

# SSC CPO Exam Paper - 2017 "held on 03 July 2017" Shift-1 <br> <br> (Quantitative Aptitude) 

 <br> <br> (Quantitative Aptitude)}

QID : 101 - If $1 / \mathrm{N}=(\sqrt{6}+\sqrt{ } 5) /(\sqrt{6}-\sqrt{5})$, 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 $\sqrt{3} 3$
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 $\qquad$ .
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 : $\mathbf{1 0 5}$ - 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 $3 A=5 B$, 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 : $\mathbf{1 1 5}$ - 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 $80 / \mathrm{kg}$ to Rs $100 / \mathrm{kg}$, 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 : $\mathbf{1 1 7}$ - If $\mathbf{2 5 \%}$ 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 $\mathrm{km} / \mathrm{hr}$ ) 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 <br> 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 <br> 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 बताए गए रनों को दर्शाया गया है।

| Player <br> 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 बताए गए रनों को दर्शाया गया है।| Player <br> 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: $\mathrm{E}>\mathrm{A}>\mathrm{C}>\mathrm{D}>\mathrm{B}$
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 $\mathrm{cm}^{2}$ ) 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 $(x / y)^{5 a-3}=(y / x)^{17-3 a}$, then what is the value of $a$ ?
Options:

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

Correct Answer: -7
QID : 132-

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$$
\begin{aligned}
& \text { What is the value of }\left(\frac{x^{2}-x-6}{x^{2}+x-12}\right) \div\left(\frac{x^{2}+5 x+6}{x^{2}+7 x+12}\right) \text { ? } \\
& \left(\frac{x^{2}-x-6}{x^{2}+x-12}\right) \div\left(\frac{x^{2}+5 x+6}{x^{2}+7 x+12}\right) \text { का मान क्या है? }
\end{aligned}
$$

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 -

$$
\begin{aligned}
& \text { If } x^{2}-8 x+1=0 \text {, then what is the value of } x^{2}+\frac{1}{x^{2}} \text { ? } \\
& \text { यदि } x^{2}-8 x+1=0 \text { हो, तो } x^{2}+\frac{1}{x^{2}} \text { का मान क्या है? }
\end{aligned}
$$

## Options:

1) 18
2) 34
3) 40
4) 62

Correct Answer: 62
QID : 135 -
What is the simplified value of

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

का सरलीकृत मान क्या है?

$$
\begin{aligned}
& \text { Options: } \\
& \text { 1) } \left.x^{64}+\frac{1}{x^{64}}\right)_{\text {I }}^{\text {2) }} \\
& \frac{\left(x^{64}-\frac{1}{x^{64}}\right)}{\left(x^{2}+\frac{1}{x^{2}}\right)} \\
& \text { 3) } \\
& \text { 4) }\left(x^{64}-\frac{1}{x^{64}}\right) \\
& \left(x^{32}-\frac{1}{x}\right) \\
& \left.\frac{\left(x+\frac{1}{x}\right)}{x^{32}}\right) \\
& \text { Correct Answer: } \\
& \left(x^{64}-\frac{1}{x^{64}}\right) \\
& \left(x^{2}+\frac{1}{x^{2}}\right)
\end{aligned}
$$

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

1) 30
2) 60
3) 75
4) 105

Correct Answer: [ No Correct Answer ]
QID : 137 - In $\triangle \mathrm{PQR}, \angle \mathrm{PQR}=90^{\circ}, \mathrm{PQ}=5 \mathrm{~cm}$ and $\mathrm{QR}=12$. What is the radius (in cm ) of the circum-circle of $\triangle \mathrm{PQR}$ ?
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, $\angle P Q O$ $=30^{\circ}$ and $\angle Q R O=45^{\circ}$. What is the value (in degrees) of $\angle P O R$ ?

दी गई आकृति में, $O$ वृत का केंद्र है, $\angle P Q O=30^{\circ}$ तथा $\angle Q R O=45^{\circ}$ है। $\angle P O R$ 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, $O Q$ is perpendicular to $R S$ and $\angle S R T=30^{\circ}$. If $R S=10 \sqrt{ } 2$, then what is the value of $P R^{2}$ ?

दी गई आकृति में, $O$ वृत्त का केंद्र है, $O Q, R S$ का लन्ब है
तथा $\angle S R T=30^{\circ}$ है। यदि $R S=10 \sqrt{ } 2$ है, तो $P R^{2}$ 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 : $\mathbf{1 4 0}$ - If $\triangle \mathrm{ABC}$ is right angled at $\mathrm{B}, \mathrm{AB}=30$ and $\angle \mathrm{ACB}=60^{\circ}$, 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 $\sin \theta+\cos \theta=\sqrt{ } 3 \cos (90-\theta)$, 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: $(\sqrt{ } 3+1) / 2$

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QID : 142 -
If $\tan A=\frac{1}{3}$ and $\tan B=\frac{2}{5}$, then what is the value of
$\tan (2 A+B) ?$
यदि $\tan A=\frac{1}{3}$ तथा $\tan B=\frac{2}{5}$ है, तो $\tan (2 A+B)$ 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 $\left[\left(1+\sec ^{2} \theta\right) \tan ^{2} \theta\right]+1$ ?
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 $\left[\left(1-\cos ^{2} \theta\right) \operatorname{cosec}^{4} \theta\right]-\cot 2 \theta$ ? Options:

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

Correct Answer: 1
QID : $\mathbf{1 4 5}$ - If $\cos \left(\theta+31^{\circ}\right)=\sin 47^{\circ}$, 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 $\mathrm{Q}, \mathrm{R}$ 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
तीचे दिए गए वृत्त चित्र में वर्ष 2016 में $P, Q, R, S$ तथा $T$
पाँच कंपतियों 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

तीचे 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 is the respective ratio between the total expenditure of company $\mathrm{P}, \mathrm{Q}$ 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

तीचे 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.


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

तीचे 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.


The profit earned by company R is equal to the $1 / 4$ 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

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