

# 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 रतों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	1	II	III	IV
Α	70	105	55	135
В	40	35	95	72
С	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 रतों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	1	II	III	IV
Α	70	105	55	135
В	40	35	95	72
С	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.

तीचे दी गई तालिका में 5 खिलाड़ियों के द्वारा चार मैचों में बताए गए रतों को दर्शाया गया है।

Player	Match / मैच			
खिलाड़ी	1	II	III	IV
Α	70	105	55	135
В	40	35	95	72
С	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.

तीचे दी गई तालिका में 5 खिलाड़ियों के द्वारा चार मैचों में बताए गए रतों को दर्शाया गया है।

Player खिलाड़ी	Match / मैच			
	1	II	III	IV
Α	70	105	55	135
В	40	35	95	72
С	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<sup>2</sup>) 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√3 4158
- 2)  $3969\sqrt{3} 4158$
- 3) 7938√3 6237
- 4) 3969√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-

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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-**

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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?

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

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

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

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

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

Correct Answer:

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

**QID**: 136 - If P is the circum-center in  $\triangle$ ABC,  $\angle$ BPC = 30°, 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  $\Delta PQR$ ?

# **Options:**

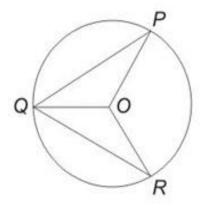
- 1) 6.5
- 2) 7.5
- 3) 13
- 4) 15

**Correct Answer:** 6.5

QID: 138 -

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

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



# **Options:**

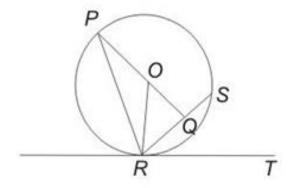
- 1) 150
- 2) 110
- 3) 160
- 4) 130

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 वृत 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°, 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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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) cosec  $\theta$

Correct Answer:  $\sec^2\theta$ 

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

# **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:**

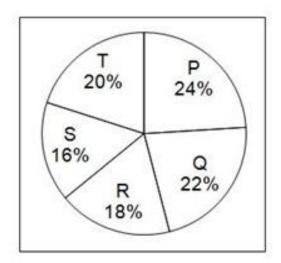
- 1) 1/2
- 2)  $1/\sqrt{2}$
- 3) √3/2
- 4) 0

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

QID: 146 -

Total Expenditure = Rs 48 crores

नीचे दिए गए वृत 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

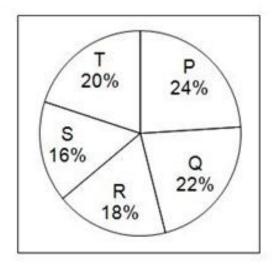
**Correct Answer: 28.8** 

#### 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 खर्च (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:**

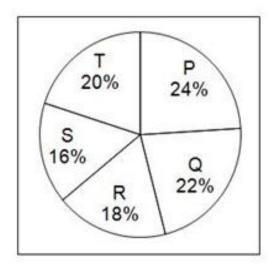
- 1) 33.33
- 2) 60
- 3) 66.67
- 4) 75

Correct Answer: 66.67

QID: 148 -

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

#### **Options:**

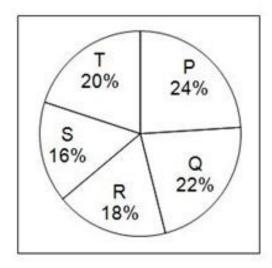
- 1)31:60
- 2)50:31
- 3)60:31
- 4) 31:50

Correct Answer: 31:50

QID: 149 -

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:** 

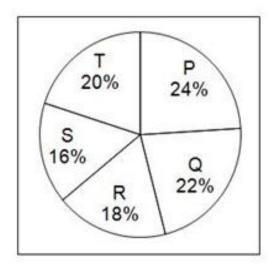
- 1) 42.1
- 2) 43
- 3) 39.68
- 4) 41

Correct Answer: 42.1

QID: 150 -

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.



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