



**PHASE 01**



**YEAR  
2023**

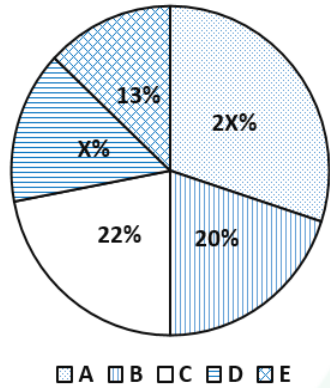
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**Quantitative Aptitude**

**Instruction for Q.111 to Q.115**

Consider the below information about 200 laptops being sold by five different stores amongst A, B, C, D and E in the month of April 2022.



**Q.111)**

Average number of laptops sold by E, B, C and D is \_\_\_\_\_ times of average of number of laptops sold by A, D, E and C together.

- (a) 5/6
- (b) 4/5
- (c) 7/8
- (d) 8/9
- (e) can't be determined

**Q.112)**

If total laptops sold by K is 150% of that of E and out of the total laptops sold by K, 33.33% are gaming laptops and rest are non-gaming laptops. Find the number of non-gaming laptops sold by K.

- (a) 39
- (b) 26
- (c) 21
- (d) 13
- (e) 30

**Q.113)**

Find the central angle (in degrees) for store A.

- (a) 120
- (b) 144
- (c) 72
- (d) 108
- (e) 54

**Q.114)**

Assume the total number of laptops sold by these 5 stores in May 2022 is 400. The percentage share of B and E is interchanged while for the rest it is the same as given. Find the difference between the number of laptops sold by store B and C in May 2022.

- (a) 32
- (b) 28
- (c) 8
- (d) 36
- (e) 40

**Q.115)**

In the next month, the number of laptops sold by store C increased by 25% and the number of laptops sold by store D reduced by one-fifth. What is the average of total number of laptops sold by all the five stores together in the next month?

- (a) 39
- (b) 41
- (c) 42
- (d) 40
- (e) 44

**Q.116)**

Consider the below series:

12, 21, 46, 95, 176, X, Y

What is the sum of X and Y?

- (a) 737
- (b) 805
- (c) 798
- (d) 712
- (e) 763

**Q.117)**

Below are given two series which follow certain pattern.

There are two missing values X and Y.

Series I: 158, 78, 38, 18, 8, X

Series II: 9, Y, 46, 84, 135, 199

Which of the following statements is/are true?

- 1)  $X = 7Y$
- 2)  $3 < X < Y < 21$
- 3)  $4(Y + 3.5) = 11(X)^2 - 1$

- (a) Both 1 and 2
- (b) Both 1 and 3
- (c) Only 3
- (d) All 1, 2 and 3
- (e) None

**Instruction for Q.118 to Q.119**

Read the given information and answer the below questions.

Consider the below two quadratic equations:

I.  $4x^2 - 16x + C = 0$

II.  $2y^2 - 3y + 1 = 0$

One of the roots of equation I is 1.5

**Q.118)**

Find the sum of the largest roots of equation I and II.

- (a) 3.5
- (b) 4.5
- (c) 3
- (d) 4
- (e) 5.5

Q.119)

Find the sum of the digits of C.

- (a) 5 (d) 6  
(b) 4 (e) 7  
(c) 8

**Instruction for Q.120 to Q.121**

Read the given information and answer the below questions.

Certain students comprising of boys and girls are studying in an institute which has three sections A, B and C. The ratio of boys and girls is 3 : 5. 50% students are in section A. The number of girls in section B is equal to the number of boys in section C. The number of boys in section A is equal to the number of students in section B. 30% of the girls are in section C.

Q.120)

Let P = number of girls in section B and let Q = number of boys in section A.

Which of the following statements are correct?

- I) P is approximately 67% of Q  
II)  $33\frac{1}{3}\%$  of total number of girls = 20% of total boys = P  
III)  $3P = 2Q$

- (a) Only II and III (d) Only III  
(b) Only I (e) Only I and III  
(c) All I, II and III

Q.121)

What percent boys are in section B?

- (a) 33.33% (d) 15%  
(b) 16.67% (e) 20%  
(c) 25%

Q.122)

Ansh borrowed 80 books from library A and 120 from library B. Some books are of English language while some are of regional languages. X% of total books were in English language. Number of books in regional language are equal to 1.25 times the books in library B. What is the value of X?

- (a) 50 (d) 20  
(b) 33.33 (e) 40  
(c) 25

Q.123)

Consider the below given two equations. You are given two quantities below the equations namely QI and QII. You are required to calculate both the quantities and then compare them.

Y:  $ax^2 - bx + 1 = 0$ ; where  $4 < a < b < 8$  and 'a' and 'b' are

distinct whole numbers

Z:  $d/e + c/f - 1 = 3$ ; where  $1 < e, c, f < d < 7$  and 'd', 'e', 'c' and 'f' are all distinct whole numbers

Quantity I:

Value of smallest root of Y

Quantity II:

Value of reciprocal of smallest number among d, c, e and f

- (a)  $QI > QII$   
(b)  $QI < QII$   
(c)  $QI \leq QII$   
(d)  $QI \geq QII$   
(e)  $QI = QII$  or no relation can be established

Q.124)

Below are given two expressions and then two quantities (QI and QII) below it. Compare the two quantities and mark your answer accordingly.

Expression 1:  $1/a + 1/b + 1$ Expression 2:  $a^3 - b^2 - 4$  $3 < a < b < 10$ 

And a and b are integers

Quantity I:

Maximum value of expression 1 + Minimum value of expression 2

Quantity II:

(- 9)

- (a)  $QI > QII$   
(b)  $QI < QII$   
(c)  $QI \leq QII$   
(d)  $QI \geq QII$   
(e)  $QI = QII$  or no relation can be established

Q.125)

Anshu invested Rs. P in scheme X for 3 years at Compound Interest @ 20% per annum and Ronit invested  $36\frac{2}{5}\%$  of P for T years in scheme Y at Simple Interest @ 10% per annum. Interest earned is equal in both the schemes.

Which of the following statement(s) is/are correct?

- I. P is greater than 3000.  
II. T is greater than 19.  
III. P is certainly a multiple of 250.  
IV. T is less than 25.

- (a) I, II and IV only (d) II and IV only  
(b) II, III and IV only (e) All I, II, III and IV  
(c) II only

**Q.126)**

Consider the below statements and then answer the question accordingly:

- I.  $X$  is a two digit number in which the tenth digit is 'B' and the unit digit is 'A'; where  $A$  is greater than 1 and  $A < B$ .
- II. Unit digits of  $A^2, A^3, A^4$  are same, where  $A$  is unit digit of given number.
- III. Multiplication of both 'A' and 'B' is a multiple of 7.

If  $Y$  is the number obtained on interchanging the digits of  $X$ , then,  $Y$  is closest to,

- (a) 69
- (b) 58
- (c) 76
- (d) 64
- (e) 74

**Q.127)**

$P$  litres of mixture contains milk and water, in which water is 25%.

Which of the following statements is/are true?

- 1) If  $P/4$  litres of water is added to the mixture, then water becomes 40% of the total mixture.
- 2) If  $9P/44$  litres of milk is removed from the mixture and replaced with same quantity of water, then the ratio of milk and water becomes 6:5.
- 3) 20% of the mixture is removed and replaced with water. This process is repeated one more time. The ratio of milk and water now is 24:25.

- (a) Only 1
- (b) Only 1 and 2
- (c) Only 2 and 3
- (d) Only 1 and 3
- (e) None of these

**Q.128)**

A circle of radius " $r$ " metre is inscribed in a rectangle of length  $Y$  metre such that the circle touches both the sides of the rectangle. The cost of fencing the circle and rectangle is Rs 4620 and Rs 8820 respectively. The cost of fencing per metre is the same for both circle and rectangle. Find the perimeter of a square inscribed inside the circle.

- (a)  $2\sqrt{2}Y$  metres
- (b)  $\sqrt{2}Y/3$  metres
- (c)  $3Y/\sqrt{2}$  metres
- (d)  $\sqrt{2}Y$  metres
- (e)  $2Y$  metres

**Q.129)**

In which of the following statements, profit percentage are equal?

- I. An article with cost price of Rs 2200 and marked price of Rs 3162.50 which is offered at a discount of 20%.
- II. An article is sold for Rs 8400 whose marked price is Rs 10800 which is 150% of the cost price of the article.
- III. An article is sold at a discount of Rs 1650 which is equal

to 20%. The profit earned is Rs 1100.

IV. An article whose cost price is Rs 4200 is sold at a discount of 25% on the list price. The discount offered is Rs 1610.

- (a) II and III only
- (b) I and II only
- (c) II and IV only
- (d) III and IV only
- (e) I and IV only

**Instruction for Q.130 to Q.134**

Consider the below data about 5 watches as follows:

Watches	Loss	Discount %	Marked Price
A	----	23	1800
B	140	15	----
C	228	22	----
D	142	11	2200
E	----	----	1200

Average loss of B, C, D and E is 183.25

**Q.130)**

If the cost price of watch A is 80% of the cost price of watch D, then what is the loss incurred on selling watch A?

- (a) Rs 294
- (b) Rs 223
- (c) Rs 284
- (d) Rs 420
- (e) Rs

**Q.131)**

Considering the additional information given in the previous question, what is the average loss incurred on all the five watches?

- (a) Rs 204.4
- (b) Rs 207.4
- (c) Rs 203.4
- (d) Rs 205.4
- (e) Rs 206.4

**Q.132)**

If the loss percentage incurred on watch B is 16%, then the marked price of watch B is approximately how much percent of the marked price of watch E?

- (a) 75%
- (b) 64%
- (c) 72%
- (d) 61%
- (e) 84%

**Q.133)**

If the average of the marked price of watches B, C and D is Rs 2400 and the ratio of the marked price of watches B and C is 16 : 9, then find the sum of the cost price of watches B

and C?

- (a) Rs 4352 (d) Rs 4124  
 (b) Rs 4264 (e) Rs 4492  
 (c) Rs 5000

**Q.134)**

If the ratio of cost price and marked price for watch B is 6 : 7, then find the selling price of watch B.

- (a) Rs 16380 (d) Rs 16800  
 (b) Rs 16660 (e) Rs 17240  
 (c) Rs 19600

**Instruction for Q.135 to Q.138**

Read the given information and answer the below questions.

A game is being played consisting of three rounds. Only 4 balls are being played in each round.

In round I, on each ball either 2 or 4 points are being scored

In round II, on each ball either 3 or 6 points are being scored

In round III, on each ball either 1 or 5 points are being scored

- Difference between points scored on 1<sup>st</sup> ball in round I and II is 4.
- Average points scored on 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> ball in round I is  $3\frac{1}{3}$ .
- Points scored on 2<sup>nd</sup> ball in round II is less than points scored on 2<sup>nd</sup> ball in rounds I and III individually
- Points scored on 3<sup>rd</sup> ball in rounds II and III together is 11
- Points scored on 1<sup>st</sup> and 4<sup>th</sup> ball in round III is less than that scored on 2<sup>nd</sup> and 3<sup>rd</sup> ball
- Runs scored on 4<sup>th</sup> ball in rounds I, II and III together is 8
- Runs scored on all balls on round 3 together is not more than 12.

**Q.135)**

What is the difference between the runs scored on Ball 1 in round II and runs scored on ball 4 in round III?

- (a) 6 (d) 3  
 (b) 5 (e) 2  
 (c) 4

**Q.136)**

What is the average of runs scored on all balls in round II?

- (a) 3 (d) 4.5  
 (b) 3.75 (e) 5  
 (c) 3.5

**Q.137)**

On which ball were the highest runs scored taking all the

rounds together?

- (a) Ball 1  
 (b) Ball 2  
 (c) Ball 3  
 (d) Ball 4  
 (e) There are two balls on which same highest number of runs were scored

**Q.138)**

Which of the following statements is correct?

- (a) The maximum runs were scored on ball 3 of round III.  
 (b) The runs scored on ball 4 in round II is more than the runs scored on the same ball in round I.  
 (c) The total runs scored in round III is 8.  
 (d) Average runs scored on ball 3 is 5.  
 (e) The sum of runs scored on ball 3 of round II and ball 2 of round III is 10.

**Q.139)**

Find the ratio of age of Rahul after 6 years and age of Tina before 2 years.

**Statement 1:**

The sum of present ages of Rahul and Tina is 88 years.

**Statement 2:**

Tina is 26 years and 16 years younger than Rahul and Anjali respectively.

**Statement 3:**

Ratio of present ages of Rahul and Anjali is 7:6.

The answer can be calculated by using

**I. 1 and 2 together**

**II. 2 and 3 together**

**III. 1 and 3 together**

- (a) Only I (d) Both II and III  
 (b) Both I and II (e) None of these  
 (c) Both I and III

**Q.140)**

A car with speed of  $x$  km/hr can cover a distance of  $2d$  km in 8 hrs. Speed of a boat in still water is  $x$  km/hr and speed of the current is  $y$  km/hr. The boat can travel  $d$  km upstream and return to the initial point in  $8\frac{1}{3}$  hrs. Time taken by the boat to cover 72 km downstream is 2 hrs more than to cover 24 km upstream. Find the time taken by the boat to cover 108km in still water.

- i.  $(2y(x+y))/x$   
 ii.  $\{3y(x-y)\} / x$   
 iii.  $\{2x(x+y)\} / y$

- (a) Only i and iii
- (b) Only ii
- (c) Only i and ii
- (d) All i, ii and iii
- (e) None of the above

