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IBPS RRB PO Prelims 1st August 2021(Memory-based Questions with Solutions)

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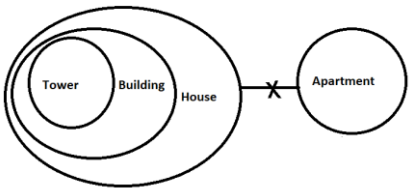
RRB OS - I Analysis 2021

1. Choose the word which is different from the rest?

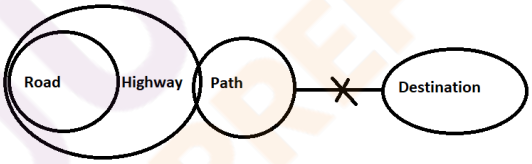
A. AZ
B. DW
C. GT
D. MN
E. JP
Ans. E
Except JP, all are opposite to each other

Direction (2-5) : In each question below are three statements followed by two conclusions I and II. You must take the three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

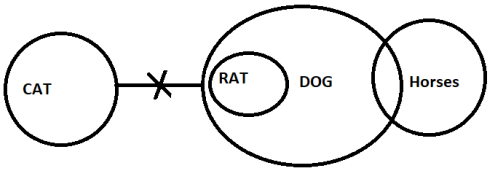
2. Statements:
1.All Tower are building
2. All building are houses
3. No houses are apartments
Conclusions:
I. No building is apartment
II. All houses being tower is a possibility
A. Only conclusion I follows
B. Only conclusion II follows
C. Either conclusion I or II follows
D. Neither conclusion I nor II follows
E. Both conclusion I and II follow
Ans. E



3. Statements:
1. All road are highway
2. Only a few highway are path
3. No path is destination
Conclusions:
I. All destination being road is a possibility
II. Some road are not path
A. Only conclusion I follows
B. Only conclusion II follows
C. Either conclusion I or II follows
D. Neither conclusion I nor II follows
E. Both conclusion I and II follow
Ans. A



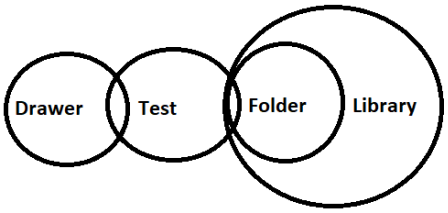
4. Statements:
1. No cat is rat
2. All rat are dogs
3. Only a few dogs are horses
Conclusions:
I. Some cat are not horses
II. All horses being dogs is a possibilty
A. Only conclusion I follows
B. Only conclusion II follows
C. Either conclusion I or II follows
D. Neither conclusion I nor II follows
E. Both conclusion I and II follow
Ans. B



5. Statements:
1. Only a few drawer are test
2. Only a few test are folder
3. All folder are library.

Conclusions:
I. Some drawer being library is a possibility
II. Some test are not folder

A. Only conclusion I follows
B. Only conclusion II follows
C. Either conclusion I or II follows
D. Neither conclusion I nor II follows
E. Both conclusion I and II follow
Ans. E



6. How many such pairs of digits are there in the number '96825173' which have as many digits between them in the number as they have between in numerical series (in forward and backward both directions)?
A. One
B. Two
C. Three
D. Four
E. More than four
Ans. D

7. If it is possible to make a meaningful word from the 2nd, 4th, 7th and 9th letters of the word WORKBENCH, then which will be the first letter of that word? Mark Y if no such word can be formed, X if more than one such word can be formed.
A. O
B. H
C. N
D. X
E. Y
Ans. B
HONK

8. If we subtract one letter from the vowel and add one letter to the consonant of the word SNITCHED then which letter appeared twice in the new arrangement?

A. Only D
B. Only T
C. Both T and H
D. Only E
E. None of these
Ans. A
New Arrangement – TOHUDIDE

Direction(9-10): Read the following information carefully and answer the following questions.
Six people A, B, C, D, E and F are there of different weights. C is heavier than E but lighter than F. A is lighter than F but heavier than D. D is heavier than E but lighter than C. E is not lightest. The weight of the fourth heaviest person is 65kgs and the lightest is 51kgs.
9. What may be the weight of E?
A. 70
B. 62
C. 75
D. 78
E. None of these
Ans. C
F > A/C > A/C > D(65) > E > B(51)

10. How many people are heavier than B?
A. One
B. Two
C. Three
D. Four
E. Five
Ans. E
F > A/C > A/C > D(65) > E > B(51)

11. Five People i.e. A, B, C, D and E live in a five-floor building. The lowermost floor is numbered as 1, floor above it numbered as 2 so on till the last floor which is numbered as 5. All the information is not necessarily in the same order.As many people live above A is the same as the number of people who live below B.One person lives between C and D. C lives on one of the floors above D. How many people live below E?
A. One
B. Two
C. Three
D. Four
E. None
Ans. D

Floors	People
5	E
4	B
3	C
2	A
1	D

Direction (12-15): In each question, some statements and two conclusions are given. You have to decide which of the given conclusions logically follow(s) according to the given statements. Study the following data carefully and answer the questions accordingly.
12. Statement : B ≤ R ≤ E = A ≥ T ≤ H
Conclusions:
I. B ≤ A
II. H ≥ E
A. Only conclusion I follows
B. Only conclusion II follows
C. Either I or II follows
D. Neither I nor II follows
E. Both conclusion I and II follow
Ans. A

13. Statements : T ≤ O ≤ R ≥ E; A ≥ R ≤ C
Conclusions:
I. T < A
II. T = A
A. Only conclusion I follows
B. Only conclusion II follows
C. Either I or II follows
D. Neither I nor II follows
E. Both conclusion I and II follow
Ans. C

14. Statement : M ≤ O < N = I ≤ T ≤ R
Conclusions:
I. M = R
II. M > R
A. Only conclusion I follows
B. Only conclusion II follows
C. Either I or II follows
D. Neither I nor II follows
E. Both conclusion I and II follow
Ans. A

15. Statements : E < N > D; L > O < A > N
Conclusions:
I. L > E
II. A > D
A. Only conclusion I follows
B. Only conclusion II follows
C. Either I or II follows
D. Neither I nor II follows
E. Both conclusion I and II follow
Ans. B

Direction(16-20): Read the following information carefully and answer the following questions.

There are nine people J, K, L, M, N, O,P,Q and R. Each one of them works in either of the three departments of a company namely Marketing, HR, and

Finance. At least two of them work in a given department.

M works in Finance. O and P work in different departments . Neither O nor P works with M. J works with N but not with P. Neither N nor Q works in Finance . K works with R. Only two people work in the Marketing department . L neither works with K nor J.

16.Who amongst the following works in the marketing department?
A. J
B. P
C. R
D. Q
E. K
Ans. B

HR	Marketing	Finance
O	P	M
J	L	K
N		R
Q		

17.Who amongst the following works with K?
A. M
B. O
C. P
D. N
E. None of the above
Ans. A

HR	Marketing	Finance
O	P	M
J	L	K
N		R
Q		

18. Q works in which department?
A. Marketing
B. Finance
C. HR
D. Cannot be determined
E. None of these
Ans. C

HR	Marketing	Finance
O	P	M
J	L	K
N		R
Q		

19. Which of the following group of employees works in the Marketing department?
A. P and M
B. K and P
C. P and L
D. L and J
E. None of these
Ans. C

HR	Marketing	Finance
O	P	M
J	L	K
N		R
Q		

20. Which of the following combinations of employee-department is correct?
A. N- HR
B. P - Marketing
C. K- Finance
D. All of the above
E. None of these
Ans. D

HR	Marketing	Finance
O	P	M
J	L	K
N		R
Q		

Direction (1-6): In the following question two equations are given in variables X and Y. You have to solve these equations and determine the relation between X and Y.

1.
I. $2X^2 + 17X + 35 = 0$
II. $Y^2 + 10Y + 25 = 0$
A. Y > X
B. X > Y
C. X ≤ Y
D. X ≥ Y
E. X = Y or no relation can be established
Ans. D
Sol.
I. $2X^2 + 17X + 35 = 0$
$\Rightarrow 2X^2 + 10X + 7X + 35 = 0$
$\Rightarrow 2X(X + 5) + 7(X + 5) = 0$
$\Rightarrow (2X + 7)(X + 5) = 0$
$\Rightarrow X = -7/2, -5$

II. $Y^2 + 10Y + 25 = 0$
$\Rightarrow Y^2 + 5Y + 5Y + 25 = 0$
$\Rightarrow Y(Y + 5) + 5(Y + 5) = 0$
$\Rightarrow (Y + 5)(Y + 5) = 0$
$\Rightarrow Y = -5$
Hence, X ≥ Y.

2.
I. $X^2 + 9X + 14 = 0$
II. $Y^2 + 15Y + 56 = 0$

A. Y > X
B. X > Y
C. X ≤ Y
D. X ≥ Y
E. X = Y or no relation can be established

Ans. D
Sol.
I. $X^2 + 9X + 14 = 0$
$\Rightarrow X^2 + 2X + 7X + 14 = 0$
$\Rightarrow X(X + 2) + 7(X + 2) = 0$
$\Rightarrow (X + 2)(X + 7) = 0$
$\Rightarrow X = -2, -7$
II. $Y^2 + 15Y + 56 = 0$
$\Rightarrow Y^2 + 8Y + 7Y + 56 = 0$
$\Rightarrow Y(Y + 8) + 7(Y + 8) = 0$
$\Rightarrow (Y + 8)(Y + 7) = 0$
$\Rightarrow Y = -8, -7$
Hence, X ≥ Y.

3.
I. $4X^2 - 4X + 1 = 0$
II. $4Y^2 - 16Y + 7 = 0$
A. Y > X
B. X > Y
C. X ≤ Y
D. X ≥ Y
E. X = Y or no relation can be established

Ans. C
Sol.

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I. $4X^2 - 4X + 1 = 0$
$\Rightarrow 4X^2 - 2X - 2X + 1 = 0$
$\Rightarrow 2X(X - 1) - 1(2X - 1) = 0$
$\Rightarrow (2X - 1)(2X - 1) = 0$
$\Rightarrow X = 1/2$

II. $4Y^2 - 16Y + 7 = 0$
$\Rightarrow 4Y^2 - 2Y - 14Y + 7 = 0$
$\Rightarrow 2Y(2Y - 1) - 7(2Y - 1) = 0$
$\Rightarrow (2Y - 7)(2Y - 1) = 0$
$\Rightarrow X = 7/2, 1/2$
Hence, $X \leq Y$

4.
I. $2X^2 - 15x + 27 = 0$
II. $2Y^2 - 17Y + 33 = 0$
A. $Y > X$
B. $X > Y$
C. $X \leq Y$
D. $X \geq Y$
E. X = Y or no relation can be established

Ans. E
Sol.
I. $2X^2 - 15x + 27 = 0$
$\Rightarrow 2X^2 - 6x - 9x + 27 = 0$
$\Rightarrow 2X(X - 3) - 9(X - 3) = 0$
$\Rightarrow (X - 3)(2X - 9) = 0$
$\Rightarrow X = 3, 9/2$
II. $2Y^2 - 17Y + 33 = 0$
$\Rightarrow 2Y^2 - 6Y - 11Y + 33 = 0$
$\Rightarrow 2Y(Y - 3) - 11(Y - 3) = 0$
$\Rightarrow (2Y - 11)(Y - 3) = 0$
$\Rightarrow Y = 11/2, 3$
Hence, no relation can be established.

5.
I. $5X^2 + 16X + 11 = 0$
II. $2Y^2 + 9Y + 10 = 0$
A. $Y > X$
B. $X > Y$
C. $X \leq Y$
D. $X \geq Y$
E. X = Y or no relation can be established

Ans. E
Sol.
I. $5X^2 + 16X + 11 = 0$
$\Rightarrow 5X^2 + 5x + 11X + 11 = 0$
$\Rightarrow 5X(X + 1) + 11(X + 1) = 0$
$\Rightarrow (5X + 11)(X + 1) = 0$
$\Rightarrow X = -11/5, -1$

II. $2Y^2 + 9Y + 10 = 0$
$\Rightarrow 2Y^2 + 4Y + 5Y + 10 = 0$
$\Rightarrow 2Y(2Y + 2) + 5(Y + 2) = 0$
$\Rightarrow (2Y + 2)(2Y + 5) = 0$
$\Rightarrow Y = -1, -5/2$
Hence, no relation can be established

6.
I. $2X = 18$
II. $Y^2 - 81 = 0$
A. $Y > X$
B. $X > Y$
C. $X \leq Y$
D. $X \geq Y$
E. X = Y or no relation can be established

Ans. D
Sol.
I. $2X = 18$
$\Rightarrow X = 9$
II. $Y^2 - 81 = 0$
$\Rightarrow Y^2 = 81$
$\Rightarrow Y = 9, -9$
Hence, $X \geq Y$.

###TOPIC###Quantitative Aptitude||Mathematical Inequality||Quadratic###

Direction (7-12): What should come in place of the question mark '?' in the following number series?

7. 44, 46, 50, 58, 74, ?
A. 98
B. 86
C. 102
D. 106
E. 94
Ans: D
Sol.
The pattern of the series is:
44 + 2 = 46
46 + 4 = 50

50 + 8 = 58
58 + 16 = 74
74 + 32 = 106
Hence, the missing number is 106.

8. 88, 99, 92, 97, 94, ?
A. 96
B. 98
C. 103
D. 95
E. 100
Ans: A
Sol.
The pattern of the series is:
88 + 11 = 99
99 – 7 = 92
92 + 5 = 97
97 – 3 = 94
94 + 2 = 96
Hence, the missing number is 96.

9. 8, 10, 23, 73, 297, ?
A. 965
B. 854
C. 1196
D. 1491
E. 1637

Ans: D
Sol.
The pattern of the series is:
Hence, the missing number is

10. 4, 8, 35, 51, 176, ?
A. 342
B. 212
C. 416
D. 310
E. 256
Ans: B
Sol.
The pattern of the series is:
$4 + 2^2 = 8$
$8 + 3^3 = 35$
$35 + 4^2 = 51$
$51 + 5^3 = 176$
$176 + 6^2 = 212$
Hence, the missing number is 212.

11. 1005, 1000, 985, 960, 925, ?
A. 910
B. 845
C. 880
D. 850
E. 820
Ans: C
Sol.
The pattern of the series is:
1005 – 5 × 1 = 1000
1000 – 5 × 3 = 985
985 – 5 × 5 = 960
960 – 5 × 7 = 925
925 – 5 × 9 = 880
Hence, the missing number is 880.

12. 500, ?, 250, 750, 187.5, 937.5
A. 250
B. 200
C. 500
D. 300
E. 400
Ans: C
Sol.
The pattern of the series is:
500 × 1 = 500
500 ÷ 2 = 250
250 × 3 = 750
750 ÷ 4 = 187.5
187.5 × 5 = 937.5
Hence, the missing number is 500.

###TOPIC###Quantitative Aptitude||Number Series||Missing Number Series###

13. 300 ml mixture of milk and water have milk and water in ratio 5 : 1. 42 ml of mixture is withdrawn and 3 ml milk and 3 ml water is added to mixture. What will be the ratio of milk and water in the new mixture?
A. 109 : 23
B. 7 : 3
C. 81 : 20
D. 105 : 22
E. None of these
Ans. A
Sol.
Initial quantity of milk = $\frac{5}{6}$ × 300 = 250 ml
Initial quantity of water in mixture = 300 – 250 = 50 ml

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Quantity of milk withdrawn with 42 ml of mixture = $\frac{5}{6}$ × 42 = 35 ml
Quantity of water withdrawn with 42 ml of mixture = 42 – 35 = 7 ml
Quantity of milk in new mixture = 250 – 35 + 3 = 218 ml
Quantity of water in new mixture = 50 – 7 + 3 = 46 ml
Required ratio = 218 : 46 = 109 : 23

###TOPIC###Quantitative Aptitude||Arithmetic||Mixtures & Alligation###

14. A man invests Rs. 20000 in a scheme and after that he invests 15% of the remaining amount equally in 20 shares. If he is left with Rs. 51000, what was the amount invested in each share?
A. Rs. 435
B. Rs. 450
C. Rs. 360
D. Rs. 475
E. None of these
Ans. B
Sol.
Let the amount invested be Rs. x.
According to question,
20000 + 0.15(x – 20000) + 51000 = x
⇒ 20000 + 0.15x – 3000 + 51000 = x
⇒ 0.85x = 68000
⇒ x = 80000
Amount invested in 20 shares = 0.15(80000 – 20000) = 9000
Amount invested in each share = $\frac{9000}{20}$ = Rs. 450
###TOPIC###Quantitative Aptitude||Arithmetic||Percentages###

15. After 5 years the ratio of the ages of Akbar and Sameer will be 5 : 6. If the present age of Sameer is 25 years, then find after how much time the age of Akbar will be 40 years.
A. 15 year
B. 18 year
C. 20 year
D. 24 year
E. None of these

Ans: C
Sol.
Let the ages of Akbar and Sameer after 5 year be 5x and 6x respectively.
Then, the present age of Akbar = (5x – 5) years
Present age of Sameer = (6x – 5) years
Now, 5x – 5 = 25
⇒ x = 6
Present age of Akbar = 5 × 5 – 5 = 20 years
So, Akbar will become 40 years old after 20 years.

###TOPIC###Quantitative Aptitude||Arithmetic||Problem on Ages###

16. An article is marked 20% above its cost price. Then the article is sold at a discount of 8%. If the discount given is Rs. 115.2 Find the profit, earned by the shopkeeper
A. Rs. 124.8
B. Rs. 130.2
C. Rs. 118.5
D. Rs. 128.4
E. None of these

Ans: A
Sol.
Let the CP of article be 100x.
Then, MP of article = 120% of 100x = 120x
SP of article = 92% of 120X = 110.4x
Discount = 120x – 110.4x = 9.6x
Now, 9.6x = 115.2
⇒ x = 12
Profit earend by the shopkeeper = 110.4x – 100 = 10.4x
= 10.4 × 12 = Rs. 124.8

###TOPIC###Quantitative Aptitude||Arithmetic||Profit and Loss###

17. A train of length L meter crossed a platform of length 1.5 L meter in 20 seconds. If the speed of train is 72 km/h, then in how much time the train will cross a person standing on that platform?
A. 12 seconds
B. 10 seconds
C. 8 seconds
D. 14 seconds
E. 15 seconds

Ans. C
Sol.
Speed of train = 72 km/h = 72 × $\frac{5}{18}$ = 20 km/h
According to question,
$\frac{L + 1.5L}{20}$ = 20
⇒ L = $\frac{400}{2.5}$ = 160
Time required by train = $\frac{160}{20}$ = 8 seconds

###TOPIC###Quantitative Aptitude||Arithmetic||Problem based on Train###

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