IBPS Clerk Mains Memory Based Quant Section - 29 Nov 2025 Shift 1

Q1. A man spends X% of his income on rent. Out of the remaining amount, he spends 30% on EMI and invests the rest in Fixed Deposit (FD) and Bank in the ratio 3 : 7 respectively. If the amount invested in FD is equal to the amount spent on EMI, find the value of X.

(a) 10
(b) 5
(c) 15
(d) 20
(e) Can't be determined

Q2. A, B, and C are three workers who can complete a certain piece of work. A alone can complete the work in 10 days. B alone can complete the same work in 2X days. B and C together can complete the work in X days. A and B start the work together and continue working for 5 days, after which they have to leave. If the remaining work is completed by C alone in 10 days, then find X.

(a) 25
(b) 15
(c) 10
(d) 5
(e) 30

Q3. I. $9x^2 - 45x + 56 = 0$
II. $y^2 - 2\frac{1}{3}y + 1\frac{1}{3} = 0$
(a) If x > y
(b) If x ≥ y
(c) If x < y
(d) If x ≤ y
(e) If x = y or no relation can be established between x and y

Q4. The cost prices of Articles A and B are in the ratio of 12 : 25, and both are marked 40% above their respective cost prices; if the selling prices of both articles are equal to Rs 375, with Article A sold at a profit of Rs 75 and Article B sold at a loss of 40%, find the discount percentage allowed on Article A (approx.).

(a) 8%
(b) 14%
(c) 11%
(d) 4%
(e) 21%

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Directions (5–6): Carefully solve the given equation and answer the questions given below.

Equation I: $\frac{3x^3-14x^2+Px}{x} = 0$

Note: 3 is the one root of the given equation.

Q5. Find the difference between the value of P and the highest root of the equation $y^2 - \frac{9}{2}y + 5 = 0$.

(a) 11.5
(b) 10
(c) 12.5
(d) 8
(e) 7.5

Q6. Find the product of P and the smallest root of the equation I.

(a) 30
(b) 40
(c) 35
(d) 28
(e) 20

Q7. A man invests Rs X in Scheme A, which offers simple interest at 20% per annum for 3 years, and the same amount invested in Scheme B, which offers simple interest at Y% per annum for 2 years. If the interest received from Scheme A is $1\frac{1}{5}$ **times that of Scheme B, find the value of Y.**

(a) 10
(b) 30
(c) 15
(d) 20
(e) 25

Q8. Find the 8th term of the given series.

Series I: 96, 97, 105, 114, 178, 203

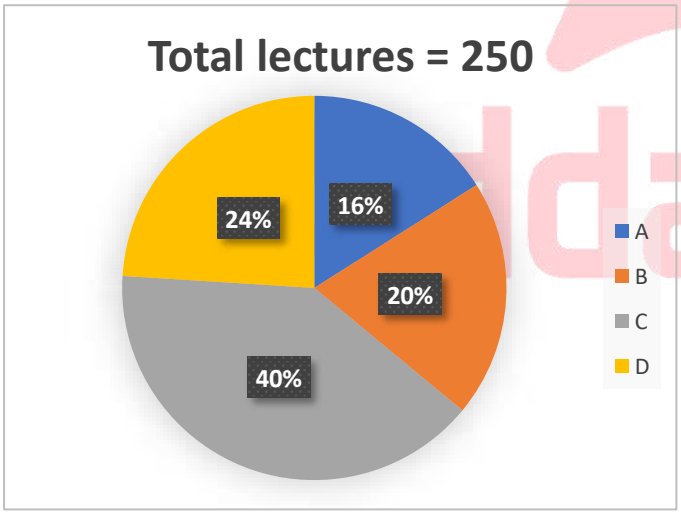
(a) 419
(b) 468
(c) 532
(d) 980
(e) None of these

Directions (9–10): Find the pattern of the given series and answer the questions given below.
Series I: 4, 9, 19, 39, A, B

Q9. B is what percentage of A (approx.).
(a) 201%
(b) 196%
(c) 214%
(d) 189%
(e) 175%

Q10. Find the value of (A - 9) × (B/3).
(a) 3310
(b) 3710
(c) 3550
(d) 3890
(e) 3020

Direction (11-15): The pie chart shows the number of lectures taken by four different teachers and the table shows some information to find the data. Calculate the data carefully and answer the following question.



Teachers	Information
A	Number of physics lectures is 20% out of the total lectures
B	The chemistry lecture taken by A is equal to physic lecture taken by B
C	The physics lectures taken is 20 more than the chemistry lectures.
D	The ratio of physics to chemistry lecture taken is 5:7.

Q11. Find a number of lectures of chemistry taken by B is what percentage of lectures of physics taken by D.
(a) 72%
(b) 75%
(c) 82%
(d) 85%
(e) 90%

Q12. Find the ratio of total number of physics lectures taken by A and B together to total number of chemistry lectures taken by C.
(a) 2:1
(b) 1:1
(c) 4:3
(d) 2:3
(e) 1:8

Q13. The lectures taken by new teacher F is 20% less than the total number of lecture taken by B and C together. The ratio of physics lecture taken by A to F is 2:1. Find the chemistry lectures taken by F.
(a) 21
(b) 25
(c) 28
(d) 40
(e) 18

Q14. Find the sum of difference between physics and chemistry lecture taken by B and sum of chemistry lectures taken by C and D.
(a) 89
(b) 80
(c) 98
(d) 100
(e) 78

Q15. If 25% of the total lecture of chemistry taken by A are of organic chemistry and the ratio of organic to physical chemistry lectures is 2:5. Find the difference between inorganic chemistry lectures taken by A and total physics lecture taken by D (chemistry lectures = organic + inorganic +physical).
(a) 21
(b) 25
(c) 28
(d) 20
(e) 18

Solutions

S1. Ans.(e)
Sol. Information Given in the Question:
X% of income is spent on rent.
From the remaining, 30% is spent on EMI.
The rest is invested in FD and Bank in the ratio 3:7.
Amount invested in FD = amount spent on EMI.

Detailed Explanation:
Let total income = Rs 100
Amount spent on rent = X
Remaining after rent = (100 - X)
EMI = 30% of (100 - X) = 0.3(100 - X)
Remaining after EMI = (100 - X) - 0.3(100 - X)
= (100 - X)(1 - 0.3) = 0.7(100 - X)
FD investment = (3/10) × 0.7(100 - X) = 0.21(100 - X)
Given, FD = EMI:
ATQ,
0.3(100 - X) = 0.21(100 - X)
0.3 = 0.21
X can be determined.

S2. Ans.(b)
Sol. Information Given in the Question:
A completes work in 10 days
B completes in 2X days
B + C together complete in X days
A and B work together for 5 days
C completes the remaining work in 10 days
We need to find the value of X.
Concept/Formula Used in the Question:
Work = Rate × Time
Detailed Explanation:
Let the total work work (LCM of 10, 2X, X) = 30X
A's rate = 30X/10 = 3X/day
B = 30X / 2X = 15 units/day
B + C = 30X / X = 30 units/day
So C = 30 - 15 = 15 units/day
Work done by A and B in 5 days = (3X + 15) × 5
Remaining work = 30X - (3X + 15) × 5 = 30X - (15X + 75) = 15X - 75
C does remaining in 10 days → 10 × 15 = 150
So: 15X - 75 = 150
15X = 225
X = 15

S3. Ans.(a)
Sol. I. $9x^2 - 45x + 56 = 0$
$9x^2 - 21x – 24x + 56 = 0$
$3x(3x – 7) – 8(3x – 7) = 0$
$(3x - 7)(3x - 8) = 0$

x = 7/3, 8/3

II. $y^2 - 2\frac{1}{3}y + 1\frac{1}{3} = 0$

$y^2 - \frac{7}{3}y + \frac{4}{3} = 0$

$3y^2 - 7y + 4 = 0$

$3y^2 - 3y - 4y + 4 = 0$

$3y(y - 1) - 4(y - 1) = 0$

$y = 1, 4/3$

So, x > y

S4. Ans.(c)

Sol. Information Given in the Question:

Cost price of A : Cost price of B = 12 : 25

Both are marked 40% above their respective Cost prices

Selling price of both A and B = Rs 375

Article A sold at profit of Rs 75 → CP of A = 375 - 75 = Rs 300

Article B sold at 40% loss → CP of B = 375 / (1 - 0.40) = Rs 625

Need to find the discount % on Article A.

Concept/Formula Used in the Question:

Marked Price (MP) = CP × (1 + Markup%)

Selling Price (SP) = MP × (1 - Discount%)

Discount % = [(MP - SP)/MP] × 100

Detailed Explanation:

Let Cost price of Article A = Rs 12x

Then, Cost price of B = Rs 25x

For Article A:

Profit = Rs 75

Selling price = Cost price + Profit = 12x + 75 = 375 Rs

⇒ 12x = 300

⇒ x = 25

So, Cost price of A = 12 × 25 = Rs 300

Marked price of A = 300 × 1.4 = Rs 420

Selling price = Rs 375

Discount = 420 - 375 = Rs 45

Discount % = (45 / 420) × 100 = 10.71% = 11% (approx.)

Sol. (5-6)

$$\frac{3x^3 - 14x^2 + Px}{x} = 0$$

$3x^2 - 14x + P = 0$

Given, 3 is the one root of the given equation.

$3(3)^2 - 14(3) + P = 0$

27 – 42 + P = 0

P = 15

$3x^2 - 14x + 15 = 0$

$3x^2 - 9x - 5x + 15 = 0$

$3x(3x - 9) - 5(x - 3) = 0$

$(3x - 5)(3x - 9) = 0$

$x = 9/3, 5/3$

$x = 3, 5/3$

S5. Ans.(c)

Sol. $y^2 - \frac{9}{2}y + 5 = 0.$

$2y^2 - 9y + 10 = 0$

$2y^2 - 4y - 5y + 10 = 0$

$2y(y - 2) - 5(y - 2) = 0$

$(2y - 5)(y - 2) = 0$

$y = 5/2, 2$

Required difference = 15 – 2.5 = 12.5

S6. Ans.(a)

Sol. Required product = $15 \times 2 = 30$

S7. Ans.(e)

Sol. Information Given in the Question:

Amount invested in both schemes = Rs. X

Scheme A: SI at 20% p.a. for 3 years

Scheme B: SI at Y% p.a. for 2 years

Interest from Scheme A = $\frac{6}{5}$times interest from Scheme B

Need to find the value of Y

Concept/Formula Used in the Question:

Simple Interest (SI) = (P × R × T)/100

Compare SI from both schemes

Interest A = $\frac{6}{5}$ ×Interest B

Detailed Explanation:

Let's calculate SI from both schemes.

Scheme A:

Simple interest = $\frac{X \times 20 \times 3}{100} = \frac{60X}{100} = \frac{3X}{5}$

Scheme B:

Simple interest = $\frac{X \times Y \times 2}{100} = \frac{2XY}{100}$

Given:

$\frac{3X}{5} = \frac{6}{5} \times \frac{2XY}{100}$

$\frac{3}{5} = \frac{6}{5} \times \frac{2Y}{100}$

$3 = 6 \times \frac{2Y}{100}$

$3 = \frac{12Y}{100}$

$Y = \frac{3 \times 100}{12} = 25$

S8. Ans.(b)

Sol. The pattern of the series:

96,	97,	105,	114,	178,	203
	1	8	9	64	25
	1^2	2^3	3^2	4^3	5^2

Seventh term = $203 + 6^3 = 419$

Eighth term = $419 + 7^2 = 468$

Solutions (9-10): The pattern of the Series I:

4,	9,	19,	39,	**A=79,**	**B=159**
	$\times 2+1$	$\times 2+1$	$\times 2+1$	$\times 2+1$	$\times 2+1$

S9. Ans.(a)

Sol. Required percentage = $\frac{159}{79} \times 100 = 201.26\% = 201\%$ (approx.)

S10. Ans.(b)

Sol. Required answer $(79 - 9) \times \frac{159}{3}$

$= 70 \times 53$

$= 3710$

Solutions (11-15):

Total lectures = 250

For A,

Total Lectures taken = 16% of 250 = 40 (from pie)

Physics lectures taken = 20% of 40 = 8 (from table)

Chemistry lectures taken = 80% of 40 = 32

For B,

Total Lectures taken = 20% of 250 = 50 (from pie)

Physics lectures taken = 32 (from table)

Chemistry lectures taken = 50 – 32 = 18

For C,
Total Lectures taken = 40% of 250 = 100 (from pie)
Let the chemistry lectures taken = x
Physics lectures taken = x+20
x+x+20 = 100
2x = 80
40 = x = Chemistry lectures taken
Physic = 60
For D,
Total Lectures taken = 24% of 250 = 60 (from pie)
Physics : Chemistry lectures = 5m:7m
12m = 60
5 = m
Physics lectures taken = 5m = 25
Chemistry lectures taken = 7m = 35

Teachers	Total	Physics lectures	Chemistry lectures
A	40	8	32
B	50	32	18
C	100	60	40
D	60	25	35

S11. Ans.(a)
Sol. Required answer = $\frac{18}{25} \times 100 = 72\%$

S12. Ans.(b)
Sol. Required ratio = 8+32:40 = 1:1

S13. Ans.(d)
Sol. Lectures taken by F = 80% of (150) = 120
physics lecture taken by A: F = 1:10
physics lecture taken by F = 80
chemistry lectures taken by F = 120 – 80 = 40

S14. Ans.(a)
Sol. Required answer =(32-18)+(40+35) = 14 + 75 = 89

S15. Ans.(a)
Sol. Organic chemistry lecture = 25% of 32 = 8
physical chemistry lectures = $\frac{5}{2} \times 8 = 20$
inorganic chemistry lecture = 32 – 8 – 20 = 4
required answer =25 – 4 = 21