

SSC CPO Exam Paper - 2017 "held on 03 July 2017" Shift-1

(Quantitative Aptitude)

QID : 101 - If $1/N = (\sqrt{6} + \sqrt{5})/(\sqrt{6} - \sqrt{5})$, then what is the value of N?

Options:

- 1) $6 - \sqrt{30}$
- 2) $6 + \sqrt{30}$
- 3) $11 - 2\sqrt{30}$
- 4) $11 + 2\sqrt{5}$

Correct Answer: $11 - 2\sqrt{30}$

QID : 102 - What is the value of positive square root of $69 + 28\sqrt{5}$?

Options:

- 1) $7 + 2\sqrt{5}$
- 2) $7 - 2\sqrt{5}$
- 3) $2 + 7\sqrt{5}$
- 4) $2 - 7\sqrt{5}$

Correct Answer: $7 + 2\sqrt{5}$

QID : 103 - $3^{11} + 3^{12} + 3^{13} + 3^{14}$ is divisible by ____.

Options:

- 1) 7
- 2) 8
- 3) 11
- 4) 14

Correct Answer: 8

QID : 104 - A boy added all natural numbers from 1 to 12, however he added one number twice

due to which the sum becomes 80. What is the number which he added twice?

Options:

- 1) 3
- 2) 2
- 3) 7
- 4) 8

Correct Answer: 2

QID : 105 - What smallest value must be added to 508, so that the resultant is a perfect square?

Options:

- 1) 4
- 2) 9
- 3) 18
- 4) 21

Correct Answer: 21

QID : 106 - Raman is 25% more efficient than Aman. If Aman can complete a piece of work in 25 days, then Raman can complete the same work in how many days?

Options:

- 1) 12
- 2) 15
- 3) 16
- 4) 20

Correct Answer: 20

QID : 107 - A and B together can complete a work in 30 day. They started together but after 6 days A left the work and the work is completed by B after 36 more days. A alone can complete the entire work in how many days?

Options:

- 1) 45
- 2) 90
- 3) 60
- 4) 120

Correct Answer: 90

QID : 108 - The marked price of an article is 40% more than its cost price. If 10% discount is given, then what is the profit percentage?

Options:

- 1) 10
- 2) 20
- 3) 26
- 4) 32

Correct Answer: 26

QID : 109 - What will be the net discount (in percent) after giving three successive discounts of 10%, 20% and 30%?

Options:

- 1) 50.4
- 2) 49.6
- 3) 45.3
- 4) 48.4

Correct Answer: 49.6

QID : 110 - The ratio of two numbers is 3 : 5. If both numbers are increased by 8, the ratio becomes 13 : 19. What is the sum of the two numbers?

Options:

- 1) 32
- 2) 48
- 3) 40
- 4) 72

Correct Answer: 48

QID : 111 - If $3A = 5B$, then what is the value of $(A + B)/B$?

Options:

- 1) $8/3$
- 2) $8/5$
- 3) $5/8$
- 4) $5/3$

Correct Answer: $8/3$

QID : 112 - What is the average of first 29 even numbers?

Options:

- 1) 30
- 2) 31
- 3) 32
- 4) 33

Correct Answer: 30

QID : 113 - The average of 5 consecutive odd numbers is 27. What is the product of the first and the last number?

Options:

- 1) 621
- 2) 667
- 3) 713
- 4) 725

Correct Answer: 713

QID : 114 - A man bought 9 pens for a rupee. How many pens should he sell for a rupee to gain 50%?

Options:

- 1) 3
- 2) 6

- 3) 7
- 4) 8

Correct Answer: 6

QID : 115 - On an article the profit is 210% of the cost price. If the cost price increase by 40% but the selling price remains constant, then approximately what percentage of selling price will be the profit?

Options:

- 1) 55
- 2) 62
- 3) 74
- 4) 85

Correct Answer: 55

QID : 116 - If the price of apple increases from Rs 80/kg to Rs 100/kg, then by what percentage a person should decrease the consumption of apple so that his expenditure remains same?

Options:

- 1) 25
- 2) 22
- 3) 20
- 4) 18

Correct Answer: 20

QID : 117 - If 25% of a number is 6, then what is the number which is 50% more than the initial number?

Options:

- 1) 36
- 2) 24
- 3) 30
- 4) 18

Correct Answer: 36

QID : 118 - A boat travels 60 kilometers downstream and 20 kilometers upstream in 4 hours. The same boat travels 40 kilometers downstream and 40 kilometers upstream in 6 hours. What is the speed (in km/hr) of the stream?

Options:

- 1) 24
- 2) 16
- 3) 18
- 4) 20

Correct Answer: 16

QID : 119 - 50 trees are standing in a line such that distance between any two consecutive trees is same. A car takes 18 seconds to travel from 13th tree to 34th tree. How much time (in seconds) will it take to reach from 1st tree to 50th tree?

Options:

- 1) 42
- 2) 42.85
- 3) 45
- 4) 49

Correct Answer: 42

QID : 120 - What will be the amount on Rs 12500 at the rate of 20% per annum compounded yearly for 3 years?

Options:

- 1) 21080
- 2) 21560
- 3) 20600
- 4) 21600

Correct Answer: 21600

QID : 121 - A certain sum becomes 7 times in 8 years, at simple interest, then in how many years it will become 19 times?

Options:

- 1) 15
- 2) 18
- 3) 28
- 4) 24

Correct Answer: 24

QID : 122 -

The table given below shows the runs scored by 5 players in four matches.

नीचे दी गई तालिका में 5 खिलाड़ियों के द्वारा चार मैचों में बनाए गए रनों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	I	II	III	IV
A	70	105	55	135
B	40	35	95	72
C	60	68	75	85
D	95	45	55	60
E	105	110	125	122

What is the difference between total runs scored by A and B in four matches?

Options:

- 1) 111
- 2) 123
- 3) 98
- 4) 135

Correct Answer: 123

QID : 123 -

The table given below shows the runs scored by 5 players in four matches.

नीचे दी गई तालिका में 5 खिलाड़ियों के द्वारा चार मैचों में बनाए गए रनों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	I	II	III	IV
A	70	105	55	135
B	40	35	95	72
C	60	68	75	85
D	95	45	55	60
E	105	110	125	122

Runs scored by C in match II is how much percent more than the runs scored by C in match I?

Options:

- 1) 11.76
- 2) 16.66
- 3) 17.12
- 4) 13.33

Correct Answer: 13.33

QID : 124 -

The table given below shows the runs scored by 5 players in four matches.

नीचे दी गई तालिका में 5 खिलाड़ियों के द्वारा चार मैचों में बनाए गए रनों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	I	II	III	IV
A	70	105	55	135
B	40	35	95	72
C	60	68	75	85
D	95	45	55	60
E	105	110	125	122

Runs scored by A in match II is what percent of the total runs scored by these five players in match II?

Options:

- 1) 71.07
- 2) 35.14
- 3) 28.92
- 4) 55.13

Correct Answer: 28.92

QID : 125 -

The table given below shows the runs scored by 5 players in four matches.

नीचे दी गई तालिका में 5 खिलाड़ियों के द्वारा चार मैचों में बनाए गए रनों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	I	II	III	IV
A	70	105	55	135
B	40	35	95	72
C	60	68	75	85
D	95	45	55	60
E	105	110	125	122

What is the correct order of averages of the given players in the 4 matches?

Options:

- 1) $E > A > C > D > B$
- 2) $E > A > D > C > B$
- 3) $A > E > C > D > B$
- 4) $A > E > B > C > D$

Correct Answer: $E > A > C > D > B$

QID : 126 - A solid metallic sphere of radius 21 cm is melted and recast into a cone with diameter of the base as 21 cm. What is the height (in cm) of the cone?

Options:

- 1) 336
- 2) 112
- 3) 224
- 4) 66

Correct Answer: 336

QID : 127 - The radius of a wheel is 3.5 cm. What is the distance (in cm) travelled by the wheel in 20 revolutions?

Options:

- 1) 220
- 2) 440
- 3) 880
- 4) 1320

Correct Answer: 440

QID : 128 - If the perimeter of a square is 44 cm, then what is the diagonal (in cm) of the square?

Options:

- 1) $11\sqrt{2}$
- 2) $2\sqrt{11}$
- 3) 11
- 4) $44\sqrt{2}$

Correct Answer: $11\sqrt{2}$

QID : 129 - What is the curved surface area (in cm^2) of a cylinder having radius of base as 14 cm and height as 10 cm?

Options:

- 1) 440
- 2) 880
- 3) 220
- 4) 1320

Correct Answer: 880

QID : 130 - Three circles of radius 63 cm are placed in such a way that each circle touches the other two. What is the area of the portion enclosed by the three circles?

Options:

- 1) $7938\sqrt{3} - 4158$
- 2) $3969\sqrt{3} - 4158$
- 3) $7938\sqrt{3} - 6237$
- 4) $3969\sqrt{3} - 6237$

Correct Answer: $3969\sqrt{3} - 6237$

QID : 131 - If $(x/y)^{5a-3} = (y/x)^{17-3a}$, then what is the value of a?

Options:

- 1) -7
- 2) -5
- 3) 0
- 4) 3

Correct Answer: -7

QID : 132-

What is the value of $\left(\frac{x^2 - x - 6}{x^2 + x - 12}\right) \div \left(\frac{x^2 + 5x + 6}{x^2 + 7x + 12}\right)$?

$\left(\frac{x^2 - x - 6}{x^2 + x - 12}\right) \div \left(\frac{x^2 + 5x + 6}{x^2 + 7x + 12}\right)$ का मान क्या है?

Options:

- 1) 1
- 2) $(x - 3)/(x + 3)$
- 3) $(x + 4)/(x - 3)$
- 4) $(x - 3)(x + 4)$

Correct Answer: 1

QID : 133 -

If $x^2 + \frac{1}{x^2} = \frac{7}{4}$ for $x > 0$, then what is the value of

$$x^3 + \frac{1}{x^3}?$$

यदि $x > 0$ के लिए $x^2 + \frac{1}{x^2} = \frac{7}{4}$ हो, तो $x^3 + \frac{1}{x^3}$ का मान क्या है?

Options:

- 1) $(3\sqrt{3})/5$
- 2) $(3\sqrt{15})/5$
- 3) $(3\sqrt{15})/8$
- 4) $(3\sqrt{5})/8$

Correct Answer: $(3\sqrt{15})/8$

QID : 134 -

If $x^2 - 8x + 1 = 0$, then what is the value of $x^2 + \frac{1}{x^2}$?

यदि $x^2 - 8x + 1 = 0$ हो, तो $x^2 + \frac{1}{x^2}$ का मान क्या है?

Options:

1) 18

2) 34

3) 40

4) 62

Correct Answer: 62

QID : 135 -

What is the simplified value of

$$\left(x^{32} + \frac{1}{x^{32}}\right)\left(x^8 + \frac{1}{x^8}\right)\left(x - \frac{1}{x}\right)\left(x^{16} + \frac{1}{x^{16}}\right)\left(x + \frac{1}{x}\right)\left(x^4 + \frac{1}{x^4}\right)?$$

$$\left(x^{32} + \frac{1}{x^{32}}\right)\left(x^8 + \frac{1}{x^8}\right)\left(x - \frac{1}{x}\right)\left(x^{16} + \frac{1}{x^{16}}\right)\left(x + \frac{1}{x}\right)\left(x^4 + \frac{1}{x^4}\right)$$

का सरलीकृत मान क्या है?

Options:

1)

$$\left(x^{64} + \frac{1}{x^{64}} \right)$$

2)

$$\frac{\left(x^{64} - \frac{1}{x^{64}} \right)}{\left(x^2 + \frac{1}{x^2} \right)}$$

3)

$$\frac{\left(x^{64} - \frac{1}{x^{64}} \right)}{\left(x + \frac{1}{x} \right)}$$

4)

$$\frac{\left(x^{32} - \frac{1}{x^{32}} \right)}{\left(x + \frac{1}{x} \right)}$$

Correct Answer:

$$\frac{\left(x^{64} - \frac{1}{x^{64}} \right)}{\left(x^2 + \frac{1}{x^2} \right)}$$

QID : 136 - If P is the circum-center in $\triangle ABC$, $\angle BPC = 30^\circ$, then what is the value (in degrees) of $\angle BAC$?

Options:

1) 30

2) 60

3) 75

4) 105

Correct Answer: [No Correct Answer]

QID : 137 - In $\triangle PQR$, $\angle PQR = 90^\circ$, $PQ = 5$ cm and $QR = 12$. What is the radius (in cm) of the circum-circle of $\triangle PQR$?

Options:

1) 6.5

2) 7.5

3) 13

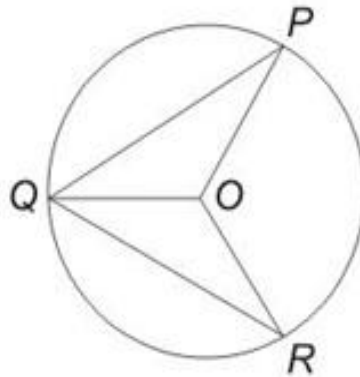
4) 15

Correct Answer: 6.5

QID : 138 -

In the given figure, O is the center of the circle, $\angle PQO = 30^\circ$ and $\angle QRO = 45^\circ$. What is the value (in degrees) of $\angle POR$?

दी गई आकृति में, O वृत्त का केंद्र है, $\angle PQO = 30^\circ$ तथा $\angle QRO = 45^\circ$ है। $\angle POR$ का मान (डिग्री में) क्या है?



Options:

1) 150

2) 110

3) 160

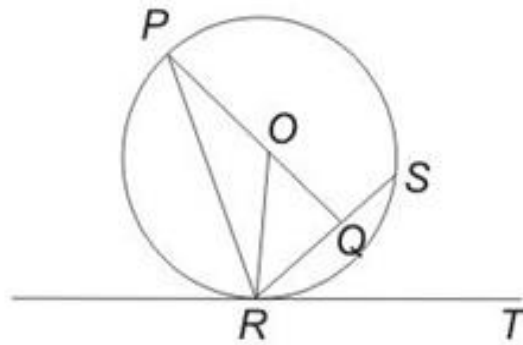
4) 130

Correct Answer: 150

QID : 139 -

In the given figure, O is the centre of the circle, OQ is perpendicular to RS and $\angle SRT = 30^\circ$. If $RS = 10\sqrt{2}$, then what is the value of PR^2 ?

दी गई आकृति में, O वृत्त का केंद्र है, OQ , RS का लम्ब है तथा $\angle SRT = 30^\circ$ है। यदि $RS = 10\sqrt{2}$ है, तो PR^2 का मान क्या होगा?



Options:

- 1) $200(1 + \sqrt{3})$
- 2) $300(2 + \sqrt{3})$
- 3) $200(2 + \sqrt{3})$
- 4) $100(3 + 2\sqrt{3})$

Correct Answer: $200(2 + \sqrt{3})$

QID : 140 - If $\triangle ABC$ is right angled at B , $AB = 30$ and $\angle ACB = 60^\circ$, then what is the value of AC ?

Options:

- 1) 20
- 2) $20\sqrt{3}$
- 3) 40
- 4) 60

Correct Answer: $20\sqrt{3}$

QID : 141 - If $\sin \theta + \cos \theta = \sqrt{3} \cos(90^\circ - \theta)$, then what is the value of $\tan \theta$?

Options:

- 1) $\sqrt{3} - 1$
- 2) $\sqrt{3} + 1$
- 3) $(\sqrt{3} + 1)/2$
- 4) $(\sqrt{3} - 1)/2$

Correct Answer: $(\sqrt{3} + 1)/2$

QID : 142 -

If $\tan A = \frac{1}{3}$ and $\tan B = \frac{2}{5}$, then what is the value of $\tan (2A + B)$?

यदि $\tan A = \frac{1}{3}$ तथा $\tan B = \frac{2}{5}$ है, तो $\tan (2A + B)$ का मान क्या है?

Options:

- 1) 8/15
- 2) 6/13
- 3) 37/115
- 4) 23/14

Correct Answer: 23/14

QID : 143 - What is the simplified value of $[(1 + \sec^2 \theta) \tan^2 \theta] + 1$?

Options:

- 1) $\cos^2 \theta$
- 2) 1
- 3) $\sec^2 \theta$
- 4) $\operatorname{cosec} \theta$

Correct Answer: $\sec^2 \theta$

QID : 144 - What is the simplified value of $[(1 - \cos^2 \theta) \operatorname{cosec}^4 \theta] - \cot^2 \theta$?

Options:

- 1) -1
- 2) 0
- 3) 1
- 4) 3

Correct Answer: 1

QID : 145 - If $\cos (\theta + 31^\circ) = \sin 47^\circ$, then what is the value of $\sin 5\theta$?

Options:

- 1) $1/2$
- 2) $1/\sqrt{2}$
- 3) $\sqrt{3}/2$
- 4) 0

Correct Answer: $\sqrt{3}/2$

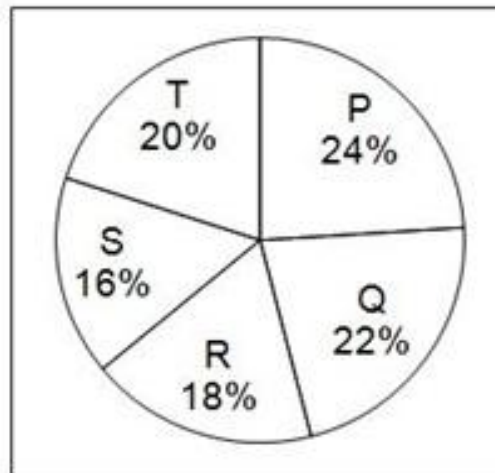
QID : 146 -

The following pie chart shows the expenditure (in percentage) of five companies *P*, *Q*, *R*, *S* and *T* in the year 2016.

Total Expenditure = Rs 48 crores

नीचे दिए गए वृत्त चित्र में वर्ष 2016 में *P*, *Q*, *R*, *S* तथा *T* पाँच कंपनियों के खर्चे (प्रतिशत में) को दर्शाया गया है।

कुल व्यय = 48 करोड़ रु.



What was the total expenditure (in Rs crores) of the company *Q*, *R* and *T* together?

Options:

- 1) 19.2
- 2) 28.8
- 3) 24.3
- 4) 31.4

Correct Answer: 28.8

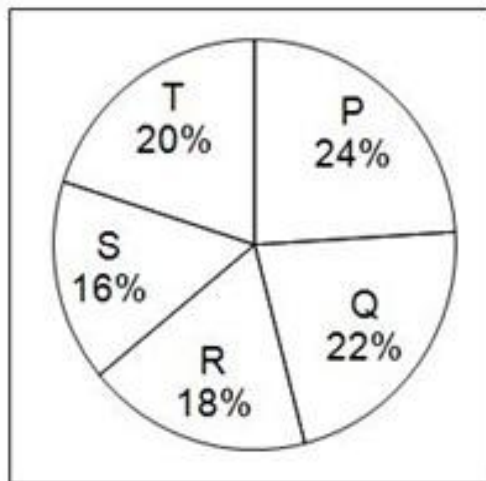
QID : 147 -

The following pie chart shows the expenditure (in percentage) of five companies *P*, *Q*, *R*, *S* and *T* in the year 2016.

Total Expenditure = Rs 48 crores

नीचे दिए गए वृत्त चित्र में वर्ष 2016 में *P*, *Q*, *R*, *S* तथा *T* पाँच कंपनियों के खर्चे (प्रतिशत में) को दर्शाया गया है।

कुल व्यय = 48 करोड़ रु.



By how much percent expenditure of company Q and R together greater than that of company P?

Options:

- 1) 33.33
- 2) 60
- 3) 66.67
- 4) 75

Correct Answer: 66.67

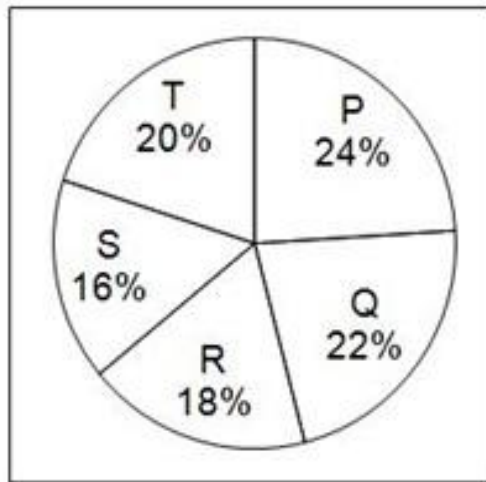
QID : 148 -

The following pie chart shows the expenditure (in percentage) of five companies P , Q , R , S and T in the year 2016.

Total Expenditure = Rs 48 crores

नीचे दिए गए वृत्त चित्र में वर्ष 2016 में P , Q , R , S तथा T पाँच कंपनियों के खर्च (प्रतिशत में) को दर्शाया गया है।

कुल व्यय = 48 करोड़ रु.



What is the respective ratio between the total expenditure of company P , Q and S together to the total expenditure?

Options:

- 1) 31 : 60
- 2) 50 : 31
- 3) 60 : 31
- 4) 31 : 50

Correct Answer: 31 : 50

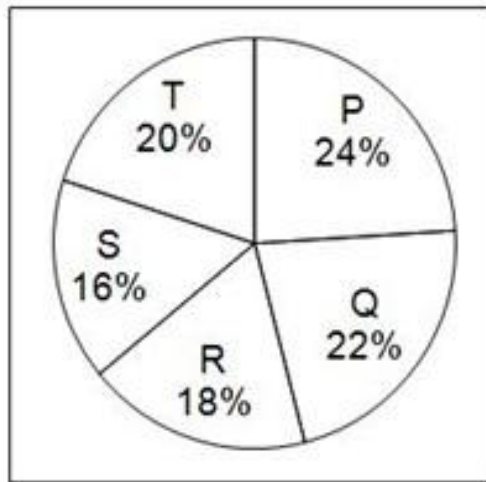
QID : 149 -

The following pie chart shows the expenditure (in percentage) of five companies P , Q , R , S and T in the year 2016.

Total Expenditure = Rs 48 crores

नीचे दिए गए वृत्त चित्र में वर्ष 2016 में P , Q , R , S तथा T पाँच कंपनियों के खर्च (प्रतिशत में) को दर्शाया गया है।

कुल व्यय = 48 करोड़ रु.



Total amount spent by company S is what percent of total amount spent by company T and R ?

Options:

1) 42.1

2) 43

3) 39.68

4) 41

Correct Answer: 42.1

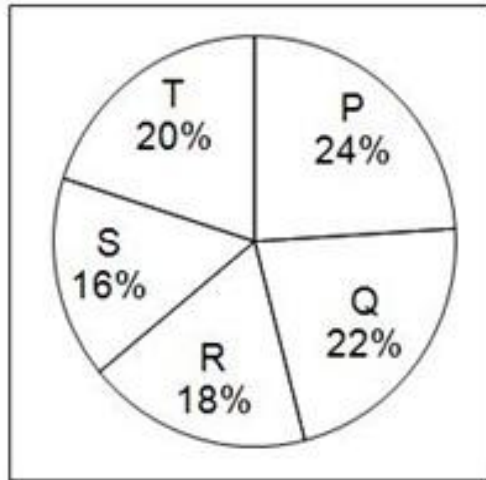
QID : 150 -

The following pie chart shows the expenditure (in percentage) of five companies P , Q , R , S and T in the year 2016.

Total Expenditure = Rs 48 crores

नीचे दिए गए वृत्त चित्र में वर्ष 2016 में P , Q , R , S तथा T पाँच कंपनियों के खर्च (प्रतिशत में) को दर्शाया गया है।

कुल व्यय = 48 करोड़ रु.



The profit earned by company R is equal to the $\frac{1}{4}$ th of the expenditure of company Q . What is the profit (in Rs crores) of company R ?

Options:

1) 3.24

2) 4.84

3) 2.64

4) 5.66

Correct Answer: 2.64