184. A child of unusual or remarkable talent

(A) Scholar

(B) Diligent

(C) Freak

(D) Prodigy

Correct Answer: (D) Prodigy

Solution: Step 1: A prodigy is a child, often young, who has extraordinary talent or abilities in a particular area.
Step 2: ”Scholar” refers to someone dedicated to learning, while ”Diligent” refers to someone hardworking, neither of which specifically describe a talented child.
Step 3: ”Prodigy” is the correct term to describe a child with remarkable talent.

Quick Tip

When looking for words to describe exceptional talent, ”prodigy” is commonly used for someone who demonstrates extraordinary skill at a young age.

---

185. The young boy’s ..... attempts to explain to his girlfriend why he had failed to show for their movie date did little to ease her ..... feelings.

(A) impassioned, disconsolate

(B) veracious, vacuous

(C) unbelievable, gluttonous

(D) chronic, vicarious

Correct Answer: (A) impassioned, disconsolate

Solution: Step 1: The phrase ”impassioned attempts” fits because the boy’s attempts were likely full of passion to explain the situation.
Step 2: ”Disconsolate” fits as it describes the girlfriend’s feelings of sadness or inability to be comforted.
Step 3: The other options do not make sense in the given context.

Quick Tip

When filling in the blanks, consider the emotional tone and context of the situation.

186. Companies that try to improve employees' performance by ..... rewards encourage negative kinds of behavior, instead of ..... a genuine interest in doing the work well.

(A) giving, seeking

(B) seeking, bestowing

(C) conferring, discrediting

(D) withholding, fostering

Correct Answer: (D) withholding, fostering

Solution: Step 1: "Withholding" makes sense as it refers to withholding rewards as a form of control or punishment.
Step 2: "Fostering" fits as it means encouraging or promoting genuine interest in doing the work well.
Step 3: The other options do not logically fit the context of improving performance through positive reinforcement.

Quick Tip

Think about how the second blank should promote a positive action to improve performance, like fostering positive behavior.

---

187. When you are living with your ..... values and principles, you can be straightforward, honest and .....

(A) core, up-front

(B) inherited, distinct

(C) innate, durable

(D) cultural, perceptive

Correct Answer: (A) core, up-front

Solution: Step 1: "Core" values refer to the essential beliefs and principles that guide one's behavior.

Step 2: ”Up-front” describes being honest, direct, and straightforward.

Step 3: Other options do not convey the right sense of sincerity and clarity in this context.

Quick Tip

When filling in blanks related to values or principles, look for words that convey directness, clarity, and sincerity.

---

188. Unless new reserves are found soon, the world’s supply of coal is being ..... in such a way that with demand continuing to grow at present rates reserves will be ..... by the year 2050.

(A) consumed, completed

(B) depleted, exhausted

(C) reduced, augmented

(D) burnt, destroyed

Correct Answer: (B) depleted, exhausted

Solution: Step 1: ”Depleted” refers to the process of the coal reserves becoming used up over time.

Step 2: ”Exhausted” is used here to indicate that the reserves will be completely gone if current consumption rates continue.

Step 3: The other options do not correctly fit the context of depletion and exhaustion of natural resources.

Quick Tip

When considering resource depletion, look for words like ”depleted” and ”exhausted” to convey the complete usage of a resource.

---

189. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

A. Last March, I was invited to present a paper on the topic of whether the mistakes of the 20th century would be repeated in the 21st century as well.

B. The economic crisis hadn't become grave then.

C. But today the world is in the midst of the biggest economic crisis since 1929.

D. The key difference between then and now is that the old power structures have finally disappeared.

E. Now even the US is pleading for financial help from China.

(A) BCDEA

(B) CDEAB

(C) EABCD

(D) DABCE

Correct Answer: (C) EABCD

Solution: Step 1: Option (C) starts with "E," which provides a geographical context for the discussion of Goa.

Step 2: It is followed by "A," which introduces the issue of SEZs and the related government decision.

Step 3: "B" follows logically as it provides further context regarding the government's prior actions.

Step 4: "C" elaborates on the people's response to these projects, and finally, "D" concludes the passage by discussing the ethical concerns around the projects.

Quick Tip

When organizing sentences into a coherent paragraph, start by providing context, followed by cause and effect relationships, and then conclude with supporting details.

---

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E. Now even the US is pleading for financial help from China.

(A) AEDBC

(B) ABCDE

(C) ACDBE

(D) ABDEC

Correct Answer: (D) ABDEC

Solution: Step 1: Option (D) starts with "A," which introduces the post-election crisis in Kenya.

Step 2: "B" follows logically as it expands on the impact of the crisis on Kenya's economy.

Step 3: "D" comes next as it discusses the threats to livelihoods and investments in Kenya.

Step 4: "E" then connects the urgency of international support in the face of the crisis, while "C" provides an explanation for the broader impact.

Quick Tip

When constructing a paragraph, focus on a clear chronological or cause-effect structure to ensure logical flow between ideas.

---

191. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph. A. Last March, I was invited to present a paper on the topic of whether the mistakes of the 20th century would be repeated in the 21st century as well.

B. The economic crisis hadn't become grave then.

C. But today the world is in the midst of the biggest economic crisis since 1929.

D. The key difference between then and now is that the old power structures have finally disappeared.

E. Now even the US is pleading for financial help from China.

(A) BCDEA

(B) CDEAB

(C) EABCD

(D) DABCE

Correct Answer: (D) EDABC

Solution: Step 1: Sentence E introduces the challenges faced by the BPO and software industries.

Step 2: Sentence D follows, elaborating on the issues faced by IT companies.

Step 3: Sentences A, B, and C follow logically to describe the response of the market and the performance of TCS.

Step 4: Therefore, the correct order is EDABC.

Quick Tip

When organizing sentences into a coherent paragraph, start by providing context, followed by cause and effect relationships, and then conclude with supporting details.

---

192. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

A. Last March, I was invited to present a paper on the topic of whether the mistakes of the 20th century would be repeated in the 21st century as well.

B. The economic crisis hadn't become grave then.

C. But today the world is in the midst of the biggest economic crisis since 1929.

D. The key difference between then and now is that the old power structures have finally disappeared.

E. Now even the US is pleading for financial help from China.

(A) AEDBC

(B) ABCDE

(C) ACDBE

(D) ABDEC

Correct Answer: (B) ABCDE

Solution: Step 1: Sentence A introduces the context of the paper.

Step 2: Sentence B describes the situation at that time.

Step 3: Sentence C contrasts the current situation with the past.

Step 4: Sentence D provides a key difference between then and now, followed by E, which explains the current situation.

Step 5: Therefore, the correct order is ABCDE.

Quick Tip

When constructing a paragraph, focus on a clear chronological or cause-effect structure to ensure logical flow between ideas.

---

193. The trend toward a decrease in the working hours is already evident in the longer weekend given to employees in many multinational organizations.

(A) The trend toward a decrease in the working hours is already evident in the longer weekend given to employees in many multinational organizations.

(B) The trend toward a decrease in the working hours is all ready evident in the longer weekend given to employees in many multinational organizations.

(C) The trend toward a decrease in the working hours is already evident in the longer weekend given to employees in many multinational organization.

(D) The trend toward a decrease in the working hours is all already evident in the longer weekend given to employees in many multinational organizations.

Correct Answer: (A)

Solution: Step 1: Option (A) uses the correct structure and grammar.

Step 2: Option (B) is incorrect because ”all ready” should be ”already.”

Step 3: Option (C) uses ”organization” in singular form, which should be plural.

Step 4: Option (D) is incorrect because ”all already” is redundant.

Quick Tip

Check for proper grammar and consistency in subject-verb agreement and word choice when completing sentences.

---

194. Ever since the sting operation, there has been much opposition from ..... who maintain that it was an unauthorized act.

(A) they

(B) they who

(C) those

(D) those maintaining

Correct Answer: (C) those

Solution: Step 1: ”Those” is the correct choice as it refers to people in a grammatically correct way.

Step 2: ”They” is incorrect in this context as it needs a noun or pronoun reference.

Step 3: The other options do not properly fit the sentence structure.

Quick Tip

Pay attention to the subject of the sentence and ensure it agrees grammatically with the rest of the sentence.

---

195. Had he realized how close he was to failing, he would not have gone to the party.

(A) Had he realized how close he was to failing, he would not have gone to the party.

(B) If he would have realized how close he was to failing, he would not have gone to the party.

(C) Had he had realized how close he was to failing, he would not have gone to the party.

(D) When he realized how close he was to failing, he did not go to the party.

Correct Answer: (A) Had he realized how close he was to failing, he would not have gone to the party.

Solution: Step 1: The correct construction for this conditional sentence is using ”Had” followed by the past perfect (”realized”).
Step 2: ”Would not have gone” fits the third conditional structure that expresses a hypothetical past event.

Quick Tip

When forming conditional sentences in the past tense, use ”Had” + past participle for the ’if’ clause and ”would have” for the main clause.

---

196. Except for you and I, everyone brought a present for the little birthday boy.
(A) Except for him and I, everyone brought a present for the little birthday boy.
(B) With the exception of you and I, everyone brought a present for the little birthday boy.
(C) Except for you and I, everyone had brought a present for the little birthday boy.
(D) Except for you and me, everyone brought a present for the little birthday boy.

Correct Answer: (D) Except for you and me, everyone brought a present for the little birthday boy.

Solution: Step 1: After prepositions like ”except for,” the correct pronoun form is ”me,” not ”I.”
Step 2: Option (D) uses the correct objective pronoun ”me” in the sentence.

Quick Tip

When following prepositions, remember to use objective pronouns (me, him, her, us, them).

---

197. Although farmers complained that the company’s new product was expensive, malodorous, and
(A) dangerous to handle
(B) there was few who
(C) would dispute its effectiveness

(D) as an insecticide

Correct Answer: (B) there was few who

Solution: Step 1: ”There was few who” is incorrect because ”few” needs to be followed by ”were” to match subject-verb agreement.
Step 2: The correct form should be ”there were few who” to reflect the plural subject (”few”).

Quick Tip

When referring to a small number of people, use ”few” with ”were” instead of ”was.”

---

198. When it became apparent to Clive that not one of the remaining jurors ..... going to believe his client’s alibi, he began to reconsider the District Attorney’s offer of a plea bargain.

(A) it became apparent
(B) were going
(C) client’s
(D) offer

Correct Answer: (B) were going

Solution: Step 1: The subject ”not one of the remaining jurors” is singular, so the verb should be ”was going” instead of ”were going.”
Step 2: ”Were going” should be replaced with ”was going” to maintain subject-verb agreement in the sentence.

Quick Tip

Ensure subject-verb agreement when dealing with collective or singular subjects, particularly in cases like ”not one of the jurors.”

---

199. High Fidelity, a successful book and film

(A) became

(B) successful

(C) by presenting

(D) as a common man

Correct Answer: (C) by presenting

Solution: Step 1: ”By presenting” is grammatically incorrect as the structure does not match the parallel form needed. **Step 2:** The correct form would be ”Because of its wit and its presentation of a quirky man.”

Quick Tip

When using parallel structures, ensure that all parts of the sentence follow a consistent grammatical format.

---

200. Though Patricia’s resume was ....., her personal charisma was .....

(A) not nearly

(B) as long and impressive as

(C) the other applicant

(D) so great that Mr. Alvarez hired her on the spot.

Correct Answer: (C) the other applicant

Solution: Step 1: The comparison is between Patricia’s resume and the other applicant’s resume.

Step 2: ”As that of the other applicant” is the correct comparison form.

Quick Tip

When making comparisons, ensure to use ”as” + ”that of” for clear and accurate expressions.
