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RBI ASSISTANT Exam

Mains Answer Key

Simplifying
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Answers

1. 4	2. 2	3. 1	4. 3	5. 5
6. 2	7. 1	8. 5	9. 3	10. 1
11. 1	12. 2	13. 2	14. 3	15. 1
16. 5	17. 2	18. 2	19. 1	20. 1
21. 4	22. 4	23. 2	24. 1	25. 1
26. 4	27. 1	28. 1	29. 5	30. 1
31. 4	32. 2	33. 1	34. 3	35. 1
36. 2	37. 5	38. 3	39. 1	40. 3

41. 2; Let the total work be 336 units (LCM of 42, 28 and 48 = 336 units)

$\therefore$ A's one day's work = $\left(\frac{336}{42}=\right)$ 8 units

Similary, B's one day's work = $\left(\frac{336}{28}=\right)$ 12 units

C's one day's work = $\left(\frac{336}{48}=\right)$ 7 units per day

$\therefore$ A's 7 days' work = 7 × 8 = 56 units

B's 7 days' work = 7 × 12 = 84 units

$\therefore$ Remaining work = 336 – (56 + 84) = 196

$\therefore$ C can do the remaining work in $\frac{196}{7}$

= 28 days

42. 1; Scheme A Scheme B

Invested x 7200 – x

Let ₹x be invested for 6 years at the rate 12% per annum.

And ₹(7200 – x) be invested for 2 years at the rate of 12% per annum.

Now, 6 × 12% of x + 2 × 12% of (7200 – x) = 4008

or, 72% of x + 24% of (7200 – x) = 4008

or, 0.72x – 0.24x = 4008 – 24 × 72

= 4008 – 1728 = 2280

or, 0.48x = 2280

$\therefore x = \frac{2280}{0.48} = \frac{228000}{48}$ = ₹4750

Quicker Approach:

Overall % interest = $\frac{4008}{7200}\times 100 = 55\frac{2}{3}\%$

Using alligation method

A B

6×12=72% 2×12=24%

$55\frac{2}{3}\%$

$31\frac{2}{3}$: $16\frac{1}{3}$

= 95 : 49

$\therefore$ Investment in A = $\frac{7200}{95+49}\times 95$

= $\frac{7200}{144}\times 95 = \frac{9500}{2}$ = ₹4750

43. 4; Area of the circular plot = πr^2

= $\frac{22}{7}\times 21\times 21$

$\therefore$ Area of the remaining part of the circular plot = $\frac{22}{7}\times 21\times 21 - \frac{231}{6}$

= 66 × 21 – 38.5 = 1386 - 38.5

= 1347.5 sq metre

44. 4; Length of train = $54\times14\times\frac{5}{18}$
= 210 metres
∴ Time taken by the man to cross the stationary train = $\frac{210\times18}{7\times5}$ = 6 × 18
= 108 seconds

45. 5; Ratio of profit A : B : C

So, A	:	B	:	C
18000×1.5x		15000×x		12000×2x
or, 27x	:	15x	:	24x
9x	:	5x	:	8x

Now, 5x = 2725
∴ $8x = \frac{2725}{5}\times8$ = ₹4360
∴ C's share in profit = ₹4360

46. 4; Let the speed of the current be x kmph.
Then, $\frac{9}{12+x}+\frac{9}{12-x}=2$
or, $\frac{9(12-x+12+x)}{144-x^2}=2$
or, $\frac{24\times9}{144-x^2}=2$
or, 144 − x² = 108
or, x² = 36
∴ x = 6 kmph

Quicker Approach: When we reach at the stage
$\frac{9}{12+x}+\frac{9}{12-x}=2$
it comes to our mind that x should be a multiple of 3, because RHS is a whole number and LHS has numerators and parts of denominators as multiple of 3. So, select the suitable choice and verify the equation. Choice (4) 6 km/hr satisfies the equation as
$\frac{9}{18}+\frac{9}{6}=\frac{1}{2}+\frac{3}{2}=2$

47. 4; Total quantity of mixture is 91 litres.
Now, 26 litres mixture is taken out.
∴ Remaining mixture = 91 − 26 = 65 litres
Now, 5 litres pure water is added to the mixture.
Now, total quantity of mixture = 65 + 5 = 70 litres.
∴ Total quantity of water in the new mixture
$=\left(\frac{65}{13}\times2+5=\right)15$ litres
∴ Reqd % = $\frac{15}{70}\times100=\frac{150}{7}\%=21\frac{3}{7}\%$

Method II. Total quantity of mixture = 91 litres
Now, 26 litres mixture is taken out.
∴ Remaining mixture = 91 − 26 = 65 litres
Ratio of milk to water in the mixture is 11 : 2.
∴ $\frac{65}{13}\times11=55$ (55) $\quad\frac{65}{13}\times2=10$ (15)] +5 litres is water added
∴ New mixture = 55 + 15 = 70 litres
∴ Required % of water in the new mixture
$=\frac{15}{70}\times100=\frac{150}{7}=21\frac{3}{7}\%$

48. 1; ? = (47)² − (8)³ − (12)²
= 2209 − 64 − 144 = 2001 ≈ 2010

49. 5; $\sqrt{\sqrt{48}+\sqrt{4900}}\times\sqrt{76}=184-?\div7$
$\Rightarrow\sqrt{7+70}\times9\approx184-\frac{?}{7}$
$\Rightarrow\sqrt{\frac{1}{10}}\times9\approx184-\frac{?}{7}$
$\Rightarrow\frac{1}{3}\times9\approx184-\frac{?}{7}$
$\Rightarrow184-3\approx\frac{?}{7}$
∴ ? ≈ (184 − 3) × 7 = 181 × 7 = 1267

50. 4; $(10^{11}\times3.465+10^{12}\times0.253)+(120\times10^5)=10^7+2$
or, $\frac{10^{11}\times3.465+10^{12}\times0.253}{10^6\times12}=\frac{10^7}{2}$
or, $\frac{10^5\times3.465+10^6\times0.253}{12}=\frac{10^7}{2}$
or, $\frac{10^5(3.465+2.530)}{12}=\frac{10^7}{2}$
or, $10^7\approx10^5$
∴ ? ≈ 5

51. 4; $\frac{1863+6.5-184}{?}=851+37$
or, $\frac{287-184}{?}=23$
or, $?=\frac{103}{23}\approx4.47\approx5$

52. 5;
$?\approx\left(\frac{42+24}{2.2}\right)^2=\left(\frac{660}{22}\right)^2=(30)^2=900$

53. 3; ? × 19 ≈ (9000 + 40) × 45
$=\frac{9000}{40}\times45=\frac{9000}{8}\times9=\frac{81000}{8}=10125$
∴ $?\approx\frac{10125}{19}=532.89\approx540$

54. 1; $\sqrt{4.5\times3.2\times\sqrt{625}}=12\frac{6}{7}+\frac{?}{14}$
or, $\sqrt{14.4\times25}=\frac{90}{7}\times\frac{14}{?}$
or, $\sqrt{9\times1.6\times25}=\frac{180}{?}$
or, $15\times\sqrt{1.6}=\frac{180}{?}$
or, $?=\frac{180}{15\times\sqrt{1.6}}\approx\frac{12}{1.25}=9.6\approx10$

55. 4; $\frac{\sqrt{15+24\times0.5}}{\sqrt{10.2+?}}=3$
or, $\frac{\sqrt{27}}{3}=\sqrt{10.2+?}$
or, $\sqrt{3}=\sqrt{10.2+?}$
Squaring both sides, we get
3 = 10.2 + ?
∴ $?=\frac{10.2}{3}=3.4$

56. 2; ? ÷ 25
$=\left(\sqrt{2+\frac{1}{144}}\right)\div\left(\sqrt{1+\frac{49}{576}}\right)\times\frac{27}{34}$
$=\sqrt{\frac{289}{144}}\times\sqrt{\frac{576}{625}}$
$=\frac{17}{12}\times\frac{24}{25}\times\frac{27}{34}=\frac{27}{25}$
∴ $?=\frac{27}{25}\times25=27$

57. 5; 65 × 9 ÷ ? = 101 + $\sqrt{256}$ = 101 + 16
= 117
or, $?=\frac{65\times9}{117}=5$

58. 1; $\frac{5}{3}$ of 1440 + 40% of 3550 − ? = 61²
or, $\frac{5}{3}\times1440+\frac{2}{5}\times3550-61^2=?$
or, 5 × 480 + 2 × 710 − 3721 = ?
or, ? = 2400 + 1420 − 3721 = 99

59. 2; $?\div\left(25\%\text{ of }289-32\frac{3}{4}\right)=0.2$
or, $?\div\left(\frac{1}{4}\times289-\frac{131}{4}\right)=0.2$
or, $?\div\left(\frac{289-131}{4}\right)=0.2$
or, $?\times\frac{4}{158}=0.2$
∴ $?=\frac{0.2\times158}{4}=0.2\times39.5=7.9$

60. 3; 84 + 14² = ? × 105 ÷ 8.25
or, $84+196=\frac{?\times105}{8.25}$
∴ $?=\frac{280\times8.25}{105}=\frac{280\times8+280\times\frac{1}{4}}{105}$
$=\frac{2240+70}{105}=\frac{2310}{105}=22$

61. 2; (12.5 × 14) + 20 + 41.25 = (?)³ ÷ 2.5
or, $8.75+41.25=\frac{(?)^3}{2.5}$

or, $50 \times 2.5 = ?^3$

$\therefore ?^3 = 125$

$\therefore ? = \sqrt[3]{5 \times 5 \times 5} = 5$

62. 2; $0.36 \times 0.36 + 0.28 \times 0.36 + 0.14^2$

$\because (a + b)^2 = a^2 + 2ab + b^2$

So, $(0.36 + 0.14)^2 = (0.5)^2 = 0.25$

63. 3; Let Diya's monthly salary be ₹100.

Now, she spends (12 + 24 + 30)% = 66%

$\therefore$ Remaining amount = 100 – 66 = ₹34

Now, again she spends 60% of ₹34 on fixed deposit.

$\therefore$ Remaining amount = 40% of ₹34 = ₹13.6

Since, 100 ≡ 26500

$\therefore 13.6 \equiv \frac{26500}{100} \times 13.6 = 265 \times 13.6 = ₹3604$

64. 5; Monthly ratio of earning of P to Q:

P		Q
4x		7x
↓ +20% (increase)		↓ –40% (decrease)
$4 \times 1.2x$	:	$7x - \frac{7x \times 2}{5} = \frac{21x}{5}$
$\therefore 4.8x$	:	$\frac{21x}{5}$

Now, $\frac{4.8x \times 5}{21x} = \frac{8}{7}$

So, we can't determine the amounts of monthly earnings of P and Q.

Note: Since all the given values are in ratio or % (and no absolute value is given), we can't find the solution.

65. 1; $\because y = 5x$

Now, $\frac{y+1}{x+19} = \frac{3}{1}$

or, $\frac{5x+1}{x+19} = \frac{3}{1}$

or, $5x + 1 = 3x + 57$

or, $2x = 56$

$\therefore x = 28$

$\therefore$ Difference = $5x - x = 4x = 4 \times 28 = 112$

66. 4; Let Sita's present age be 3x.

Then Gita's present age = 8x

Now, $\frac{3x-5}{8x-5} = \frac{2}{7}$

or, $14x - 35 = 16x - 10$

or, $5x = 25$

$\therefore x = 5$

Hence the present age of Gita = 8 × 5 = 40 years

Method II.

	Sita		Gita	
Present	3	] 1	8	] 1
5 years ago.	2		7	

Difference in terms of ratio = 3 – 2 = 1 ≡ 5 years

or, 8 – 7 ≡ 5

$\therefore$ Gita's present age = 8 × 5 = 40 years

67. 5; Perimeter of the rectangle = 2(l + b) = 120

or, 2(b + 4 + b) = 120

or, 4b + 8 = 120

$\therefore b = \frac{112}{4} = 28$

The largest circle drawn inside the rectangle will have diameter equal to the breadth of the rectangle.

$\therefore$ Circumference of the circle = $\pi d = \frac{22}{7} \times 28$ = 88m

68. 5; Average salary of A, B and C is 7200

$\therefore$ Total salary of A, B and C = 7200 × 3 = 21600

Total salary of B, C and D = 7550 × 3 = 22650

$\therefore$ Let A's salary be ₹x.

Then D's salary = ₹1.25x

Now, B + C + 1.25x – x – B – C = 22650 – 21600

or, 0.25x = 1050

$\therefore x = \frac{105000}{25} = 4200$

$\therefore$ Average salary of B and C

$= \frac{21600-4200}{2} = \frac{17400}{2} = ₹8700$

69. 2; The series is $+1^3 + 1, +2^3 + 1, +3^3 + 1, +4^3 + 1, +5^3 + 1, \ldots$

ie $18 + 2^3 + 1 = 27, 27 + 3^3 + 1 = 55, 55 + 4^3 + 1 = 120, 120 + 5^3 + 1 = 246, \ldots$

70. 2; The series is a combination of two series

I. 13 15.4 17.8 20.2

+2.4 +2.4 +2.4

II. 10.8 8.2 5.6

–2.6 –2.6

71. 4; The series is $+15 \times 1, +15 \times 3, +15 \times 5, +15 \times 7, +15 \times 9, \ldots$

ie $4 + 15 \times 1 = 19, 19 + 15 \times 3 = 64, 64 + 15 \times 5 = 139, 139 + 15 \times 7 = 244, 244 + 15 \times 9 = 379, \ldots$

72. 3; The series is +10, +20, +40, +80, +160, ...

ie $7 + 10 = 17, 17 + 20 = 37, 37 + 40 = 77, 77 + 80 = 157, 157 + 160 = 317, \ldots$

73. 1; The series is $\times 0.5 + 2, \times 1 + 2, \times 1.5 + 2, \times 2 + 2, \ldots$

ie $12 \times 0.5 + 2 = 8, 8 \times 1 + 2 = 10, 10 \times 1.5 + 2 = 17, 17 \times 2 + 2 = 36, 36 \times 2.5 + 2 = 92, \ldots$

74. 5; Total number of gold bangles sold by store R in June, July and August together

= 35% of (145 + 105 + 130)

$= 35\% \text{ of } 380 = \frac{35}{100} \times 380 = \frac{7}{20} \times 380$

$= 7 \times 19 = 133$

75. 3; Reqd difference

= (121 + 145) – (89 + 133) = 266 – 222 = 44

76. 3; Reqd average

$= \frac{129+87+165}{3} = \frac{381}{3} = 127$

77. 1; Reqd ratio = $\frac{(S+T)\text{ August}}{(S+T)\text{ September}}$

$= \frac{114+129}{220+131} = \frac{243}{351} = \frac{9}{13} = 9 : 13$

78. 4; Reqd % increase = $\frac{177-120}{120} \times 100$

$= \frac{57}{120} \times 100 = \frac{57 \times 5}{6} = 47.5\%$

79. 2; Let the cost of each chocolate be ₹x

Then, profit on 25 chocolates

$= 25x \times \frac{20}{100} = 5x$

Profit on 15 chocolates = $15x \times \frac{30}{100} = 4.5x$

$\therefore$ Profit on all (25 + 15 =) 40 chocolates

$= 40x \times \frac{25}{100} = 10x$

$\therefore 10x - (5x + 4.5x) = 6$

or, $0.5x = 6$

$\therefore x = \frac{6}{0.5} = ₹12$

80. 1;

First number		Second number
x		y

$0.5x + y = 0.875x$

$\Rightarrow y = 0.375x$

$\therefore \frac{x}{y} = \frac{1000}{375} = \frac{40}{15} = \frac{8}{3} = 8 : 3$

81. 3	**82.** 1	**83.** 5	**84.** 3	**85.** 5
86. 1	**87.** 3	**88.** 1	**89.** 1	**90.** 4
91. 4	**92.** 1	**93.** 2	**94.** 4	**95.** 2
96. 5	**97.** 5	**98.** 4	**99.** 5	**100.** 3
101. 1	**102.** 5	**103.** 1	**104.** 1	**105.** 3
106. 1	**107.** 2	**108.** 1	**109.** 4	**110.** 2
111. 3	**112.** 5	**113.** 2	**114.** 2	**115.** 1
116. 3	**117.** 3	**118.** 2	**119.** 5	**120.** 1

121. 2; The appropriate word should be 'rode'

122. 2; The correct spelling is 'marriage'

123. 5

124. 2; The correct spelling is 'cottage'

125. 1; The correct spelling should be 'surged'

(126-130): CEBDFA

126. 3	**127.** 5	**128.** 5	**129.** 1	**130.** 2
131. 1	**132.** 5	**133.** 4	**134.** 5	**135.** 3
136. 1	**137.** 1	**138.** 2	**139.** 5	**140.** 2

141. 1; Replace 'unfortunate' with 'unfortunately'

142. 5

143. 2; Insert 'that' before 'comes'

144. 3; Replace 'himself' with 'him'

145. 4; Replace 'following' with 'followed by'

146. 4	**147.** 2	**148.** 2	**149.** 2	**150.** 5
151. 3	**152.** 5	**153.** 3	**154.** 4	**155.** 2
156. 3	**157.** 4	**158.** 1	**159.** 3	**160.** 5

161. 2; INSTRUCTION

The required letters are S, R, U and O. With these letter the words that can be formed are SOUR and OURS.

(162-166):

telephone lines are busy → vk jd ba ef ...(i)
draw two parallel lines → qn vk hf om ...(ii)
busy people never draw → tx ba su hf ...(iii)
two lines are intersecting
→ mi om jd vk ...(iv)
From (i) and (ii), lines → vk ...(v)
From (i) and (iii), busy → ba ...(vi)
From (i), (iv) and (v), are → jd ...(vii)
From (i), (v), (vi) and (vii),
telephone → ef ...(viii)
From (ii), (iv) and (v), two → om ...(ix)
From (ii) and (iii), draw → hf ...(x)
From (ii), (v), (ix) and (x),
parallel → qn ...(xi)
From (iii), (vi) and (x),
people/never → tx/su ...(xii)
From (iv), (v), (vii) and (ix),
intersecting → mi ...(xiii)

162. 4 **163.** 4 **164.** 1 **165.** 1 **166.** 5

(167-171):

Facing north: ↑ ↑ ↑ ↑ ↑ ↑ ↑
Z V W U Y T X

167. 4; All others have only one friend sitting between the two friends given in each pair.

168. 1 **169.** 3 **170.** 4 **171.** 2

172. 2; P R O H I B I T S

(173-174):

F > J > H > G > I
(172 cm) (160 cm)

173. 5

174. 4; 160 + 8 = 168 cm

175. 2; All keys are locks (A) + Some locks are irons (I) = A + I = No conclusion. Hence conclusion I does not follow. Neither does conclusion II follow.

176. 4; All instructions are manuals (A) + All manuals are rules (A) = A + A = A = All instructions are rules. Hence conclusion I follows.
Again, All instructions are manuals (A) → conversion → Some manuals are instructions (I). Hence conclusion II does not follow.

177. 4; Some cards are papers (I) + All papers are books (A) = I + A = I = Some cards are books. Hence conclusion I follows.
Again, Some cards are books (I) + No book is a novel = I + E = O = Some cards are not novels. Hence conclusion II does not follow.

178. 3; Some doors are windows (I) + No window is a cabinet (E) = I + E = O = Some doors are not cabinets. Hence neither I nor II follows. But the two conclusions make a complementary E-I pair. Hence either conclusion I or II follows.

179. 1; I-type statements can't be combined. Hence neither conclusion follows.

180. 3; First letter of the second word from the left = B
Second letter of the first word from the right = I
There are six letters between B and I in the alphabetical order.

181. 4; SLY → LSY; BUD → BDU;
MET → EMT; DYE → DEY;
AIM → AIM

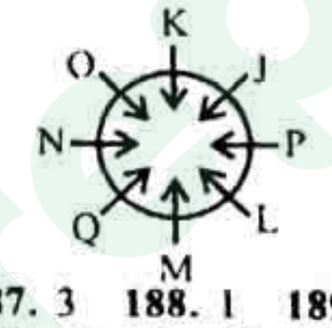
182. 1; SLY → **RKX**; BUD → AVC;
MET → **LFS**; DYE → **CXF**; AIM → **BJL**

183. 5; SLY → SMY; BUD → CUD;
MET → MFT; DYE → **EYE**; AIM → BIM

184. 5; SLY BUD MET DYE AIM
→ AIM **BUD** DYE MET SLY

185. 2; In all others, the first letter occupies the same place in alphabetical order from the left as the second does from the right.

(186-190):



186. 5 **187.** 3 **188.** 1 **189.** 3 **190.** 4

191. 4; A < Y = B ≤ X = C ≥ Z
∴ A < C
Hence conclusion I is true but conclusion II is not true.

192. 1; **Given statements:**
P ≤ A < R = K ...(i)
S ≥ J ≥ R ...(ii)
Combining (i) and (ii), we get
P ≤ A < R = K ≤ J ≤ S
Hence P < J and conclusion I is true.
Also, S ≥ K and conclusion II is true.

193. 5; **Given statements:**
P ≤ A < R = K ...(i)
S > J ≥ R ...(ii)
Combining (i) and (ii), we get
P ≤ A < R = K ≤ J ≤ S
Hence A < J and conclusion I is not true
But S > P and conclusion II is true

194. 2; **Given statement:**
P < A > S ≥ T = F < D
Hence P and T can't be compared and conclusion I does not follow. Neither can D and S. Hence conclusion II does not follow.

195. 4; **Given statements:**
O < P ≥ T > S ...(i)
P ≤ N < L ...(ii)
From (i) and (ii),
N ≥ P ≥ T > S or N > S. Hence conclusion I is true.
Also, O < P ≤ N < L or O < L.
Hence conclusion II doesn't follow

(196-200):

Floor	Person
8	M
7	P
6	N
5	Q
4	T
3	R
2	O
1	S

196. 2
197. 1
198. 4
199. 3;

Floor	Person
8	S
7	T
6	N
5	Q
4	P
3	R
2	O
1	M

200. 5; In all others, there are two floors between the floors of the friends given in each pair.