

Paper 3 - Quantitative Aptitude: Full Trend Bank

Section 1 - 50 MCQs (answers inline)

Q1. Simple interest on 4752 at 10 percent for 3 years equals:

- (a) 1425
- (b) 1568
- (c) 1283
- (d) 1525

Answer: 1425 - $SI = P*r*t/100 = 4752*10*3/100 = 1425$.

Q2. Sum of first 6 natural numbers is:

- (a) 21
- (b) 20
- (c) 22
- (d) 36

Answer: 21 - Use $n(n+1)/2$.

Q3. If $A:B = 3:5$ and $B = 50$, find A.

- (a) 30
- (b) 35
- (c) 25
- (d) 60

Answer: 30 - $A/B = r1/r2 \rightarrow A = B*(r1/r2)$.

Q4. Compound interest on 4061 at 8 percent for 3 years (annual) equals:

- (a) 1054.69
- (b) 1160.16
- (c) 949.22
- (d) 1154.69

Answer: 1054.69 - $CI = P[(1+r)^n - 1]$.

Q5. Matrix: $\det([5])$ equals:

- (a) 5
- (b) $1/5$
- (c) 0
- (d) -5

Answer: 5 - Determinant of 1×1 is the element.

Q6. Probability: For fair die, probability of getting number greater than 4 is:

- (a) $2/6$
- (b) $3/6$
- (c) $1/6$
- (d) $4/6$

Answer: $2/6$ - Outcomes 5,6 $\rightarrow 2/6$.

Q7. Mean of 2,4,6,8,10 is:

- (a) 6

- (b) 5
- (c) 7
- (d) 8

Answer: 6 - Sum 30/5.

Q8. LR: Series 2,4,8,16,? Next term is:

- (a) 32
- (b) 24
- (c) 18
- (d) 20

Answer: 32 - Multiply by 2.

Q9. Sets: If $|A|=20$, $|B|=15$, $|A \cup B|=28$, then $|A \cap B|$ is:

- (a) 7
- (b) 6
- (c) 8
- (d) 0

Answer: 7 - $|A \cup B| = |A| + |B| - |A \cap B|$.

Q10. Calculus: derivative of x^2 is:

- (a) $2x$
- (b) x
- (c) x^3
- (d) 1

Answer: $2x$ - $d/dx x^2 = 2x$.

Q11. Simple interest on 2376 at 6 percent for 2 years equals:

- (a) 285
- (b) 313
- (c) 256
- (d) 385

Answer: 285 - $SI = P*r*t/100 = 2376*6*2/100 = 285$.

Q12. Sum of first 5 natural numbers is:

- (a) 15
- (b) 14
- (c) 16
- (d) 25

Answer: 15 - Use $n(n+1)/2$.

Q13. If $A:B = 3:2$ and $B = 20$, find A.

- (a) 30
- (b) 35
- (c) 25
- (d) 60

Answer: 30 - $A/B = r_1/r_2 \rightarrow A = B*(r_1/r_2)$.

Q14. Compound interest on 2592 at 12 percent for 3 years (annual) equals:

- (a) 1049.57
- (b) 1154.53
- (c) 944.61
- (d) 1149.57

Answer: $1049.57 - CI = P[(1+r)^n - 1]$.

Q15. Matrix: $\det([5])$ equals:

- (a) 5
- (b) $1/5$
- (c) 0
- (d) -5

Answer: 5 - Determinant of 1×1 is the element.

Q16. Probability: For fair die, probability of getting number greater than 4 is:

- (a) $2/6$
- (b) $3/6$
- (c) $1/6$
- (d) $4/6$

Answer: $2/6$ - Outcomes 5,6 $\rightarrow 2/6$.

Q17. Mean of 2,4,6,8,10 is:

- (a) 6
- (b) 5
- (c) 7
- (d) 8

Answer: 6 - Sum $30/5$.

Q18. LR: Series 2,4,8,16,? Next term is:

- (a) 32
- (b) 24
- (c) 18
- (d) 20

Answer: 32 - Multiply by 2.

Q19. Sets: If $|A|=20$, $|B|=15$, $|A \cup B|=28$, then $|A \cap B|$ is:

- (a) 7
- (b) 6
- (c) 8
- (d) 0

Answer: 7 - $|A \cup B| = |A| + |B| - |A \cap B|$.

Q20. Calculus: derivative of x^2 is:

- (a) $2x$
- (b) x
- (c) x^3
- (d) 1

Answer: $2x - \frac{d}{dx} x^2 = 2x$.

Q21. Simple interest on 4847 at 8 percent for 3 years equals:

- (a) 1163
- (b) 1279
- (c) 1046
- (d) 1263

Answer: 1163 - $SI = P \cdot r \cdot t / 100 = 4847 \cdot 8 \cdot 3 / 100 = 1163$.

Q22. Sum of first 4 natural numbers is:

- (a) 10
- (b) 9
- (c) 11
- (d) 16

Answer: 10 - Use $n(n+1)/2$.

Q23. If $A:B = 5:5$ and $B = 50$, find A.

- (a) 50
- (b) 55
- (c) 45
- (d) 100

Answer: 50 - $A/B = r1/r2 \rightarrow A = B \cdot (r1/r2)$.

Q24. Compound interest on 3516 at 10 percent for 3 years (annual) equals:

- (a) 1163.8
- (b) 1280.18
- (c) 1047.42
- (d) 1263.8

Answer: 1163.8 - $CI = P[(1+r)^n - 1]$.

Q25. Matrix: $\det([5])$ equals:

- (a) 5
- (b) $1/5$
- (c) 0
- (d) -5

Answer: 5 - Determinant of 1×1 is the element.

Q26. Probability: For fair die, probability of getting number greater than 4 is:

- (a) $2/6$
- (b) $3/6$
- (c) $1/6$
- (d) $4/6$

Answer: $2/6$ - Outcomes 5,6 $\rightarrow 2/6$.

Q27. Mean of 2,4,6,8,10 is:

- (a) 6
- (b) 5
- (c) 7
- (d) 8

Answer: 6 - Sum $30/5$.

Q28. LR: Series 2,4,8,16,? Next term is:

- (a) 32
- (b) 24
- (c) 18
- (d) 20

Answer: 32 - Multiply by 2.

Q29. Sets: If $|A|=20$, $|B|=15$, $|A \cup B|=28$, then $|A \cap B|$ is:

- (a) 7
- (b) 6
- (c) 8
- (d) 0

Answer: 7 - $|A \cup B| = |A| + |B| - |A \cap B|$.

Q30. Calculus: derivative of x^2 is:

- (a) $2x$
- (b) x
- (c) x^3
- (d) 1

Answer: $2x$ - $d/dx x^2 = 2x$.

Q31. Simple interest on 1117 at 5 percent for 3 years equals:

- (a) 167
- (b) 184
- (c) 150
- (d) 267

Answer: 167 - $SI = P \cdot r \cdot t / 100 = 1117 \cdot 5 \cdot 3 / 100 = 167$.

Q32. Sum of first 6 natural numbers is:

- (a) 21
- (b) 20
- (c) 22
- (d) 36

Answer: 21 - Use $n(n+1)/2$.

Q33. If $A:B = 3:4$ and $B = 40$, find A.

- (a) 30
- (b) 35
- (c) 25
- (d) 60

Answer: 30 - $A/B = r_1/r_2 \rightarrow A = B \cdot (r_1/r_2)$.

Q34. Compound interest on 4803 at 8 percent for 3 years (annual) equals:

- (a) 1247.4
- (b) 1372.14
- (c) 1122.66
- (d) 1347.4

Answer: $1247.4 - CI = P[(1+r)^n - 1]$.

Q35. Matrix: $\det([5])$ equals:

- (a) 5
- (b) $1/5$
- (c) 0
- (d) -5

Answer: 5 - Determinant of 1×1 is the element.

Q36. Probability: For fair die, probability of getting number greater than 4 is:

- (a) $2/6$
- (b) $3/6$
- (c) $1/6$
- (d) $4/6$

Answer: $2/6$ - Outcomes 5,6 $\rightarrow 2/6$.

Q37. Mean of 2,4,6,8,10 is:

- (a) 6
- (b) 5
- (c) 7
- (d) 8

Answer: 6 - Sum $30/5$.

Q38. LR: Series 2,4,8,16,? Next term is:

- (a) 32
- (b) 24
- (c) 18
- (d) 20

Answer: 32 - Multiply by 2.

Q39. Sets: If $|A|=20$, $|B|=15$, $|A \cup B|=28$, then $|A \cap B|$ is:

- (a) 7
- (b) 6
- (c) 8
- (d) 0

Answer: 7 - $|A \cup B| = |A| + |B| - |A \cap B|$.

Q40. Calculus: derivative of x^2 is:

- (a) $2x$
- (b) x
- (c) x^3
- (d) 1

Answer: $2x$ - $d/dx x^2 = 2x$.

Q41. Simple interest on 4822 at 5 percent for 3 years equals:

- (a) 723
- (b) 795

- (c) 650
- (d) 823

Answer: 723 - $SI = P \cdot r \cdot t / 100 = 4822 \cdot 5 \cdot 3 / 100 = 723$.

Q42. Sum of first 3 natural numbers is:

- (a) 6
- (b) 5
- (c) 7
- (d) 9

Answer: 6 - Use $n(n+1)/2$.

Q43. If $A:B = 4:5$ and $B = 50$, find A .

- (a) 40
- (b) 45
- (c) 35
- (d) 80

Answer: 40 - $A/B = r1/r2 \rightarrow A = B \cdot (r1/r2)$.

Q44. Compound interest on 4983 at 8 percent for 3 years (annual) equals:

- (a) 1294.14
- (b) 1423.55
- (c) 1164.73
- (d) 1394.14

Answer: 1294.14 - $CI = P[(1+r)^n - 1]$.

Q45. Matrix: $\det([5])$ equals:

- (a) 5
- (b) 1/5
- (c) 0
- (d) -5

Answer: 5 - Determinant of 1×1 is the element.

Q46. Probability: For fair die, probability of getting number greater than 4 is:

- (a) 2/6
- (b) 3/6
- (c) 1/6
- (d) 4/6

Answer: 2/6 - Outcomes 5,6 $\rightarrow 2/6$.

Q47. Mean of 2,4,6,8,10 is:

- (a) 6
- (b) 5
- (c) 7
- (d) 8

Answer: 6 - Sum 30/5.

Q48. LR: Series 2,4,8,16,? Next term is:

- (a) 32
- (b) 24
- (c) 18
- (d) 20

Answer: 32 - Multiply by 2.

Q49. Sets: If $|A|=20$, $|B|=15$, $|A \cup B|=28$, then $|A \cap B|$ is:

- (a) 7
- (b) 6
- (c) 8
- (d) 0

Answer: 7 - $|A \cup B| = |A| + |B| - |A \cap B|$.

Q50. Calculus: derivative of x^2 is:

- (a) $2x$
- (b) x
- (c) x^3
- (d) 1

Answer: $2x$ - $\frac{d}{dx} x^2 = 2x$.

Section 2 - 30 Case-based questions (answers inline)

Case 1. Finance: Loan 5050 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

Answer: $EMI = P \cdot r \cdot (1+r)^n / [(1+r)^n - 1]$ with monthly $r=0.008333$, $n=36$. EMI approx 162.95.

Case 2. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 3. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 103$, $y \leq 61$, $x, y \geq 0$. Find optimal Z and point.

Answer: Corner at $x=103$, $y=61$. $Z = 3 \cdot 103 + 2 \cdot 61 = 431$.

Case 4. Finance: Loan 5200 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

Answer: $EMI = P \cdot r \cdot (1+r)^n / [(1+r)^n - 1]$ with monthly $r=0.008333$, $n=36$. EMI approx 167.79.

Case 5. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 6. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 106$, $y \leq 63$, $x, y \geq 0$. Find optimal Z and point.

Answer: Corner at $x=106$, $y=63$. $Z = 3 \cdot 106 + 2 \cdot 63 = 444$.

Case 7. Finance: Loan 5350 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

Answer: $EMI = P \cdot r \cdot (1+r)^n / [(1+r)^n - 1]$ with monthly $r=0.008333$, $n=36$. EMI approx 172.63.

Case 8. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 9. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 109$, $y \leq 64$, $x, y \geq 0$. Find optimal Z and point.

Answer: Corner at $x=109$, $y=64$. $Z = 3 \cdot 109 + 2 \cdot 64 = 455$.

Case 10. Finance: Loan 5500 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

Answer: $EMI = P \cdot r \cdot (1+r)^n / [(1+r)^n - 1]$ with monthly $r=0.008333$, $n=36$. EMI approx 177.47.

Case 11. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 12. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 112$, $y \leq 66$, $x, y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=112$, $y=66$. $Z = 3*112 + 2*66 = 468$.*

Case 13. Finance: Loan 5650 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

*Answer: $EMI = P*r*(1+r)^n/[(1+r)^n-1]$ with monthly $r=0.008333$, $n=36$. EMI approx 182.31.*

Case 14. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 15. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 115$, $y \leq 67$, $x,y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=115$, $y=67$. $Z = 3*115 + 2*67 = 479$.*

Case 16. Finance: Loan 5800 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

*Answer: $EMI = P*r*(1+r)^n/[(1+r)^n-1]$ with monthly $r=0.008333$, $n=36$. EMI approx 187.15.*

Case 17. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 18. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 118$, $y \leq 69$, $x,y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=118$, $y=69$. $Z = 3*118 + 2*69 = 492$.*

Case 19. Finance: Loan 5950 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

*Answer: $EMI = P*r*(1+r)^n/[(1+r)^n-1]$ with monthly $r=0.008333$, $n=36$. EMI approx 191.99.*

Case 20. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 21. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 121$, $y \leq 70$, $x,y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=121$, $y=70$. $Z = 3*121 + 2*70 = 503$.*

Case 22. Finance: Loan 6100 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

*Answer: $EMI = P*r*(1+r)^n/[(1+r)^n-1]$ with monthly $r=0.008333$, $n=36$. EMI approx 196.83.*

Case 23. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 24. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 124$, $y \leq 72$, $x,y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=124$, $y=72$. $Z = 3*124 + 2*72 = 516$.*

Case 25. Finance: Loan 6250 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

*Answer: $EMI = P*r*(1+r)^n/[(1+r)^n-1]$ with monthly $r=0.008333$, $n=36$. EMI approx 201.67.*

Case 26. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 27. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 127$, $y \leq 73$, $x,y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=127$, $y=73$. $Z = 3*127 + 2*73 = 527$.*

Case 28. Finance: Loan 6400 at 10 percent annual, monthly compounding, tenure 3 years. Compute EMI.

*Answer: $EMI = P*r*(1+r)^n/[(1+r)^n-1]$ with monthly $r=0.008333$, $n=36$. EMI approx 206.51.*

Case 29. Statistics: Compute 3-month moving average for series [10, 12, 11, 13, 12].

Answer: 3-MA values: 11.0, 12.0, 12.0.

Case 30. LPP (simple bounds): Maximize $Z=3x+2y$ with $x \leq 130$, $y \leq 75$, $x,y \geq 0$. Find optimal Z and point.

*Answer: Corner at $x=130$, $y=75$. $Z = 3*130 + 2*75 = 540$.*