IBPS RRB PO Pre Free Memory Based Mock Test (Held on 01st Aug 2021) – English Version

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Reasoning Ability

Directions (1-5): Study the following information carefully and answer the below questions.

Ten persons- A, B, C, D, E, F, G, H, J, and K are sitting on the circular table facing the center. All the information is not necessarily in the same order.

Two persons sit between A and E. Only three persons sit between E and K. C sits third to the left of D. Only four persons sit between E and D. F sits immediate left of G. G neither sit adjacent to E nor D. F and D are not immediate neighbors. B sits second to the left of J. The number of persons sits between H and J is the same as the number of persons sits between H and F.

1) How many persons sit between C and B when counted from the left of C?

A. Two
B. Three
C. One
D. No one
E. Four

2) If C is related to H and D is related to Fin a certain way. Then who among the following is related to E?

A. G
B. F
C. K
D. A
E. D

3) Who among the following person sits fifth to the right of H?

A. E
B. B
C. J
D. C
E. A

4) What is the position of Hwith respect to K?

A. Second to the left
B. Second to the Right
C. Third to the right
D. Fourth to the right
E. Immediate left

5) Four of the following are alike in a certain way. Who among the following one does not belong to the group?

A. EG
B. FD
C. HC
D. AJ
E. GH

Directions (6-8): Study the following information carefully and answer the below questions.

Six persons- A, B, C, D, E, and F have different weights and are arranged in descending order. F is heavier than B and lighter than D. A is lighter than E who is heavier than C. Both A and C are heavier than D. The lightest person's weight is 51kg. D has 14kg more than the lightest person.

6) How many persons are heavier than B?

A. Two

B. Three

C. Four

D. Five

E. One

7) What is the possible weight of F?

A. 50 kg

B. 66 kg

C. 62 kg

D. 68 kg

E. 48 kg

8) If the weight of A is 8kg more than the average weight of B and D. Then which of the following statement is true?

I) A is lighter than C

II) Only one person heavier than A

III) A's weight is 66kg.

A. Only I and III

B. Only II and III

C. Only I and II

D. Only II

E. Only I

9) If the vowels in the word "SNITCHED" are changed to the next letter and consonants are changed to the previous letter in the alphabetical series then which of the following represented letters are repeated twice?

A. D and C

B. N and T

C. S and T

D. E and D

E. None of the above

10) How many pairs of digits are there in the number "864351792" each of which has as many digits between them as in the numerical series(Both forward and backward direction)?

A. One

B. Two

C. Three

D. Four

E. More than four

Directions (11-15): Study the following statements and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

11) Statement

Only a few Browser is Bandwidth

All Bandwidth is Broadband

No Broadband is Internet

Conclusion

I. No Internet is Bandwidth

II. Some Broadband is Browser

A. Only I follow

B. Either I or II follow

C. Only II follows

D. Both I and II follow

E. Neither I nor II follows

12) Statement

Only a few Modem is Disk

No Disk is Memory

All Memory is Reboot

Conclusion

I. Some Disk is Reboot is a possibility

II. All Modem can be Memory

A. Only I follow

B. Either I or II follow

C. Only II follows

D. Both I and II follow

E. Neither I nor II follows

13) Statement:

Only a few consume are customs

No investor is consume

Few consume are lenders

Conclusion:

I. All Lenders can never be investor

II. All customs are investors

A. Only I follow

B. Either I or II follow

C. Only II follows

D. Both I and II follow

E. Neither I nor II follows

14) Statement

Only a few Dollar is Euro

Some Euro is Pound

All Pound is Franc

Conclusion

I. Some Franc is Euro

II. All Dollar can be Pound

A. Only I follow

B. Only II follows

C. Either I or II follows

D. Neither I nor II follows

E. Both I and II follows

15) Statement

Only a few Lek is Dinar

All Lek is Taka

No Taka is Afghani

Conclusion

I. No Lek is Afghani

II. All Lek being Dinar is a possibility

A. Only I follow

B. Either I or II follow

C. Only II follows

D. Both I and II follow

E. Neither I nor II follows

Directions (16-20): Study the following information carefully and answer the below questions

Nine persons- J, K, L, M, N, O, P, Q, and R are working in the three different departments- Production, HR and Finance but not necessarily in the same order. Minimum two person maximum four persons are working in each department.

J works with Q. Q neither works in Production nor Finance. L does not work with J. K neither works with L nor Q. P neither works in Finance nor HR. The number of persons works in the Finance department is one less than the number of persons work in the HR department. P works with only one person. N and O work in the same

department but not with K and L. M neither works with L nor O.

16) Who among the following person works in the production department?

A. P
B. J
C. N
D. M
E. R

17) If person X is joined in the HR department then who among the following person works with X?

A. K
B. R
C. M
D. O
E. P

18) Which of the following statement is true?

A. P and L works in the Finance department
B. M and O work in the same department
C. J and M works different department
D. Four-person works in the Production department
E. Only two persons work in the Finance department

19) Who among the following person works with N?

I. J
II. O
III. L
IV. R

A. Only I and II
B. Only III and IV
C. Only I and III
D. Only II and IV
E. Only I and IV

20) Four of the following are alike in a certain way. Whichofthefollowing does not belongs to the group?

A. PR
B. ML
C. JK
D. OM
E. QN

Directions (21-25): Study the following information carefully and answer the below questions.

In a certain coding language,
"Carriage Forklift Rowboat Train" means **"rikraont"**,
"Subway Carriage Rowboat Bus" means **"aoburibz"**,
"Van Forklift Crane Boat" means **"kr nr to ne"**,
"Carriage Subway Bus Crane" means **"ribubz nr"**

21) Which of the following is the code for the word "Forklift" in the given code language?

A.kr
B.ao
C.nt
D.ri
E.None of these

22) What may be the possible code for the phrase "Van Bus" in the given code language?

A.tz bu
B.bz ne
C.to ne
D.bz nr
E.ribz

23) What does the code "ao" represent in the given code language?

A.Bus
B.Subway
C.Carriage
D.Rowboat
E.Train

24) If "Van Goat" is coded as "tz to", then what does the code "ne" represent in the given code language?

A.Bus
B.Train
C.Carriage
D.Boat
E.Subway

25) How many codes for a word are definitely found as per given information?

A.5
B.8
C.9
D.10
E.None of these

Directions (26-30): Study the following information carefully and answer the below questions

Ten persons- A, B, C, D, E, P, Q, R, S, and T are taking the seminar on two different dates either 5 or 22 of different months- January, February, March, April, and May of the same year(2021). All the information is not necessarily in the same order.

E takes the seminar on an odd number of days of the month which has less than 31days. R takes two persons before E. The number of persons takes before R is the same as the number of persons takes after B. Only four persons take between B and T.C takes the seminar on an even number date immediately before Q. P takes two persons after C. P does not take adjacent to R. S takes before D but after A. At least one person takes between S and D.

26) Who among the following person takes the seminar on March 5th?

A. P
B. Q
C. E
D. T
E. S

27) Four of the following are alike in a certain way. Who among thefollowing does not belongs to the group?

A. RE
B. EA

C. SC
D. QD
E. PB

28) How many persons taking seminar between S and D?
A. Two
B. Three
C. Six
D. Five
E. Four

29) Which of the following month and dates does D take the seminar?
A. May 5th
B. April 5th
C. May 22nd
D. February 22nd
E. January 22nd

30) Who among the following person takes immediately before Q?
A. P
B. S
C. T
D. C
E. D

Directions (31-34): In each of the following questions, the relationship between different elements is shown in the statements followed by two conclusions. Find the conclusion which is definitely true.

A. If only conclusion I follows.
B. If only conclusion II follows.
C. If either conclusion I or II follows.
D. If neither conclusion I nor II follows.
E. If both conclusion I and II follow.

31. Statements: P ≥ N = G > T < K > L
Conclusion: I. G < K II. P > T

32. Statements: Q > K > L ≤ C = H > I
Conclusion: I. K > I II. H > L

33. Statements: G ≥ X ≥ T = K = L > O
Conclusion: I. G > O II. G > K

34. Statements:
C > R; T > L; J ≥ R; C ≥ K = T
Conclusions:
Conclusion: I. T > J II. R < K

35) Six persons- L, M, N, O, P and Q are living in the six-storey building but not necessarily in the same order. The lowermost floor is numbered as one and the topmost floor is numbered as six. O lives three floors above P. Only one floor between P and Q. M lives two floors above Q. The number of people lives between M and O is one less than between L and N. L lives above N. Who among the following person lives on the third floor?
A. Q
B. M
C. O
D. N

E. L

Directions (36-40): Study the following information carefully and answer the below questions.

Seven persons- A, B, C, D, E, F, and G attend the meeting on different days of the week starting from Monday to Sunday. They like different fruits- Guava, Orange, Apple, Kiwi, Mango, Banana, and Watermelon. All the information is not necessarily in the same order. B attends three days before the one who likes Watermelon. At least two persons attend before B. Only three persons attend between B and C. The one who likes Kiwi attends immediately after the one who likes Apple. B neither likes Kiwi nor Apple. The one who likes Banana attends two days before D. D neither likes Watermelon nor Kiwi. A attends immediately before F. A does not attend on Monday. G neither like Banana nor Mango. C neither like Mango nor Guava.

36) Which of the following day did A attend the meeting?

A. Wednesday
B. Sunday
C. Tuesday
D. Friday
E. Monday

37) Which of the following combination is true?

I. Apple-D
II. Watermelon-Saturday
III. Wednesday-D
IV. Orange-E

A. Only II and III
B. Only III and IV
C. Only I and II
D. Only II and IV
E. All I, II, III and IV

38) Who among the following person attends the meeting on Friday?

A. A
B. F
C. C
D. D
E. B

39) How many persons attend before the one who likes Banana?

A. Five
B. Three
C. Four
D. Two
E. One

40) Which of the following fruit is liked by G?

A. Orange
B. Mango
C. Apple
D. Guava
E. Banana

Quantitative Aptitude

Directions (41-46): What value should come in the place of (?) in the following number series?

41) 1005, 1000, 985, 960, 925, ?

A. 840
B. 880
C. 900
D. 860
E. 890

42) 8, 10, 23, 73, ?, 1491

A. 297
B. 312
C. 293
D. 287
E. 303

43) 4, 8, 35, 51, 176, ?

A. 208
B. 220
C. 210
D. 212
E. 216

44) 500, ?, 250, 750, 187.5

A. 500
B. 250
C. 750
D. 800
E. 1000

45) 44, 46, 50, 58, ?, 106

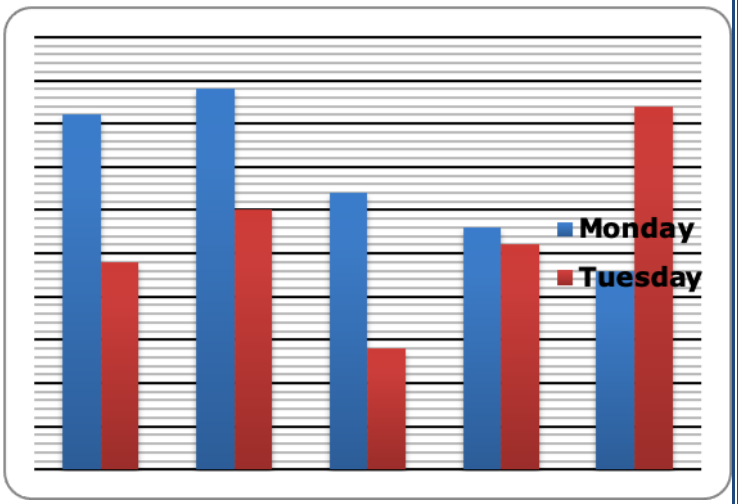
A. 72
B. 74
C. 76
D. 78
E. 80

46) 88, 99, 92, 97, 94, ?

A. 98
B. 96
C. 100
D. 90
E. 88

Directions (47-52): Study the following information carefully and answer the questions given below.

The given bar graph shows the number of books sold by five different companies on two different days of the week. i.e. Monday and Tuesday.



47) The number of books sold on Monday by F is 20% more than the number of books sold on Tuesday by B and the number of books sold on

Tuesday byF is 25% more than the number of books sold on Monday by D. Find the total number of books sold on Monday and Tuesday by F?

A. 142
B. 140
C. 144
D. 146
E. 139

48) The ratios of the number of Tamil and English books sold on Monday by E and C is 17:6 and 5:3 respectively. Find the number of Tamil books sold on Monday byE and C?

A. 70
B. 72
C. 74
D. 76
E. 78

49) Find the average number of books sold on Tuesday byA, B, D and E together?

A. 61
B. 63
C. 65
D. 59
E. 57

50) The ratios of the number of books sold to unsold on Monday byA and on Tuesday byC is 2:1 and 7:5 respectively. Find the total number of unsold books on Monday byA and on Tuesday byC?

A. 56
B. 58
C. 61
D. 63
E. 65

51) The number of books sold byG is equal to the average number of books sold on Monday byB and E. If the number of unsold books byG is 33% of the total number of books byG, then find the total number of books byG and the number of books sold on Tuesday byE?

A. 180
B. 182
C. 178
D. 184
E. None of these

52) The number of science books sold on Monday byA is 25% of the number of books sold on Monday byC and the number of Hindi books sold on Tuesday byD is half of the number of books sold on Tuesday byA. Then the number of Hindi books sold on Monday byA is approximately what percent of the number of science books sold on Tuesday byD? (The companies sold two different types of book Hindi and science)

A. 236%
B. 240%
C. 230%
D. 244%
E. 228%

Directions (53-58): Study the following information carefully and answer the questions given below.

Three institutes A, B, and C teach two different languages French and German.The given table shows the number of students learning the French language and the total number of males and females studying in these three different institutes.

Institute	French language	Total number of Male	Total number of Female
A	150	250	200
B	180	250	150
C	200	320	240

Note: Total Number of students = Total number of Male + Total Number of Female.

53) The ratio of the number of male and female students learning German in A is 8:7. The number of males learning German in A is what percent of the total number of students in C?

A. 28.57%
B. 35%
C. 42.35%
D. 20%
E. 15.25%

54) The number of students learning German in B from two different cities Chennai and Bangalore in the ratio of 6:5. Find the number of students learning German in B from Bangalore?

A. 80
B. 90
C. 110
D. 100
E. 120

55) The ratio of the number of males to females learning German and French in C is 5:4 and 3:1 respectively. Find the difference between the number of males learning German and French in C?

A. 30
B. 40
C. 50
D. 60
E. None of these

56) The number of males learning German in A is 40% of the total number of males in the same institute and the number of females learning French in A is 30% of the total number of females in the same institute. Find the ratio of the number of females learning German in A to the number of males learning French in A?

A. 20:9
B. 19:5
C. 21:8
D. 22:7
E. 10:7

57) Find the totalnumber of students learning German in all the institute together?

A. 840
B. 880
C. 900

D. 920
E. 960

58) The number of students learning German in D is 25% more than that of C and the number of male students in D is 20% more than that of A and the number of female students in D is twice that of the number of femalestudents in B. Find the number of students learning French in D?
A. 100
B. 120
C. 180
D. 150
E. 200

Directions (59-64): Following question contains two equations as I and II. You have to solve both equations and determine the relationship between them and give answer as,

59)
I) $x^2 - 5x - 14 = 0$
II) $y^2 - 16y + 64 = 0$
A. x> y
B. x ≥ y
C. x = y or relationship can't be determined.
D. x< y
E. x ≤ y

60)
I) $x^2 + x - 12 = 0$
II) $y^2 + 2y - 15 = 0$
A. x> y
B. x ≥ y
C. x = y or relationship can't be determined.
D. x< y
E. x ≤ y

61)
I) $x^2 - 9x + 20 = 0$
II) $y^2 - 7y + 12 = 0$
A. x> y
B. x ≥ y
C. x = y or relationship can't be determined.
D. x< y
E. x ≤ y

62)
I) $x^2 + 9x + 20 = 0$
II) $8y^2 - 15y + 7 = 0$
A. x> y
B. x ≥ y
C. x = y or relationship can't be determined.
D. x< y
E. x ≤ y

63)
I) $x^2 - 7x + 10 = 0$
II) $y^2 + 8y + 15 = 0$
A. x> y
B. x ≥ y
C. x = y or relationship can't be determined.
D. x< y
E. x ≤ y

64)
I) $x^2 - 5x + 6 = 0$

II) $y^2 - 12y + 27 = 0$

A. x> y

B. x ≥ y

C. x = y or relationship can't be determined.

D. x< y

E. x ≤ y

65) A Jar contains 150 liters of Milk. 10% of the milk is taken out and replaced with the same quantity of water. Again 30 liters of mixture is taken out and replaced with the same quantity of water. Find the quantity of water in the final solution?

A. 48 liters

B. 45 liters

C. 40 liters

D. 42 liters

E. None of these

66) The shopkeeper sold the Battery at a loss of 20%. If he bought the battery for Rs.900 more and sold it for Rs.1800 more, then he gets a profit of 25%. Find the initial cost price of the battery?

A. Rs.1400

B. Rs.1000

C. Rs.1600

D. Rs.1800

E. Rs.1500

67) The sum of the ages of Rajni and Sneha is 42 years. After 6 years, the product of their age is14 times of Sneha's age at that time. What is the present age of Sneha?

A. 32 years

B. 34 years

C. 36 years

D. 38 years

E. 40 years

68) The marked price of the TV is 25% more than the cost price of the TV. If the shopkeeper offers a discount of Rs.4200 on the marked price of the TV while he gets a profit of Rs.1400, then what is the cost price of the TV?

A. Rs.22200

B. Rs.22300

C. Rs.22400

D. Rs.22500

E. None of these

69) A boat covers 120 km downstream in x hours and also covers 180 km upstream in (x + 5) hours. If the boat covers 350 km in still water in 14 hours, then find the speed of the current?

A. 4 kmph

B. 5 kmph

C. 8 kmph

D. 6 kmph

E. 10 kmph

70) Train A crosses an electric pole in 18 seconds and train B crosses a man standing on a platform in 20 seconds. If the ratio of the speed of train A to B is 5:4, then find the time

taken by train A to cross train B running in the same direction?

A. 160 seconds
B. 168 seconds
C. 172 seconds
D. 170 seconds
E. Cannot be determined

71) Surface area of the cube is 1944 cm^2. If the side of the cube is equal to the height of the cone and the volume of the cone is 13824 cm^3, then find the slanting height of the cone? (Take the value of $\prod$ is 4)

A. 15 cm
B. 27 cm
C. 25 cm
D. 30 cm
E. None of these

72) The ratio of the length and breadth of the rectangle is 3:2. If the breadth of the rectangle is equal to the side of the square, the radius of the circle is 16.66% more than the length of the rectangle and the area of the circle is 1386m^2. Then find the perimeter of the square?

A. 36 m
B. 40 m
C. 48 m
D. 45 m
E. None of these

73) P, Q and R started a business by investing Rs. 12000, Rs. 15000 and Rs. 18000 respectively. After 5 months, P invested Rs. 3000 more and after 3 more months, R withdraws Rs. 3000. Find the share of Q, if the total profit at the end of the year is Rs. 73200?

A. Rs.23600
B. Rs.22500
C. Rs.24000
D. Rs.25200
E. None of these

74) Pipe A and B together can fill the tank in 22(2/9) hours. If pipe B is increased its efficiency by 25%, then both can fill the tank in 20 hours, in how many hours pipe A to fill the tank at the half of its efficiency?

A. 80
B. 60
C. 90
D. 100
E. None of these

75) Car A starts from Chennai towards Bangalore and car B starts same time from Bangalore towards Chennai at the speed of 80 kmph. Car B takes 20 hours to reach their destination and car A takes 25 hours to reach their destination. Find the speed of car A?

A. 64 kmph
B. 72 kmph
C. 68 kmph
D. 56 kmph
E. 78 kmph

Directions (76-80): Study the following information carefully and answer the questions given below.

There are 3200 students in a school and each of them attends at least one of theexam among GMAT, CLAT and SAT. 41% of the students attend GMAT. The number of students who attend only two exams is 1120 and the number of students who attendonly GMAT is 512. The number of students who attend both SAT and GMAT but not CLAT is 288 less than the number of students who attend both CLAT and SAT but not GMAT. The ratio of the number of students attendsCLAT but not GMAT to the total number of students in the school is 17:50. The number of students who attendsall the three examstogether is 288.

76) What is the difference between the number of students who attend both CLAT and GMAT but not SAT and the number of students who attend only CLAT?

A. 288
B. 284
C. 280
D. 278
E. 274

77) The number of students who attendCLAT is approximately what percent of the number of students who attendSAT?

A. 72%
B. 75%
C. 78%
D. 83%
E. 81%

78) What is the sum of the number of students who attendGMAT but not CLAT and the number of students who attend all the three teams together?

A. 1110
B. 1140
C. 1150
D. 1130
E. 1120

79) Ratio of the number of girls to boys who attend only SAT is 17:8. Find the number of girls who attend only SAT?

A. 544
B. 546
C. 548
D. 550
E. 520

80) Find the number of students who attendCLAT and SAT but not GMAT?

A. 610
B. 608
C. 612
D. 614
E. 616

Answer With Explanation

Reasoning Ability

Directions (1-5):

1) Answer: A

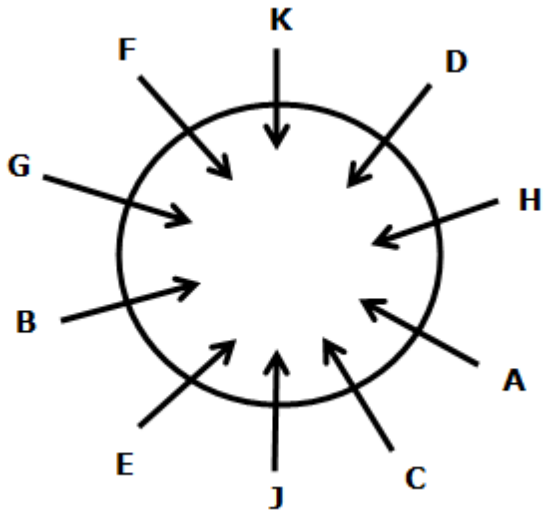
2) Answer: A

3) Answer: B

4) Answer: A

5) Answer: E

Final Arrangement



Directions (6-8):

6) Answer: D

7) Answer: C

8) Answer: A

Final Arrangement

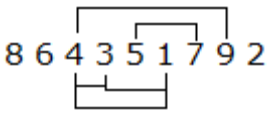
Person	Weight
E	
A/C	
A/C	
D	65kg
F	
B	51kg

9) Answer: E

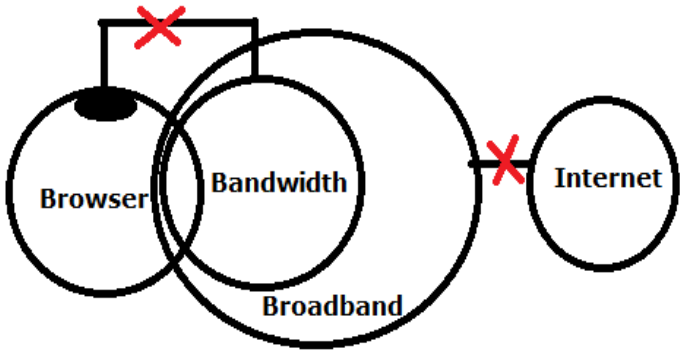
SNITCHED

RMJSBGFC

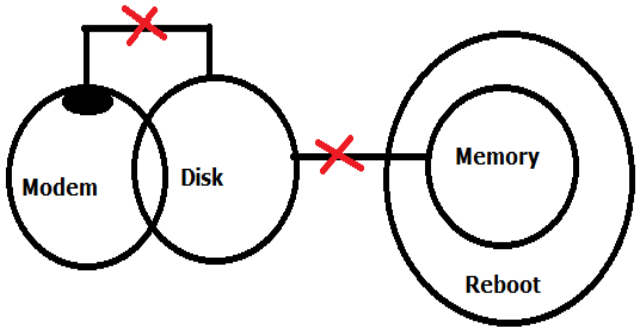
10) Answer: E



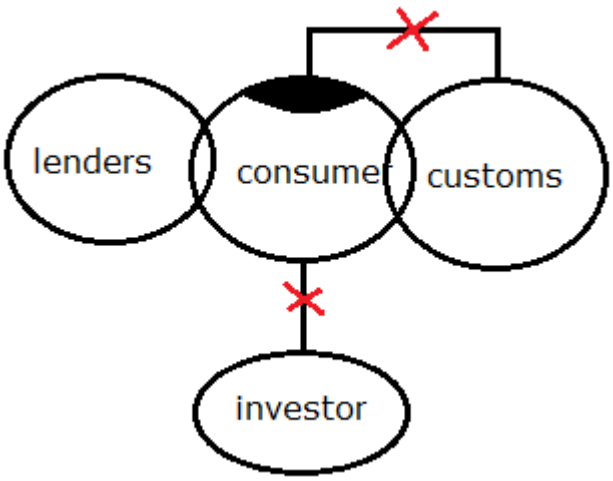
11) Answer: D



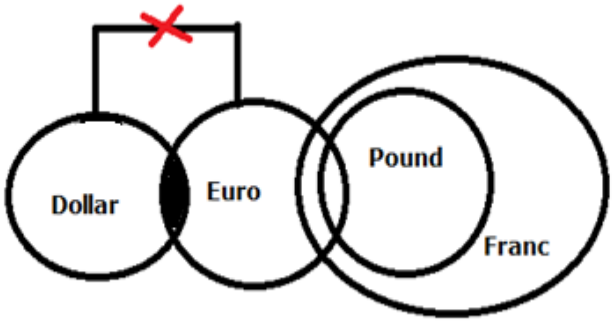
12) Answer: A



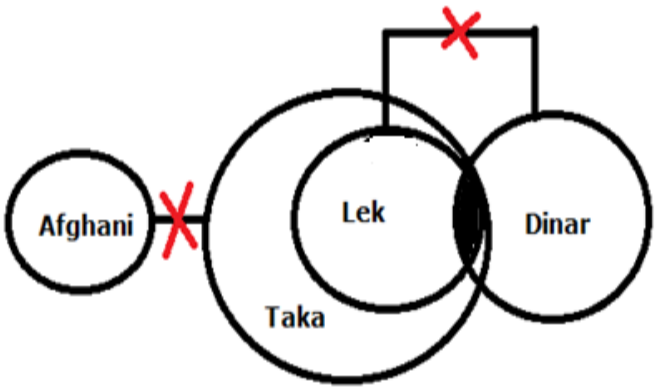
13) Answer: A



14) Answer: E



15) Answer: A



Directions (16-20):

16) Answer: A

17) Answer: D

18) Answer: C

19) Answer: A

20) Answer: E

Final Arrangement

Production	HR	Finance
L, P	J, Q, N, O	K, M, R

Directions (21-25):

21) Answer: A

22) Answer: B

23) Answer: D

24) Answer: D

25) Answer: A

Carriage	Ri
Forklift	Kr
Rowboat	Ao
Train	Nt
Subway/bus	Bu/bz
Bus/subway	Bz/bu
Van	To/ne
Crane	nr
Boat	To/ne

Directions (26-30):

26) Answer: D

27) Answer: B

28) Answer: E

29) Answer: A

30) Answer: D

Final Arrangement

Month with date	Person
January 5	R
January 22	A
February 5	E
February 22	S
March 5	T
March 22	C
April 5	Q
April 22	P
May 5	D
May 22	B

Directions (31-34):

31) Answer: B

32) Answer: D

33) Answer: A

34) Answer: D

35) Answer: E

Floor	Person
6	M
5	O
4	Q
3	L
2	P
1	N

Directions (36-40):

36) Answer: D

37) Answer: C

38) Answer: A

39) Answer: E

40) Answer: D

Final Arrangement

Days	Person	Fruits
Monday	G	Guava
Tuesday	E	Banana
Wednesday	B	Mango
Thursday	D	Apple
Friday	A	Kiwi
Saturday	F	Watermelon
Sunday	C	Orange

Quantitative Aptitude

41) Answer: B

1005 – 5 = 1000

1000 – 15 = 985

985 – 25 = 960

960 – 35 = 925

925 – 45 = 880

42) Answer: A

8 * 1 + 2 = 10

10 * 2 + 3 = 23

23 * 3 + 4 = 73

73 * 4 + 5 = 297

297 * 5 + 6 = 1491

43) Answer: D

$4 + 2^2 = 8$

$8 + 3^3 = 35$

$35 + 4^2 = 51$

$51 + 5^3 = 176$

$176 + 6^2 = 212$

44) Answer: A

500 * 1 = 500

500/2 = 250

250 * 3 = 750

750/4 = 187.5

45) Answer: B

44 + 2 = 46

46 + 4 = 50

50 + 8 = 58

58 + 16 = 74

74 + 32 = 106

46) Answer: B

88 + 11 = 99

99 – 7 = 92

92 + 5 = 97

97 - 3 = 94

94 + 2 = 96

47) Answer: A

Required total = 120/100 * 60 + 125/100 * 56 = 142

48) Answer: C

Required total = 17/23 * 46 + 5/8 * 64 = 74

49) Answer: A

Required average = (48 + 60 + 52 + 84)/4

= 61

50) Answer: C

Required total = 1/2 * 82 + 5/7 * 28 = 61

51) Answer: D

Total number of books in G = 100/(100 – 33) * (88 + 46/2) = 100

Number of books sold on Tuesday in E = 84

Required total = 100 + 84 = 184

52) Answer: A

Number of Hindi book sold on Monday in A = 82 – 25/100 * 64 = 66

Number of science books sold on Tuesday in D = 52 – 48/2 = 28

Required % = 66/28 * 100 = 235.71%= 236%

53) Answer: A

Number of male learning German in A = ((250 + 200) – 150) * 8/15 = 160

Required % = 160/(320 + 240) * 100 = 28.57%

54) Answer: D

Required total = (250 + 150 – 180) * 5/11 = 100

55) Answer: C

Number of male learning German in C = 5/9 * (320 + 240 – 200) = 200

Number of male learning French in C = 200 * ¾ =150

Required difference = 200 – 150 = 50

56) Answer: A

Number of students learning German in A = (250 + 200 – 150) = 300

Number of female learning German in A = 300 – (250 * 40/100) = 200

Number of male learning French in A = 150 – (200 * 30/100) = 90

Required ratio = 200:90

= 20:9

57) Answer: B

Number of students learning German in A = (250 + 200) – 150 = 300

Number of students learning German in B = (150 + 250) – 180 = 220

Number of students learning German in C = (320 + 240) – 200 = 360

Required total = 300 + 220 + 360 = 880

58) Answer: D

Number of students in D = 120/100 * 250 + 2 * 150 = 600

Number of students learning German in C = (320 + 240) – 200 = 360

Number of students learning French in D = 600 – (125/100 * 360) = 150

59) Answer: D

$x^2 – 5x – 14 = 0$

$x^2 – 7x + 2x – 14 = 0$

$x(x – 7) + 2(x – 7) = 0$

$x = 7, -2$

$y^2 – 16y + 64 = 0$

$y^2 – 8y – 8y + 64 = 0$

$y(y – 8) – 8(y – 8) = 0$

$y = 8, 8$

$x < y$

60) Answer: C

$x^2 + x – 12 = 0$

$x^2 + 4x – 3x – 12 = 0$

$x(x + 4) – 3(x + 4) = 0$

$x = 3, -4$

$y^2 + 2y – 15 = 0$

$y^2 + 5y – 3y – 15 = 0$

$y(y + 5) – 3(y + 5) = 0$

$y = 3, -5$

Relationship between x and y cannot be established.

61) Answer: B

$x^2 – 9x + 20 = 0$

$x^2 – 5x – 4x + 20 = 0$

$x(x – 5) – 4(x – 5) = 0$

$x = 4, 5$

$y^2 – 7y + 12 = 0$

$y^2 – 4y – 3y + 12 = 0$

$y(y – 4) – 3(y – 4) = 0$

$y = 4, 3$

$x \geq y$

62) Answer: D

$x^2 + 9x + 20 = 0$

$x^2 + 4x + 5x + 20 = 0$

$x(x + 4) + 5(x + 4) = 0$

$x = -4, -5$

$8y^2 – 15y + 7 = 0$

$8y^2 – 7y – 8y + 7 = 0$

8y(y – 1) -7(y – 1) = 0

y = 1, 7/8

x<y

63) Answer: A

$x^2 – 7x + 10 = 0$

$x^2 – 5x – 2x + 10 = 0$

x(x – 5) – 2(x – 5) = 0

x = 5, 2

$y^2 + 8y + 15 = 0$

$y^2 + 5y + 3y + 15 = 0$

y(y + 5) + 3(y + 5) = 0

y = -3, -5

x>y

64) Answer: E

$x^2 - 5x + 6 = 0$

$x^2 – 2x – 3x + 6 = 0$

x(x – 2) – 3(x – 2) = 0

x = 2, 3

$y^2 – 12y + 27 = 0$

$y^2 – 9y – 3y + 27 = 0$

y(y – 9) – 3(y – 9) = 0

y = 9, 3

x≤y

65) Answer: D

10% of mixture = 10/100 * 150 = 15

Quantity of milk in resultant mixture = 150 * (1 – 15/150) * (1 – 30/150)

= 108 liters

Quantity of water = 150 – 108 = 42 liters

66) Answer: E

Initial CP = 5x

Initial SP = 5x * 80/100 = 4x

(4x + 1800) = 125/100 * (5x + 900)

16x + 7200 = 25x + 4500

x = 300

CP of the battery = 300 * 5 = 1500

67) Answer: B

Let the age of Rajni be x years.

The sum of the age of Rajni and Sneha = 42 years

Age of Sneha = (42 – x) years

After 6 years,

Age of Rajni = (x + 6) years

Age of Sneha = 42 – x + 6 = (48 – x) years

(x + 6) × (48 – x) = 14 × (48 – x)

x + 6 = 14

x = 8

Age of Sneha = 42 – 8 = 34 years

68) Answer: C

CP of the TV = 4x

MP of the TV = 4x * 125/100 = 5x

5x - 4200 = 4x + 1400

x = 5600

CP of TV = 4 * 5600 = Rs.22400

69) Answer: B

Speed of boat in still water = 350/14 = 25 kmph

Speed of downstream = 120/x

Speed of upstream = 180/(x + 5)

((120/x) + 180/(x + 5) = 25 * 2

$120x + 600 + 180x = 50 * (x^2 + 5x)$

$30x + 60 = 5x^2 + 25x$

$x^2 – x – 12 = 0$

$x^2 – 4x + 3x – 12 = 0$

$x(x – 4) + 3(x – 4) = 0$

$x = 4, -3$

Speed of downstream = 120/4 = 30 kmph

Speed of upstream = 180/9 = 20 kmph

Speed of current = (30 – 20)/2 = 5 kmph

70) Answer: D

Length of train A = x

Length of train B = y

Speed of train A = 5z

Speed of train B = 4z

x = 5z * 5/18 * 18

x = 25z

y = 4z * 5/18 * 20

9y = 200z

Required time = (25z + 200z/9)/(z * 5/18)

= 170 seconds

71) Answer: D

SA of the cube = 1944

6 * a * a = 1944

Side of the cube = 18 cm

1/3 * 4 * r * r * 18 = 13824

Radius of the cone = 24 cm

Slanting height of cone = $\sqrt{(24^2 + 18^2)}$ = 30 cm

72) Answer: C

The area of a circle=$22r^2/7$

$1386=22r^2/7$

$r^2=1386*7/22=441$

r=21 m

The length of the rectangle=21*6/7=18 m

The breadth of the rectangle=18/3*2=12 m

The side of the square=12 m

The perimeter of the square=4*12=48 m

73) Answer: C

The share of P, Q and R,

[12000 * 5 + 15000 * 7] : [15000 * 12] : [18000 * 8 + 15000 * 4]

[60000 + 105000] : [180000] : [144000 + 60000]

165000 : 180000 : 204000

55 : 60 : 68

183's = 73200

1's = 400

The share of Q = 60's = Rs. 24000

74) Answer: A

1/A + 1/B = 9/200

Pipe B efficiency increased by 25%

1/A + 5/4B = 1/20

1/B – 5/4B = 9/200 – 1/20

-1/4B = -1/200

B = 50

1/A = 9/200 – 1/50

1/A = 1/40

A alone complete the tank with its half efficiency

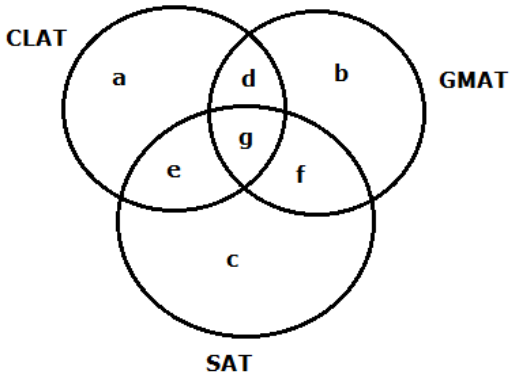
40 * 2 = 80 hours

75) Answer: A

Distance between Chennai and Bangalore = 20 * 80 = 1600

Speed of car A = 1600/25 = 64 kmph

76) Answer: A



g = 288

b = 512

d + e + f = 1120

b + d + g + f = 41/100 * 3200 = 1312

d + f + 512 + 288 = 1312

d + f = 512

e = 1120 – 512 = 608

f = e – 288

f = 608 – 288 = 320

d = 1120 – 320 – 608 = 192

a + e = 17/50 * 3200 = 1088

a = 1088 – 608 = 480

c = 3200 – 480 – 512 – 192 – 608 – 320 – 288

c = 800

Required difference = 480 - 192 = 288

77) Answer: C

Required % = (480 + 192 + 608 + 288)/(288 + 320 + 608 + 800) * 100

= 77.77% = approximately 78%

78) Answer: E

Required total = (512 + 320) + 288

= 1120

79) Answer: A

Required total = 17/25 * 800 = 544

80) Answer: B

Required total = 608

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