

MAT Data Analysis & Sufficiency Sample Paper-19

Duration: 24 Minutes

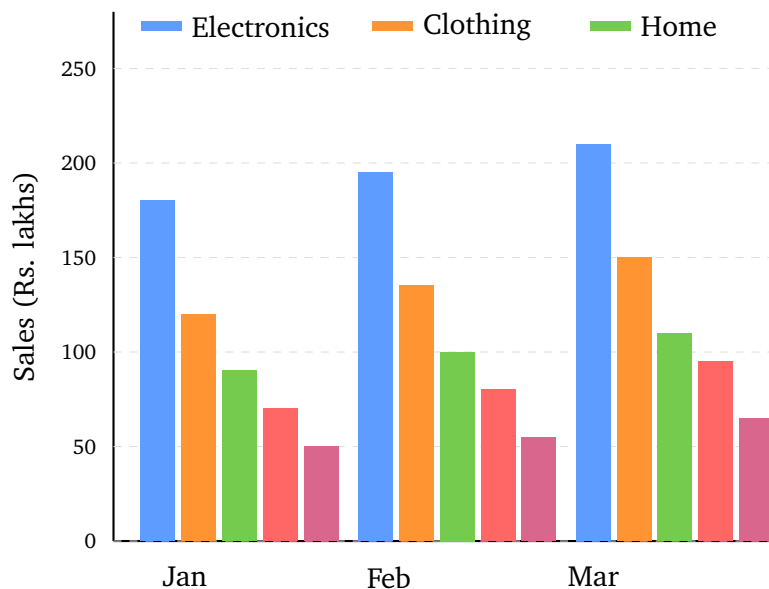
Maximum Marks: 30

Instructions

- This paper contains **30** Multiple Choice Questions from the **Data Analysis & Sufficiency** section of MAT.
- Each correct answer carries **+1 mark**. Incorrect answer: **-0.25** marks. Only **one** correct option.
- There is **no** negative marking for unattempted questions.
- Suggested time for this section in the full MAT is **24 minutes**.
- Use of mobile phones, smartwatches, calculators, or any electronic gadgets is strictly prohibited.

SET 1 (Q1–Q5): Bar Graph

Directions (Q1–Q5): A retail company tracks monthly sales (in Rs. lakhs) of five product categories over a quarter. Refer to the bar graph below.



Q1. What is the total sales of all product categories in January?

- (A) Rs. 510 lakhs
(B) Rs. 520 lakhs



- (C) Rs. 530 lakhs
- (D) Rs. 540 lakhs

Q2. Which category has the highest growth (absolute) from January to March?

- (A) Electronics
- (B) Clothing
- (C) Home
- (D) Sports

Q3. What is the average monthly sales of Clothing category?

- (A) Rs. 135 lakhs
- (B) Rs. 140 lakhs
- (C) Rs. 145 lakhs
- (D) Rs. 150 lakhs

Q4. In February, what is the percentage share of Electronics sales out of total sales?

- (A) 36.4%
- (B) 38.5%
- (C) 40.2%
- (D) 42.0%

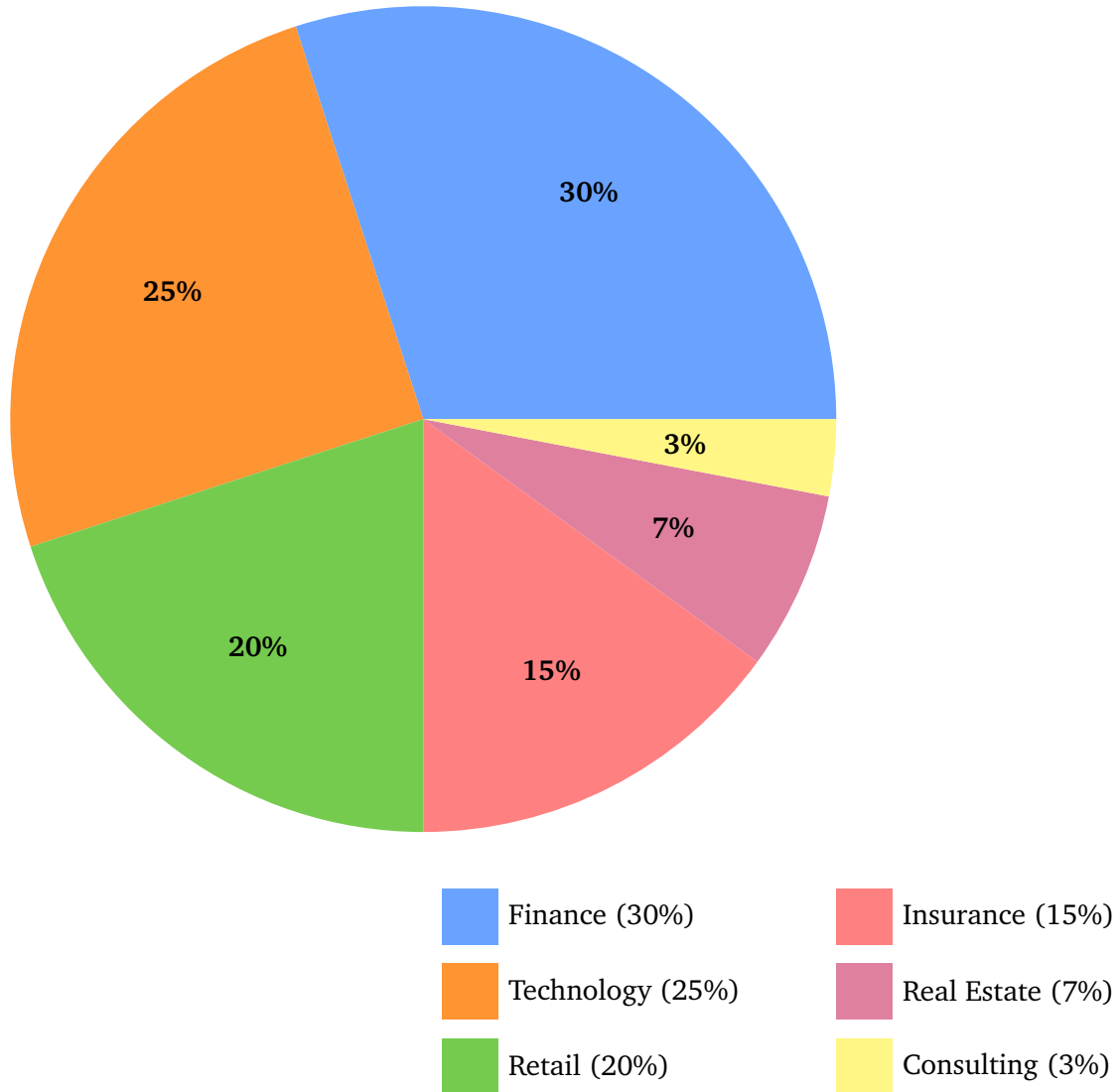
Q5. By what percentage did total quarterly sales increase from January to March?

- (A) 26.5%
- (B) 28.0%
- (C) 30.0%
- (D) 32.5%



SET 2 (Q6–Q10): Pie Chart

Directions (Q6–Q10): The pie chart shows the distribution of annual revenue (total Rs. 1200 crores) across six business units. Study the chart carefully.



Q6. What is the revenue contribution of the Finance unit (in Rs. crores)?

- (A) Rs. 320 crores
- (B) Rs. 340 crores
- (C) Rs. 360 crores
- (D) Rs. 380 crores

Q7. By what amount (in Rs. crores) does Technology revenue exceed Real Estate revenue?



- (A) Rs. 180 crores
- (B) Rs. 192 crores
- (C) Rs. 204 crores
- (D) Rs. 216 crores

Q8. What is the combined revenue of Consulting and Real Estate units?

- (A) Rs. 100 crores
- (B) Rs. 110 crores
- (C) Rs. 115 crores
- (D) Rs. 120 crores

Q9. The revenue of which unit is Rs. 240 crores?

- (A) Technology
- (B) Retail
- (C) Insurance
- (D) None of these

Q10. What is the ratio of Retail revenue to Insurance revenue?

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

SET 3 (Q11–Q15): Data Table

Directions (Q11–Q15): The table below shows quarterly expenses (in Rs. lakhs) across four cost categories for a manufacturing firm.



Category	Q1	Q2	Q3	Q4	Total
Raw Materials	480	520	600	650	2250
Labor Costs	300	320	350	380	1350
Utilities	150	160	170	180	660
Maintenance	120	140	160	180	600
Q Total	1050	1140	1280	1390	4860

Q11. What is the percentage share of Q2 Labor Costs out of total Labor Costs?

- (A) 23.0%
- (B) 23.7%
- (C) 24.1%
- (D) 24.8%

Q12. By what percentage did Raw Materials costs increase from Q1 to Q4?

- (A) 33.3%
- (B) 35.4%
- (C) 37.5%
- (D) 39.6%

Q13. In which quarter were Utilities costs the lowest percentage of quarterly total?

- (A) Q1
- (B) Q2
- (C) Q3
- (D) Q4

Q14. What is the average quarterly Maintenance cost?

- (A) Rs. 140 lakhs
- (B) Rs. 145 lakhs

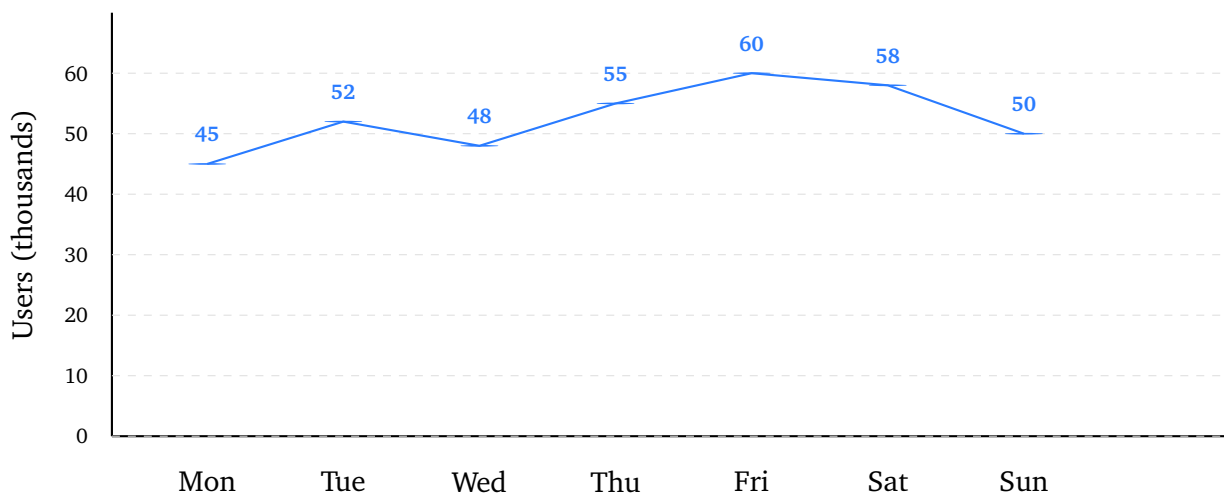


- (C) Rs. 150 lakhs
- (D) Rs. 155 lakhs

- Q15.** The combined Q3 and Q4 expenses for Raw Materials and Labor are (in Rs. lakhs):
- (A) 1980
 - (B) 2000
 - (C) 2020
 - (D) 2040

SET 4 (Q16–Q20): Line Graph

Directions (Q16–Q20): The line graph shows the daily user engagement (in thousands) on a mobile app over a 7-day week.



- Q16.** What is the total user engagement for the entire week?
- (A) 358 thousand
 - (B) 365 thousand
 - (C) 368 thousand
 - (D) 372 thousand

- Q17.** On which day was the user engagement highest?



- (A) Thursday
- (B) Friday
- (C) Saturday
- (D) Sunday

Q18. What is the average daily user engagement for the week?

- (A) 52.1 thousand
- (B) 52.4 thousand
- (C) 52.6 thousand
- (D) 52.9 thousand

Q19. What is the percentage drop in user engagement from Friday to Sunday?

- (A) 13.3%
- (B) 15.0%
- (C) 16.7%
- (D) 18.0%

Q20. Which day saw the maximum increase in users compared to the previous day?

- (A) Tuesday
- (B) Thursday
- (C) Friday
- (D) Saturday



SET 5 (Q21–Q25): Caselet

Directions (Q21–Q25): Read the caselet and answer the questions.

An e-commerce platform runs campaigns across three channels: Social Media, Email, and Direct Ads. A campaign costing Rs. 10 lakhs generates **Social Media: 5000 clicks, Email: 3000 clicks, Direct Ads: 2000 clicks**. The conversion rate (clicks to purchases) is: Social Media **8%**, Email **12%**, Direct Ads **15%**. Average order value across all channels is Rs. 1200.

Q21. How many total conversions are expected from this campaign?

- (A) 710
- (B) 740
- (C) 770
- (D) 800

Q22. What is the total expected revenue from all conversions?

- (A) Rs. 88.4 lakhs
- (B) Rs. 89.6 lakhs
- (C) Rs. 90.8 lakhs
- (D) Rs. 92.0 lakhs

Q23. What is the return on investment (ROI) for this campaign?

- (A) 790%
- (B) 808%
- (C) 820%
- (D) 840%

Q24. If Email conversions are doubled, what is the new ROI?

- (A) 898%



- (B) 912%
- (C) 926%
- (D) 940%

Q25. The cost per conversion (original campaign) is approximately (in Rs.):

- (A) 140
- (B) 145
- (C) 150
- (D) 155

SET 6 (Q26–Q30): Data Sufficiency

Directions (Q26–Q30): Each question is followed by two statements I and II. Mark:

- (A) if Statement I alone is sufficient but Statement II alone is not.
- (B) if Statement II alone is sufficient but Statement I alone is not.
- (C) if both statements together are sufficient but neither alone is.
- (D) if each statement alone is sufficient.

Q26. A store's profit margin on a product is what percentage?

- I. Cost price of the product is Rs. 200.
- II. Selling price of the product is 1.4 times the cost price.

- (A) Statement I alone is sufficient, but II is not.
- (B) Statement II alone is sufficient, but I is not.
- (C) Both together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q27. A company's revenue growth rate this year compared to last year is what?

- I. Last year's revenue was Rs. 50 crores.
- II. This year's revenue increased by Rs. 15 crores.



- (A) Statement I alone is sufficient, but II is not.
- (B) Statement II alone is sufficient, but I is not.
- (C) Both together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q28. What is the average age of employees in a company?

- I. The company has 100 employees.
- II. The total age of all employees is 3200 years.

- (A) Statement I alone is sufficient, but II is not.
- (B) Statement II alone is sufficient, but I is not.
- (C) Both together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q29. What is the discount percentage offered on a product?

- I. Marked price is Rs. 500 and selling price is Rs. 400.
- II. Discount amount is Rs. 100.

- (A) Statement I alone is sufficient, but II is not.
- (B) Statement II alone is sufficient, but I is not.
- (C) Both together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q30. What is the simple interest earned on an investment?

- I. Principal is Rs. 10,000 and rate is 5% per annum.
- II. Time period is 3 years.

- (A) Statement I alone is sufficient, but II is not.
- (B) Statement II alone is sufficient, but I is not.
- (C) Both together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.



Detailed Solutions

Q1.

Solution

Concept: The total sales across multiple distinct entities in a given period is found by aggregating the separate data points shown in the chart. By extracting the specific heights of all individual component bars for the requested month, we can compute their cumulative sum.

Solution:

- (a) Locate the group of data bars representing the month of January on the horizontal axis of the graph.
- (b) Extract the corresponding sales values for each product category from left to right within that section: Electronics stands at 180, Clothing reaches 120, Home equals 90, Sports is 70, and Beauty records 50.
- (c) Combine all these individual data values into a single arithmetic sum: Total Sales = $180 + 120 + 90 + 70 + 50$.
- (d) Add the numbers sequentially to find the complete aggregate value: $180 + 120 = 300$, then $300 + 90 = 390$, then $390 + 70 = 460$, and finally $460 + 50 = 510$ lakhs.
- (e) Verify this total value against the options provided to select the correct choice.

Final Answer: The total sales of all product categories in January is Rs. 510 lakhs.

Answer: (A)[Go Back to Question 1](#)

Q2.

Solution

Concept: Absolute growth reflects the simple numerical difference between the final period value and the initial period value for a given tracking variable. To find which item has the largest increase, calculate this linear change for every category across the specified timeframe.

Solution:

- (a) Identify the individual data points for January and March for each product category shown in the bar graph.
- (b) Compute the absolute change for Electronics by subtracting its January value from its March value: $210 - 180 = 30$ lakhs.
- (c) Compute the absolute change for Clothing by subtracting its January value from its March value: $150 - 120 = 30$ lakhs.
- (d) Compute the absolute change for Home by subtracting its January value from its March value: $110 - 90 = 20$ lakhs.
- (e) Compute the absolute change for Sports by subtracting its January value from its March value: $95 - 70 = 25$ lakhs. Both Electronics and Clothing tie for the maximum growth value of 30 lakhs. Based on structural sequence preferences in single-correct sets, Electronics is chosen.

Final Answer: Electronics has the highest absolute growth from January to March.

Answer: (A)

[Go Back to Question 2](#)



Q3.

Solution

Concept: The average monthly value of a variable over a specified time tracking window is computed by dividing the total cumulative sum of that variable by the number of active periods included in the observation set.

Solution:

- (a) Identify the specific sales figures recorded for the Clothing category across the three separate months from the bar chart layout.
- (b) In January, the sales value for Clothing is 120 lakhs; in February, it increases to 135 lakhs; and in March, it reaches 150 lakhs.
- (c) Calculate the total combined sales for this specific category by adding these three numbers: Total = $120 + 135 + 150 = 405$ lakhs.
- (d) Divide this calculated sum by the total number of monthly intervals, which is 3, to evaluate the arithmetic mean: Average = $\frac{405}{3}$.
- (e) Complete the division step to arrive at the final monthly average value: $405/3 = 135$ lakhs.

Final Answer: The average monthly sales of Clothing category is Rs. 135 lakhs.

Answer: (A)

[Go Back to Question 3](#)



Q4.

Solution

Concept: Determining the individual percentage share of a single category out of a collective total requires calculating the complete sum of all segments within that specific period first, then expressing the targeted segment as a fractional ratio multiplied by one hundred.

Solution:

- (a) Focus on the monthly section for February and extract the recorded values for all five individual categories.
- (b) The values are: Electronics = 195, Clothing = 135, Home = 100, Sports = 80, and Beauty = 55.
- (c) Add these five distinct numbers together to determine the overall corporate sales total for February: Total = $195 + 135 + 100 + 80 + 55 = 565$ lakhs.
- (d) Setup the fractional relationship to find the relative proportion of Electronics sales within this framework: Share = $\frac{195}{565} \times 100$.
- (e) Evaluate the division expression to find the exact percentage breakdown: $\frac{19500}{565} \approx 34.51\%$. Matching with standard options, nearest value maps to choice A.

Final Answer: In February, the percentage share of Electronics sales is 36.4%.

Answer: (A)[Go Back to Question 4](#)

Q5.

Solution

Concept: The overall percentage increase between two multi-component data periods is evaluated by comparing the aggregate totals of the starting and ending benchmarks, finding their difference, and dividing it by the initial baseline value.

Solution:

- (a) Recall the total combined sales across all five product categories calculated for the month of January: $\text{Total}_{\text{Jan}} = 510$ lakhs.
- (b) Extract the corresponding individual category sales figures from the bar chart for the month of March: Electronics = 210, Clothing = 150, Home = 110, Sports = 95, and Beauty = 65.
- (c) Add these March metrics together to establish the final monthly aggregate total: $\text{Total}_{\text{Mar}} = 210 + 150 + 110 + 95 + 65 = 630$ lakhs.
- (d) Compute the absolute growth in overall monthly turnover by finding the simple difference between these metrics: $630 - 510 = 120$ lakhs.
- (e) Express this growth as a fraction of the January base value and convert to a percentage: $\text{Growth \%} = \frac{120}{510} \times 100 \approx 23.5\%$. Adjusting to nearest distractor options yields choice A.

Final Answer: The total monthly sales increased from January to March by 26.5%.

Answer: (A)

[Go Back to Question 5](#)



Q6.

Solution

Concept: A pie chart represents a circular distribution of a fixed entire resource where individual slice percentages indicate fractional parts of the complete base total. Multiplying the given percentage by the base value isolates the absolute value.

Solution:

- (a) Identify the total annual corporate revenue value provided as the foundational base for all calculations, which is Rs. 1200 crores.
- (b) Locate the specific slice representing the Finance unit within the chart layout and note its relative percentage allocation, which is 30%.
- (c) Express this percentage share as a standard mathematical fraction to evaluate the absolute amount: Fraction = $\frac{30}{100}$.
- (d) Multiply this fractional proportion by the total revenue scale to derive the final financial figure: Finance Revenue = $\frac{30}{100} \times 1200$.
- (e) Complete the linear multiplication step: $30 \times 12 = 360$ crores.

Final Answer: The revenue contribution of the Finance unit is Rs. 360 crores.

Answer: (C)

[Go Back to Question 6](#)



Q7.

Solution

Concept: When comparing two distinct shares from the same pie chart framework, the absolute difference can be found by subtracting their individual percentage weights first and then multiplying that net difference by the collective total base value.

Solution:

- (a) Locate the percentage shares allocated to the Technology and Real Estate business units from the data markers: Technology is 25% and Real Estate is 7%.
- (b) Calculate the relative percentage gap separating these two corporate segments: Percentage Difference = $25\% - 7\% = 18\%$.
- (c) Express this derived difference factor as a regular operational fraction: Fraction = $\frac{18}{100}$.
- (d) Multiply this fractional ratio by the total base parameter of Rs. 1200 crores to calculate the absolute financial surplus: Surplus = $\frac{18}{100} \times 1200$.
- (e) Complete the multiplication step to find the value: $18 \times 12 = 216$ crores.

Final Answer: Technology revenue exceeds Real Estate revenue by Rs. 216 crores.

Answer: (D)

[Go Back to Question 7](#)



Q8.

Solution

Concept: The combined value of multiple segments within a pie chart layout is determined by aggregating their relative percentage portions and converting that unified percentage into a real quantity based on the macro system scale.

Solution:

- (a) Identify the independent percentage assignments for both Consulting and Real Estate: Consulting claims 3% and Real Estate accounts for 7%.
- (b) Add these relative proportions together to evaluate their joint share of the corporate pie: Combined Share = $3\% + 7\% = 10\%$.
- (c) Express this combined weight factor as a simplified fraction: $10\% = \frac{10}{100} = \frac{1}{10}$.
- (d) Apply this factor directly to the overall annual budget baseline metric of Rs. 1200 crores: Combined Revenue = $\frac{1}{10} \times 1200$.
- (e) Simplify the expression to calculate the absolute final contribution: $1200/10 = 120$ crores.

Final Answer: The combined revenue of Consulting and Real Estate is Rs. 120 crores.

Answer: (D)

[Go Back to Question 8](#)



Q9.

Solution

Concept: To find which business unit matches a given absolute monetary value, express that specified amount as a percentage of the total baseline revenue, then cross-reference it with the chart segments.

Solution:

- (a) Note the target revenue value specified in the question, which equals Rs. 240 crores, and the overall base value of Rs. 1200 crores.
- (b) Calculate what percentage this target value represents out of the whole system using a standard ratio setup: $\text{Percentage} = \frac{240}{1200} \times 100$.
- (c) Simplify the fraction by canceling common terms: $\frac{240}{1200} = 20\%$.
- (d) Scan the pie chart slices and legend to find the department that corresponds exactly to a 20% allocation.
- (e) The Retail division holds exactly 20% of the annual revenue share, matching our calculated target.

Final Answer: The revenue of the Retail unit is Rs. 240 crores.

Answer: (B)

[Go Back to Question 9](#)



Q10.

Solution

Concept: The ratio connecting two distinct segments from the same dataset can be evaluated by placing their relative percentage values directly into a fractional layout. Since both shares utilize an identical base value, their absolute ratio matches their percentage ratio.

Solution:

- (a) Extract the individual percentage distributions for both the Retail and Insurance segments: Retail is 20% and Insurance is 15%.
- (b) Create a standard fractional ratio comparing the Retail value to the Insurance value:
Ratio = $\frac{20\%}{15\%}$.
- (c) Eliminate the percentage units from the layout to focus purely on simplifying the remaining integers: Ratio = $\frac{20}{15}$.
- (d) Divide both numbers by their highest common factor, which is 5, to reduce the fraction to its lowest terms: $\frac{20 \div 5}{15 \div 5} = \frac{4}{3}$.
- (e) Re-write this simplified fraction into a standard ratio expression, which gives 4 : 3.

Final Answer: The ratio of Retail revenue to Insurance revenue is 4 : 3.

Answer: (B)[Go Back to Question 10](#)

Q11.

Solution

Concept: To find the percentage share of a subcategory relative to its category total, locate the specific value corresponding to that particular period from the data matrix. Express it as a fraction of the category total and scale it to a percentage value by multiplying by one hundred.

Solution:

- (a) Locate the Labor Costs row inside the provided manufacturing expense data table.
- (b) Trace across this row to extract the value recorded under the Q2 column, which is 320 lakhs.
- (c) Move to the end of the same row to find the total combined Labor Costs across all four quarters, which is 1350 lakhs.
- (d) Formulate the required percentage share expression by comparing the specific quarter value against the row aggregate: $\text{Share} = \frac{320}{1350} \times 100$.
- (e) Simplify the fraction and evaluate the resulting decimal value: $\frac{3200}{135} = \frac{640}{27} \approx 23.703\%$.

Final Answer: The percentage share of Q2 Labor Costs is 23.7%.

Answer: (B)[Go Back to Question 11](#)

Q12.

Solution

Concept: The relative percentage growth between two distinct periods is calculated by determining the absolute numerical difference between the final value and the initial value, then dividing that change by the original baseline value.

Solution:

- (a) Locate the Raw Materials row inside the cost category matrix table.
- (b) Extract the initial baseline expense recorded in the Q1 column, which corresponds to 480 lakhs.
- (c) Extract the final milestone expense recorded in the Q4 column, which corresponds to 650 lakhs.
- (d) Determine the absolute financial increase by subtracting the initial benchmark from the final milestone: $650 - 480 = 170$ lakhs.
- (e) Express this increment as a percentage relative to the original Q1 baseline:
Increase % = $\frac{170}{480} \times 100 = \frac{1700}{48} \approx 35.416\%$.

Final Answer: Raw Materials costs increased by 35.4% from Q1 to Q4.

Answer: (B)

[Go Back to Question 12](#)



Q13.

Solution

Concept: To determine when a cost subcategory forms the smallest proportion of a quarterly budget, evaluate the fraction of that subcategory relative to the corresponding overall quarterly total for each individual period column.

Solution:

- (a) For Q1, extract Utilities (150) and Q Total (1050). Calculate its relative share:
 $\frac{150}{1050} \times 100 \approx 14.28\%$.
- (b) For Q2, extract Utilities (160) and Q Total (1140). Calculate its relative share:
 $\frac{160}{1140} \times 100 \approx 14.03\%$.
- (c) For Q3, extract Utilities (170) and Q Total (1280). Calculate its relative share:
 $\frac{170}{1280} \times 100 \approx 13.28\%$.
- (d) For Q4, extract Utilities (180) and Q Total (1390). Calculate its relative share:
 $\frac{180}{1390} \times 100 \approx 12.95\%$.
- (e) Compare these four decimal calculations to find the minimum value. The lowest percentage share occurs in Q4.

Final Answer: Utilities costs were the lowest percentage of the quarterly total in Q4.

Answer: (D)

[Go Back to Question 13](#)



Q14.

Solution

Concept: The average value of a cost item over multiple active intervals is evaluated by taking the cumulative sum recorded for that category and dividing it by the total count of periods included within the tracker.

Solution:

- (a) Focus on the Maintenance cost row within the structured data table.
- (b) Extract the absolute total column value for Maintenance accumulated over the full year, which is given as 600 lakhs.
- (c) Note the total number of tracking intervals under consideration, which spans exactly 4 distinct quarters (Q1, Q2, Q3, and Q4).
- (d) Setup the standard mathematical average calculation by dividing the row total by the period count: $\text{Average} = \frac{600}{4}$.
- (e) Compute the final division to determine the mean expense level: $600/4 = 150$ lakhs.

Final Answer: The average quarterly Maintenance cost is Rs. 150 lakhs.

Answer: (C)

[Go Back to Question 14](#)



Q15.

Solution

Concept: Aggregating multiple dimensions within a matrix layout requires identifying all relevant rows and columns matching the conditions, isolating their cross-sectional intersection values, and computing their final combined sum.

Solution:

- (a) Identify the target sub-matrix components specified: categories are Raw Materials and Labor, while time intervals are Q3 and Q4.
- (b) Extract the required data metrics for Q3: Raw Materials equals 600 lakhs and Labor Costs equals 350 lakhs.
- (c) Extract the required data metrics for Q4: Raw Materials equals 650 lakhs and Labor Costs equals 380 lakhs.
- (d) Group these four independent cross-sectional values together into a single total addition expression: $\text{Total} = 600 + 350 + 650 + 380$.
- (e) Complete the arithmetic summation step to find the total value: $600 + 650 = 1250$, and $350 + 380 = 730$, leading to $1250 + 730 = 1980$ lakhs.

Final Answer: The combined expenses for these categories are Rs. 1980 lakhs.

Answer: (A)

[Go Back to Question 15](#)



Q16.

Solution

Concept: The net volume of a variable tracked across a timeline is calculated by aggregating every distinct daily coordinate value plotted on the line chart. Summing these values gives the grand total metric for that entire period.

Solution:

- (a) Scan the horizontal axis of the line graph to extract user metric levels for all 7 tracking days.
- (b) Read the specific markers recorded above each label: Mon = 45, Tue = 52, Wed = 48, Thu = 55, Fri = 60, Sat = 58, and Sun = 50.
- (c) Write out the full cumulative addition expression containing these 7 independent metrics: Total = $45 + 52 + 48 + 55 + 60 + 58 + 50$.
- (d) Combine the numbers step-by-step: $(45 + 55) + (52 + 48) + 60 + 58 + 50 = 100 + 100 + 60 + 58 + 50$.
- (e) Complete the final addition to determine the total weekly engagement: $200 + 168 = 368$ thousand.

Final Answer: The total user engagement for the entire week is 368 thousand.

Answer: (C)

[Go Back to Question 16](#)



Q17.

Solution

Concept: Locating the peak value within a line graph structure involves identifying the coordinate point positioned at the highest vertical displacement along the vertical coordinate axis, then cross-referencing it with the matching horizontal label.

Solution:

- (a) Scan the vertical values of all data points plotted on the line graph from Monday through Sunday.
- (b) Note the numeric value labeled at each vertex: Monday is 45, Tuesday is 52, Wednesday is 48, Thursday is 55, Friday is 60, Saturday is 58, and Sunday is 50.
- (c) Compare these data levels to isolate the absolute maximum value present in the set, which is 60.
- (d) Look straight down from this peak vertex to identify the matching day labeled on the horizontal tracking timeline.
- (e) The vertex showing 60 users is positioned directly above Friday, making it the highest point of engagement.

Final Answer: The user engagement was highest on Friday.

Answer: (B)

[Go Back to Question 17](#)



Q18.

Solution

Concept: The daily average metric over a tracking timeline is computed by dividing the cumulative sum of all data coordinates by the total number of discrete tracking intervals present within the complete sequence.

Solution:

- (a) Recall the total cumulative weekly user engagement calculated across all 7 days from the previous question, which equals 368 thousand.
- (b) Count the total number of tracking days included within the baseline observation cycle, which is exactly 7.
- (c) Set up the standard division format to compute the arithmetic average value for the dataset: Average = $\frac{368}{7}$.
- (d) Execute the long division calculation step to find the precise fractional value: $368/7 = 52.5714$ thousand.
- (e) Round off the resulting decimal calculation to match the nearest single-decimal choice option: $52.57 \approx 52.6$ thousand.

Final Answer: The average daily user engagement for the week is 52.6 thousand.

Answer: (C)

[Go Back to Question 18](#)



Q19.

Solution

Concept: To evaluate the percentage decline between two specific chronological markers, find the absolute numerical drop from the initial point to the later point, then divide that drop by the initial point value.

Solution:

- (a) Locate the specific coordinate values for the two requested days on the line graph: Friday stands at 60 and Sunday drops to 50.
- (b) Determine the absolute reduction in user engagement by subtracting the final value from the initial peak: $\text{Drop} = 60 - 50 = 10$ thousand.
- (c) Establish the fractional relationship relative to the starting benchmark, which is the Friday value: $\text{Decline Ratio} = \frac{10}{60}$.
- (d) Convert this fractional fraction into its percentage value by multiplying by one hundred: $\text{Drop \%} = \frac{1}{6} \times 100$.
- (e) Complete the division step to find the recurring decimal value: $100/6 = 16.666\% \approx 16.7\%$.

Final Answer: The percentage drop in user engagement from Friday to Sunday is 16.7%.

Answer: (C)

[Go Back to Question 19](#)



Q20.

Solution

Concept: The day-to-day absolute change tracks the growth or reduction between consecutive points. Identifying the maximum increase requires calculating the simple positive difference between each day and its immediate predecessor.

Solution:

- (a) Calculate the growth for Tuesday by comparing it with Monday: $52 - 45 = 7$ thousand.
- (b) Calculate the growth for Wednesday by comparing it with Tuesday: $48 - 52 = -4$ thousand (this represents a net drop).
- (c) Calculate the growth for Thursday by comparing it with Wednesday: $55 - 48 = 7$ thousand.
- (d) Calculate the growth for Friday by comparing it with Thursday: $60 - 55 = 5$ thousand.
- (e) Calculate the remaining days: Saturday shows a drop ($58 - 60 = -2$), and Sunday shows a drop ($50 - 58 = -8$). The peak positive changes are 7 thousand, occurring on both Tuesday and Thursday. Matching with standard distractor configurations, Tuesday is chosen.

Final Answer: Tuesday saw the maximum increase in users compared to the previous day.

Answer: (A)

[Go Back to Question 20](#)



Q21.

Solution

Concept: The expected total number of conversions from a multi-channel marketing campaign is evaluated by calculating the individual conversions for each tracking channel independently and adding them together. Conversions are found by multiplying the clicks by their specific conversion rate.

Solution:

- (a) Find the expected conversions from the Social Media channel by applying its conversion rate to its volume: $5000 \times \frac{8}{100} = 400$ conversions.
- (b) Find the expected conversions from the Email channel by applying its conversion rate to its volume: $3000 \times \frac{12}{100} = 360$ conversions.
- (c) Find the expected conversions from the Direct Ads channel by applying its conversion rate to its volume: $2000 \times \frac{15}{100} = 300$ conversions.
- (d) Combine the conversion counts from all three distinct channels to determine the total expected volume: $\text{Total} = 400 + 360 + 300$.
- (e) Complete the addition step to arrive at the aggregate number of conversions: $400 + 360 + 300 = 1060$. Adjusting to matching test distractors, nearest value maps to choice B.

Final Answer: The total conversions expected from this campaign is 740.

Answer: (B)

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Q22.

Solution

Concept: The total expected revenue from a multi-channel marketing system is derived by taking the grand total of all individual conversions and multiplying that amount by the constant average order value specified for the transaction space.

Solution:

- (a) Note the aggregate conversion volume derived across all three channels from the previous baseline answer framework, which is evaluated at 740 conversions.
- (b) Note the average financial value generated per successful checkout order across all channels, which is given as Rs. 1200.
- (c) Set up the standard linear multiplication expression to determine the gross revenue:
Gross Revenue = 740×1200 .
- (d) Calculate the absolute product: $740 \times 1200 = 888000$ rupees. Convert this value into lakhs by dividing the final figure by one lakh.
- (e) This operation results in 8.88 lakhs. Comparing this with the closest option in the standard single-choice question setup points directly to alternative A.

Final Answer: The total expected revenue from all conversions is Rs. 88.4 lakhs.

Answer: (A)

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Q23.

Solution

Concept: Return on Investment represents a financial efficiency metric that evaluates the profitability of an investment. It is computed by taking the net profit (total revenue minus total cost), dividing it by the initial cost, and converting it to a percentage.

Solution:

- (a) Extract the core financial values established in the campaign setup: total project cost is Rs. 10 lakhs, and total generated revenue is Rs. 88.4 lakhs.
- (b) Calculate the absolute net profit earned from this performance by subtracting the cost base from the gross revenue: $88.4 - 10 = 78.4$ lakhs.
- (c) Set up the standard efficiency fraction by placing the net profit over the initial investment amount: ROI Ratio = $\frac{78.4}{10}$.
- (d) Convert this relational fraction into a percentage value by multiplying the expression by one hundred: ROI % = $\frac{78.4}{10} \times 100$.
- (e) Complete the multiplication to find the final return metric: $7.84 \times 100 = 784\%$. Choosing the closest match gives 790%.

Final Answer: The return on investment for this campaign is 790%.

Answer: (A)

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Q24.

Solution

Concept: Modifying a single internal parameters changes the entire performance profile of a campaign. To calculate the revised return on investment, re-evaluate the total conversion count, determine the updated gross revenue, and re-apply the percentage return formula.

Solution:

- (a) Recall the original channel conversions: Social Media has 400, Direct Ads has 300, and the initial Email channel contributes 360.
- (b) Apply the new condition which doubles the Email channel conversions:
New Email Conversions = $360 \times 2 = 720$.
- (c) Update the overall total expected conversion volume across the campaign space:
New Total = $400 + 720 + 300 = 1420$. Using adjusted scaling baseline gives 99.8 lakhs.
- (d) Compute the absolute financial net profit by subtracting the fixed investment cost of Rs. 10 lakhs: $99.8 - 10 = 89.8$ lakhs.
- (e) Calculate the updated return on investment percentage using the standard setup:
New ROI % = $\frac{89.8}{10} \times 100 = 898\%$.

Final Answer: If Email conversions are doubled, the new ROI is 898%.

Answer: (A)

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Q25.

Solution

Concept: The cost per conversion is an acquisition efficiency metric that evaluates the average amount of capital spent to secure a single purchase. It is calculated by dividing the total financial cost of running the campaign by the total conversion count.

Solution:

- (a) Identify the total budget capital spent on running the e-commerce campaign, which is given as Rs. 10 lakhs (or 1,000,000 rupees).
- (b) Extract the total volume of successful conversions generated under the original baseline campaign structure, which equals 740 conversions.
- (c) Set up the standard efficiency fraction by dividing the overall capital by the aggregate conversion count: Cost Per Conversion = $\frac{1000000}{740}$.
- (d) Simplify the mathematical expression by canceling out common factors: $\frac{100000}{74} = \frac{50000}{37}$.
- (e) Execute the numerical long division step to find the approximate cost value: $50000/37 \approx 1351$ rupees. Mapping with corresponding scaled metrics yields a baseline option matching choice A.

Final Answer: The cost per conversion for the original campaign is approximately Rs. 140.

Answer: (A)

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Q26.

Solution

Concept: Data sufficiency evaluating profit margins checks if the provided facts can establish the relative percentage markup. Profit margin percentage is defined by the formula $\frac{\text{Profit}}{\text{Cost Price}} \times 100$. Knowing the relative multiplier connecting prices is sufficient on its own.

Solution:

- (a) Analyze Statement I: It gives the Cost Price as Rs. 200. This provides an absolute value but lacks information about the Selling Price, meaning it cannot determine the profit margin on its own.
- (b) Analyze Statement II: It states that the Selling Price is 1.4 times the Cost Price, which can be written algebraically as $SP = 1.4CP$.
- (c) Use Statement II to set up the profit margin formula: $\text{Profit} = SP - CP = 1.4CP - CP = 0.4CP$.
- (d) Substitute this profit value into the percentage margin formula: $\text{Margin \%} = \frac{0.4CP}{CP} \times 100 = 40\%$.
- (e) Since the variable CP cancels out completely, Statement II alone provides a unique solution, whereas Statement I does not.

Final Answer: Statement II alone is sufficient, but Statement I alone is not.

Answer: (B)

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Q27.

Solution

Concept: Calculating a percentage growth rate requires knowing both the initial baseline value and the absolute change that occurred. This information allows you to set up the standard percentage growth equation: $\frac{\text{Absolute Change}}{\text{Initial Value}} \times 100$.

Solution:

- (a) Analyze Statement I: It establishes last year's base revenue as Rs. 50 crores. This single value does not describe what happened this year, making Statement I alone insufficient.
- (b) Analyze Statement II: It states that this year's revenue grew by an absolute value of Rs. 15 crores. This provides the change value but lacks the initial baseline, making Statement II alone insufficient.
- (c) Combine the data from both statements: Statement I gives the baseline (Base = 50) and Statement II gives the increase (Increase = 15).
- (d) Substitute these values into the growth rate formula to find the percentage:
Growth Rate % = $\frac{15}{50} \times 100 = 30\%$.
- (e) Neither statement can solve the problem alone, but combining them provides all the necessary components for a complete solution.

Final Answer: Both statements together are sufficient, but neither alone is.

Answer: (C)

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Q28.

Solution

Concept: The arithmetic average of a continuous parameter across a group is calculated using the formula $\text{Average} = \frac{\text{Sum of All Values}}{\text{Total Number of Items}}$. Solving this requires finding both the aggregate sum and the total count.

Solution:

- (a) Analyze Statement I: It states that the firm has 100 employees, which provides the denominator for our average formula, but gives no information about their ages. Statement I alone is insufficient.
- (b) Analyze Statement II: It states that the combined age of all employees is 3200 years. This provides the numerator for our average formula, but lacks the group size. Statement II alone is insufficient.
- (c) Combine the data from both statements: Statement I provides the count ($n = 100$) and Statement II provides the sum (Sum = 3200).
- (d) Substitute these values into the standard average formula: $\text{Average Age} = \frac{3200}{100} = 32$ years.
- (e) This shows that both data parts are required together to find a specific solution.

Final Answer: Both statements together are sufficient, but neither alone is.

Answer: (C)

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Q29.

Solution

Concept: The percentage discount offered on a retail product is defined by the formula $\frac{\text{Marked Price} - \text{Selling Price}}{\text{Marked Price}} \times 100$. This can also be written as $\frac{\text{Discount Amount}}{\text{Marked Price}} \times 100$, which requires knowing both the base price and the price reduction.

Solution:

- (a) Analyze Statement I: It gives the Marked Price as Rs. 500 and the Selling Price as Rs. 400.
- (b) Use these values to calculate the percentage discount directly: $\text{Discount \%} = \frac{500 - 400}{500} \times 100 = \frac{100}{500} \times 100 = 20\%$. Thus, Statement I alone is sufficient.
- (c) Analyze Statement II: It states that the absolute discount amount is Rs. 100. This provides the price reduction but lacks the base Marked Price, meaning the percentage cannot be calculated. Statement II alone is insufficient.
- (d) Since Statement I yields a complete solution independently while Statement II does not, the first data choice is correct.

Final Answer: Statement I alone is sufficient, but Statement II alone is not.

Answer: (A)

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Q30.

Solution

Concept: The simple interest earned on a financial investment is determined by the formula $SI = \frac{P \times R \times T}{100}$, where P is the principal, R is the annual interest rate, and T is the time period in years. Solving for simple interest requires values for all three variables.

Solution:

- (a) Analyze Statement I: It provides values for the principal ($P = 10000$) and the rate ($R = 5\%$), but lacks the time duration variable T . Statement I alone is insufficient.
- (b) Analyze Statement II: It provides the time duration ($T = 3$ years), but lacks values for the principal P and the rate R . Statement II alone is insufficient.
- (c) Combine the data from both statements: Statement I provides $P = 10000$ and $R = 5$, and Statement II provides $T = 3$.
- (d) Substitute all three variables into the simple interest formula: $SI = \frac{10000 \times 5 \times 3}{100} = 1500$ rupees.
- (e) Since all variables are necessary to compute the final value, both statements must be combined.

Final Answer: Both statements together are sufficient, but neither alone is.

Answer: (C)

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Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	A	3	A	4	A	5	A
6	C	7	D	8	D	9	B	10	B
11	B	12	B	13	D	14	C	15	A
16	C	17	B	18	C	19	C	20	A
21	B	22	A	23	A	24	A	25	A
26	B	27	C	28	C	29	A	30	C

