Reasoning Ability

1. **Direction**: Which of the following will come in place of the question mark?

   AC, BE, DH, ?, KQ

   A. GL B. GK

   C. HL D. HM

2. The positions of how many alphabets will remain unchanged if each of the alphabets in the word PROACTIVE is arranged in alphabetical order from left to right?

   A. None B. One

   C. Two D. Three

   E. More than three

Directions (3-7) Study the information given below and answer the questions based on it.

Eight boxes P, Q, R, S, T, U, V and W are kept one above another. Top position is 1 st and bottom position is last. Three boxes are between S and Q. Box V is immediately above box S. 3 boxes are kept between R and P. Box R is above P. There are the same number of boxes between R and W as between W and S. One box is kept between V and U. Box U is below box V.

3. How many boxes are between P and Q?

   A. None B. 1

   C. 2 D. 3

   E. 4

4. Which of the following box is at the top position?

   A. R B. P

   C. T D. V

   E. W

5. Which of the following box at the last but one position?

   A. V B. S

   C. U D. P

   E. W

6. Which of the following box is above box W?

   A. P B. V

   C. S D. T

   E. U

7. How many boxes are below U?

   A. None B. 1

   C. 2 D. 3

   E. 4

Direction (8-12): In the following questions, relationship between different elements are shown in the statements. These statements are followed by two conclusions. Give answer .

8. **Statements**

   A ≥ J = N; H > Y > I < S = N

   Conclusions:

   I. A = N

   II. A > N

   A. Only conclusion I is true

   B. Only conclusion II is true

   C. Either conclusion I or conclusion II is true

   D. Neither conclusion I nor conclusion II is true

   E. Both the conclusion I and conclusion II are true

9. **Statements:**

   T ≤ J > F; U > J ≤ H= S

   Conclusions:

   I. F ≤ U

   II. U > T

   A. Only conclusion I is true

   B. Only conclusion II is true

   C. Either conclusion I or conclusion II is true

   D. Neither conclusion I nor conclusion II is true

   E. Both the conclusion I and conclusion II are true

10. **Statements**:

    Y > U ≤ H = Q; R ≤ U > M

    Conclusions:

    I. R ≤ Q

    II. Q ≥ M

    A. Only conclusion I is true

    B. Only conclusion II is true

    C. Either conclusion I or conclusion II is true

    D. Neither conclusion I nor conclusion II is true

    E. Both the conclusion I and conclusion II are true

11. **Statements:**

    L ≥ F > G ≤ W; H < S = L

    Conclusions:

    I. H > G

    II. W ≤ L

A. Only conclusion I is true

B. Only conclusion II is true

C. Either conclusion I or conclusion II is true

D. Neither conclusion I nor conclusion II is true

E. Both the conclusion I and conclusion II are true

12. **Statements:** T > U ≥ V ≥ W; X < Y = W > Z

Conclusions:

I. Z > U

II. W < T

A. Only conclusion I follow.

B. Only conclusion II follows.

C. Either conclusion I or conclusion II follows.

D. Neither conclusion I nor conclusion II follows.

E. Both conclusions I and II follow.

13. If '2' is subtracted from each even digit and '1' is added to each odd digit in the number 8367284, then how many digits will appear twice in the new number thus formed?

A. One B. Two

C. Three D. More than three

E. None of these

14. How many such digits are there in the number 935126 which remain same in the number as when the digits are rearranged in descending order within the number?

A. None B. one

C. Two D. Three

E. More than three

15. **Direction**: If it is possible to make only one meaningful word from the first, fifth, seventh and eighth letters of the word SPONTANEOUS, then the second letter from the left is your answer. If no such word can be formed then your answer is X and if more than one such word can be formed your answer is Y.

A. **X** B. **T**

C. **E** D. **S**

E. **Y**

Direction (16-20) : Study the information given below and answer the questions based on it.

In a certain language,

'bright and intellectual students' is written as 'mt la ga pa'

'fresh and bright mind' is written as 'la pa ni dh'

'in mind thoughts clear' is written as 'dh pz ma mi'

'intellectual thoughts in mind' is written as 'ma pz dh ga'

16. How is 'mind' written in that code language?

A. pz B. dh

C. mi D. Can't be determined

E. None of these

17. What will be the possible code for 'bright and clear' in the given code language?

A. pa la dh B. mi ga mt

C. la pa mi D. pz ma la

E. None of these

18. In the given code language, what does the code 'ni' stand for?

A. fresh B. mind

C. intellectual D. Can't be determined

E. None of these

19. How is 'thoughts' written in that code language?

A. pz B. ma

C. mi D. either (A) or (B)

E. Only (B) and (C)

20. In the given code language, what does the code 'ga' stand for?

A. intellectual B. mind

C. fresh D. bright

E. None of these

Direction (21-25) : Study the information given below and answer the questions based on it.

Seven persons P, Q, R, S, T, U and V buy cars in different months i.e. June, July, August, September, October, November and December, not necessarily in the same order. U bought a car in a month which was having 30 days but not in September. Three persons bought cars between U and T. Two persons bought cars between T and Q. Three persons bought cars between Q and P. P bought car one of the months before Q. Two persons bought cars between P and V. S bought car one of the months after V.

21. Who among the following bought car in August?
A. P B. R
C. Q D. U
E. V

22. Which of the following does not belongs to the group?
A. T B. R
C. Q D. P
E. S

23. How many persons bought car between P and R?
A. 1 B. 2
C. 3 D. 4
E. 5

24. Which of the following combination is correct?
A. T-June B. P-November
C. S-October D. R-July
E. None is correct

25. How many persons bought car after Q?
A. 1 B. 2
C. 3 D. 4
E. 5

Direction (26-30): In each question below are two or three statements followed by two conclusions numbered I and II. You have to take the two 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.

26. **Statements**
Some pens are erasers
No eraser is pencil.
All pencils are books.
Conclusions
I. Some books are pens.
II. All pens can never be pencils.
A. Only conclusion I follow.
B. Only conclusion II follows.
C. Either conclusion I or II follows
D. Neither conclusion I nor II follows
E. Both conclusions I and II follows

27. **Statements:**
All ropes are sticks.
No stick is pencil.
Some pencils are knives.
Conclusions:
I. Some knives are ropes.
II. Some knives are sticks.
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 Conclusions I and II follow.

28. **Statements:**
All sweet are sour.
No sour is tasty.
All tasty are food.
Conclusions:
I. All sweet being food is a possibility.
II. No sweet is tasty.
A. Only I follows
B. Only II follows
C. Either I or II follows
D. Neither I nor II follows
E. Both I and II follow

29. **Statements**:
Some Army is Force.
All Army are Navy.
All Navy are Police.
Conclusions:
I. Some Police are Army.
II. Some Force can never be Police.
A. Only I follows
B. Only II follows
C. Either I or II follows
D. Neither I nor II follows
E. Both I and II follow

30. **Statements:**
Some poor are rich.
All rich are doctors.
Some intelligent are doctors.
Conclusions:
I. All intelligent being doctors is a possibility.
II. Some poor are doctors.
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 conclusions I and II follows

Directions (31-35) Study the following information carefully and answer the given questions.

P, Q, R, S, T, U, V and X are sitting around a circular table. Three of them are facing outside and the rest of them are facing inside.

Q sits third to the right of P and faces outside. R sits to the opposite of Q and facing inside. U sits to the immediate left of R and is facing in the same direction as R. V sits third to the right of U. Q and V faces in the same direction. The one sitting between Q and V is facing the direction opposite to them. X sits immediate left of S who is facing inside. The immediate neighbours of Q are facing in the opposite direction of each other.

31. Who sits second to the left of U?

A. P B. S
C. X D. V
E. Cannot be determined

32. What is the position of V with respect to X?

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

33. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?

A. U B. P
C. R D. V
E. T

34. How many persons are sitting in between U and T if we start from T in clockwise direction?

A. Two
B. Three
C. More than three
D. One
E. None

35. Who is sitting third to the right of X?

A. U B. V
C. R D. T
E. None of these

Directions(36-40): Study the information given below and answer the questions based on it.

Twelve people are sitting in two parallel rows containing six people each, in such a way that there is an equal distance between adjacent persons. In row 1, M, N, O, P, Q and R seated and all of them are facing south. In row 2, A, B, C, D, E and F are seated and all of them are facing north. Each member in row 1 is facing another member of row 2.

Two persons are sitting between M and N. Neither of them is at corner. The one who is facing D is neighbor of N. O is 2 nd to the right of Q. O is not neighbor of N. The one who is facing O is 2 nd to the left of F. More than two people sit between C and B. More than 2 people sit between E and the one who is facing M. The immediate neighbor of R is facing B. P is not sitting any extreme end of the line.

36. Who among the following does not belongs to the group?

A. O B. C
C. B D. E
E. R

37. Who is facing P?

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

38. How many persons sit between O and N?

A. None B. 1
C. 2 D. 3
E. 4

39. Who among the following is 3 rd to the left of Q?

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

40. Which of the following pair is facing each other?

A. Q-D B. B-P
C. A-M D. C-N
E. D-Q

Quantitative Aptitude

Direction (1-5): What should come in place of question mark (?) in the following number series?

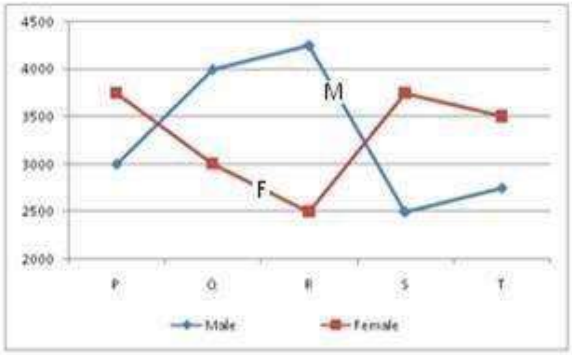
1. 131, 67, 35, 19, 11, ?
   A. 9 B. 7
   C. 6 D. 5
2. 25, 28, 22, 31, 19, ?
   A. 39 B. 29
   C. 34 D. 24
   E. None of these
3. 7, 4.5, 6, 11, ?
   A. 24.5 B. 20.5
   C. 22.25 D. 22.5
   E. 18
4. 1, 4, 9, 18, 35, ?
   A. 65 B. 68
   C. 54 D. 59
   E. None of these
5. 3.5, 4, 8, 27, ?, 767
   A. 258 B. 147
   C. 267 D. 129
   E. None of these

Direction (6-10): In the following question two equations are given. You have to solve both and establish the relation between given variables:

6. I. $2x^2 + 11x + 14 = 0$
   II. $2y^2 + 13y + 21 = 0$
   A. X > Y B. X ≥ Y
   C. X < Y D. X ≤ Y
   E. X = Y or the relationship cannot be established
7. I. $x^2 - 9x + 20 = 0$
   II. $y^2 = 16$
   A. X > Y B. X ≥ Y
   C. X < Y D. X ≤ Y
   E. X = Y or the relationship cannot be established
8. I. $x^2 - 7x + 12 = 0$
   II. $y^2 - 11y + 30 = 0$
   A. X > Y B. X ≥ Y
   C. X < Y D. X ≤ Y
   E. X = Y or the relationship cannot be established
9. I. $x^2 - 8x + 15 = 0$
   II. $y^2 - 12y + 36 = 0$
   A. X > Y B. X ≥ Y
   C. X < Y D. X ≤ Y
   E. X = Y or the relationship cannot be established
10. I. $2x^2 + 9x + 7 = 0$
    II. $y^2 + 4y + 4 = 0$
    A. X > Y B. X ≥ Y
    C. X < Y D. X ≤ Y
    E. X = Y or the relationship cannot be established

Directions (11-15): Study the following graph carefully and answer the questions given below-

The following line graph gives the number of Students Studying in Different Universities in a year



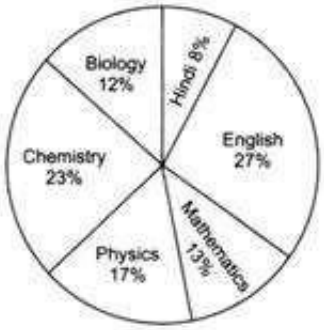
11. What is the average number of females in all the Universities together?
    A. 3300 B. 3400
    C. 3800 D. 3100
    E. None of these
12. What is the Ratio between number of students (males and females together) in University P to R?
    A. 1:2 B. 1:1
    C. 2:1 D. 1:3
    E. None of these
13. What is the respective ratio of the number of females from university P and Q together to the number of males in the University R and T together?
    A. 27 : 32 B. 27 : 28
    C. 25 : 28 D. 28 : 27
    E. None of these

14. The number of males in University Q is approximately what percent of the total number of Female students in all Universities together?
A. 28% B. 30%
C. 18% D. 24%
E. 34%

15. If the total number of males in University T increases by 50%, what would be the total number of students (males and females together) in that University?
A. 7526 B. 7825
C. 7625 D. 7527
E. None of these

Directions (16-20): Study the following Pie-chart carefully to answer these questions.

Percentage-wise Distribution of Teachers who Teach Six Different Subjects Total Number of Teachers = 1800 Percentage of Teachers



16. If two-ninth of the teachers who teach Physics is female, then number of male Physics teachers is **approximately** what percentage of the total number of teachers who teach Chemistry?
A. 57 B. 42
C. 63 D. 69
E. 51

17. What is the total number of teachers teaching Chemistry, English and Biology?
A. 1226 B. 1116
C. 1176 D. 998
E. None of these

18. What is the difference between the total number of teachers who teach English and Physics together and the total number of teachers who teach Mathematics and Biology together?
A. 352 B. 342
C. 643 D. 653
E. None of these

19. What is the **respective** ratio of the number of teachers who teach Mathematics and the number of teachers who teach Hindi?
A. 13 : 7 B. 7 : 13
C. 7 : 26 D. 8 : 15
E. None of the above

20. If the percentage of Mathematics teachers is increased by 50 per cent and percentage of Hindi teachers decreased by 25 per cent then what will be the total number of Mathematics and Hindi teachers together?
A. 390 B. 379
C. 459 D. 480
E. None of these

Directions (21-25) Go through the data given in the table below and solve the questions that follow.
The table consists of details of students who appeared for 2 subjects, 'Physics' and 'Chemistry' and the percentage who passed these
subjects from ABC college from the year, 2011 to 2015.

Year	Physics		Chemistry	
	Total number of students appeared	Percentage of Students Passed	Total number of students appeared	Percentage of Students Passed
2011	650	30	800	50
2012	250	70	630	30
2013	350	50	550	20
2014	600	60	300	80
2015	350	70	200	40

21. What is the average number of students, who appeared for Physics from the year, 2011 to 2015?
A. 440 B. 400
C. 480 D. 380
E. None of these

22. Calculate the ratio, between the total number of students who appeared for Physics from 2013 to 2015 and the total number of students, who appeared for Chemistry from 2011 to 2013?
A. 13: 201 B. 63: 99
C. 64: 99 D. 65: 99
E. None of these

23. What is the average number of students, who did not pass in Physics in the year 2011 and 2015 together?
A. 320 B. 280
C. 300 D. 260
E. 240

24. Calculate the difference between the total number of students, who passed in Chemistry in 2011 and the total number of students who did not pass in Physics in 2015?
A. 485 B. 395
C. 535 D. 295
E. None of these

25. The total number of students, who did not pass Physics in 2013 is approximately what percent of the total number of students, who did not pass Chemistry in 2013?
A. 45% B. 40%
C. 42% D. 56%
E. 58%

Direction (26-30): What approximate value should come in place of the question mark (?) in the following equation (Note: You are not expected to calculate the exact value)?

26. 21.003 × 39.998 – 209.91 = 126 × ?
A. 5 B. 4
C. 3 D. 2
E. 6

27. (47% of 1442 - 36% of 1412) ÷ 63=?
A. 4 B. 5
C. 3 D. 6
E. 1

28. 2418.065 + 88 ÷ 14.2 × 6 = ?
A. 1059 B. 2419
C. 2496 D. 2455
E. 1985

29. 1201 ÷ 14.99 × 19.91 + 400.01 =?
A. 1700 B. 1850
C. 1800 D. 1950
E. 2000

30. 15.2% of 726 × 12.8% of 643 = ?
A. 9110 B. 9088
C. 9100 D. 9096
E. 9082

31. The average of five positive numbers is 128. The average of the first two numbers is 118 and the average of last two numbers is 126. What is the third number?
A. 152 B. 56
C. 86 D. Cannot be determined
E. None of these

32. 4 years ago, the ratio of $\frac{1}{2}$ of Anita's age at that time and four times of Bablu's age at that time was 5 : 12. Eight years hence, $\frac{1}{2}$ of Anita's age at that time will be less than Bablu's age at that time by 2 years. What is Bablu's present age?
A. 10 years B. 24 years
C. 9 years D. 15 years
E. 18 years

33. A man sold an article at a loss of 20%. If he had sold that article for Rs. 24 more then he would have gained 10%. Find the cost price of that article:
A. Rs. 120 B. Rs. 80
C. Rs. 90 D. Rs. 112
E. None of these

34. A started a business with investing Rs. 8000 and after some months, B joined with investing Rs. 5000. At the end of one year, total profit was Rs. 4250 and share of A is Rs. 3000. After how many months did B join?
A. 4 B. 5
C. 2 D. 1
E. Date inadequate

35. Train P crosses a pole in 6 sec. Train Q coming from opposite direction crosses a bogie of train P of length 1/3 of train P in 4 seconds. Length of Train P and Train Q are in the ratio 5 : 4. Find the speed of Train P, if the speed of Train Q is 21 m/s.

A. 60 m/s B. 50 m/s
C. 40 m/s D. 30 m/s
E. 20 m/s

36. One ball is picked up randomly from a bag containing 8 yellow, 7 blue and 6 black balls. What is the probability that it is neither yellow nor black?

A. 3/4 B. 4/7
C. 2/9 D. 1/3
E. None of the above

37. A and B together can do a piece of work in 60 days, A and C can do the same work in 45 days. The ratio of Work efficiency of B and C is 1:2. In how many days they together can do the same work?

A. 30 days B. 25 days
C. 24 days D. 36 days
E. None of these.

38. Swami brought pulses of worth INR 32/kg and INR 45/kg. He mixed them with a third variety in the ratio 1 : 1 : 2. If the mixture is worth INR 88/kg, then the price of the third variety per kg will be:

A. 169.50 B. 137.50
C. 175.50 D. 145.50
E. None of the above

39. The speed of a boat in still water is (27/4) km/hr. The time required to travel a certain distance upstream is five times than that of downstream for the same distance. Find the speed of the stream.

A. 3.5 km/hr. B. 7.6 km/hr.
C. 5.8 km/hr. D. 4.5 km/hr.
E. 2.8 km/hr.

40. The ratio of Curved Surface Area to Total Surface Area of Cylinder is 3:5. If the curved surface area of the cylinder is 1848 metre square, find the height of the cylinder.

A. 25m B. 27m
C. 21m D. 28m
E. None of these

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