

SSC CGL 2017 EXAM PAPER : Held on 10-AUG-2017
Shift-1
(Mathematics)

QID : 51 - How many numbers are there from 2000 to 7000 which are both perfect squares and perfect cubes?

Options:

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

Correct Answer: 1

QID : 52 - 3 men or 4 women can complete a job in 120 days. 12 men and 16 women will complete the same job in how many days?

Options:

- 1) 12
- 2) 14
- 3) 15
- 4) 18

Correct Answer: 15

QID : 53 - If the diameter of a hemisphere is 21 cm, then what is the volume (in cm^3) of hemisphere?

Options:

- 1) 2810
- 2) 1250.5
- 3) 1725.25
- 4) 2425.5

Correct Answer: 2425.5

QID : 54 - After two successive discounts of 20% and 12% an article is sold for Rs 16896. What is the marked price (in Rs) of the article?

Options:

- 1) 21500
- 2) 23800
- 3) 22000
- 4) 24000

Correct Answer: 24000

QID : 55 - The ratio of speed of three racers is 3 : 4 : 6. What is the ratio of time taken by the three racers to cover the same distance?

Options:

- 1) 3:4:6
- 2) 6:4:3
- 3) 4:3:2
- 4) 2:3:5

Correct Answer: 4:3:2

QID : 56 - In a match, average of runs scored by 7 players is 53. If the runs scored by 6 players are 121, 40, 26, 56, 37 and 48, then how many runs did the 7th player scored?

Options:

- 1) 26
- 2) 37
- 3) 43
- 4) 48

Correct Answer: 43

QID : 57 - Mohit buys an old bicycle for Rs 2700 and spends Rs 500 on its repairs. If he sells the bicycle for Rs 3520, then what is his profit percentage?

Options:

- 1) 10
- 2) 12.5
- 3) 15
- 4) 20

Correct Answer: 10

QID : 58 - If the price of onion increases from Rs 24/kg to Rs 36/kg, then by what percentage a household should decrease the consumption of onion so that expenditure remains same?

Options:

- 1) 25
- 2) 33.33
- 3) 50
- 4) 20

Correct Answer: 33.33

QID : 59 - A train travels 20% faster than a car. Both start from point A at the same time and reach point B, 180 km away at the same time. On the way the train takes 30 minutes for stopping at the stations. What is the speed (in km/hr) of the train?

Options:

- 1) 56
- 2) 66
- 3) 72
- 4) 80

Correct Answer: 72

QID : 60 -

A sum of Rs 720 amounts to Rs 882 at simple interest in $1\frac{1}{2}$ years. In how many years will the sum Rs 800 amounts to Rs 1040 at the same rate?

720 रु. की राशि $1\frac{1}{2}$ वर्षों में साधारण ब्याज से 882 रु. हो जाती है, कितने वर्षों में 800 रु. की राशि समान दर से 1040 रु. हो जाएगी?

Options:

- 1) 25/7
- 2) 4
- 3) 31/7

4) 33/7

Correct Answer: 25/7

QID : 61 - If $(x/y)^{a-4} = (y/x)^{2a-5}$, then what is the relation between x and y?

Options:

- 1) $x > y$
- 2) Cannot be determined
- 3) $x < y$
- 4) $x = y$

Correct Answer: Cannot be determined

QID : 62 -

If $x + \frac{1}{x} = 3$, then what is the value of

$$\frac{x^4 + 5x^3 + 3x^2 + 5x + 1}{x^4 + 1} ?$$

यदि $x + \frac{1}{x} = 3$, तो $\frac{x^4 + 5x^3 + 3x^2 + 5x + 1}{x^4 + 1}$

का मान क्या है?

Options:

- 1) 25/7
- 2) 4
- 3) 31/7
- 4) 33/7

Correct Answer: 25/7

QID : 63 - If $3a - (3/a) - 3 = 0$, then what is the value of $a^3 - (1/a^3) + 2$?

Options:

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

4) 6

Correct Answer: 6

QID : 64 -

If $\frac{x + \sqrt{x^2 - 1}}{x - \sqrt{x^2 - 1}} + \frac{x - \sqrt{x^2 - 1}}{x + \sqrt{x^2 - 1}} = 194$, then what is the value of x ?

यदि $\frac{x + \sqrt{x^2 - 1}}{x - \sqrt{x^2 - 1}} + \frac{x - \sqrt{x^2 - 1}}{x + \sqrt{x^2 - 1}} = 194$, तो x का मान क्या है?

Options:

- 1) 7/2
- 2) 4
- 3) 7
- 4) 14

Correct Answer: 7

QID : 65 - In ΔABC , AD is the median and $AD = (1/2)BC$. If $\angle ACD = 40^\circ$, then what is the value (in degrees) of $\angle DAB$?

Options:

- 1) 30
- 2) 40
- 3) 50
- 4) 80

Correct Answer: 50

QID : 66 - Circum-centre of ΔABC is O . If $\angle BAC = 75^\circ$ and $\angle BCA = 80^\circ$, then what is the value (in degrees) of $\angle OAC$?

Options:

- 1) 45
- 2) 65

3) 90

4) 95

Correct Answer: 65

QID : 67 -Smaller diagonal of a rhombus is equal to length of its sides. If length of each side is 4 cm, then what is the area (in cm^2) of an equilateral triangle with side equal to the bigger diagonal of the rhombus?

Options:

1) 6

2) $9\sqrt{3}$

3) 12

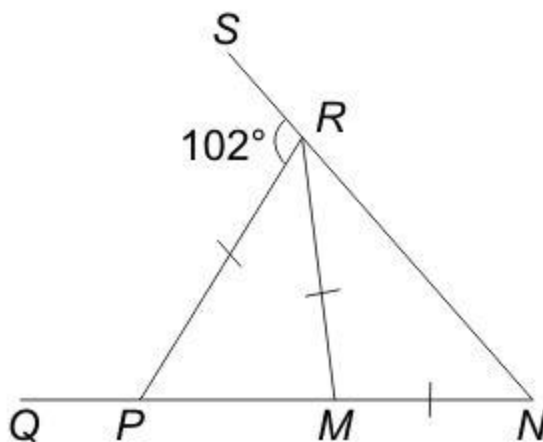
4) $12\sqrt{3}$

Correct Answer: $12\sqrt{3}$

QID : 68 -

In the given figure, $MN = RM = RP$, then what is the value (in degrees) of $\angle MPR$?

दी गई आकृति में, $MN = RM = RP$ है, तो $\angle MPR$ का मान (डिग्री में) क्या है?



Options:

1) 47

2) 68

3) 72

4) Cannot be determined

Correct Answer: 68

QID : 69 - What is the simplified value of $(\cos A + \sin A)(\cot A + \tan A)$?

Options:

1) $\sec A + \operatorname{cosec} A$

2) $\sin A + \cos A$

3) $\tan A + \cot A$

4) $\sec A - \operatorname{cosec} A$

Correct Answer: $\sec A + \operatorname{cosec} A$

QID : 70 -

What is the simplified value of $\sqrt{\frac{\operatorname{cosec} A}{\operatorname{cosec} A - 1} + \frac{\operatorname{cosec} A}{\operatorname{cosec} A + 1}}$?

$\sqrt{\frac{\operatorname{cosec} A}{\operatorname{cosec} A - 1} + \frac{\operatorname{cosec} A}{\operatorname{cosec} A + 1}}$ का सरलीकृत मान क्या है?

Options:

1) $\sqrt{2} \sec A$

2) $\sqrt{2} \operatorname{cosec} A$

3) $\sec 2 A$

4) $2 \sec A$

Correct Answer: $\sqrt{2} \sec A$

QID : 71 - If $2 \cos \theta = 2 - \sin \theta$, then what is the value of $\cos \theta$?

Options:

1) 1 or $3/5$

2) 1 or $-1/2$

3) -1 or $-1/2$

4) -1 or $3/5$

Correct Answer: 1 or $3/5$

QID : 72 -

The table given below shows the ratio of exports and imports of a country for 5 years.

Total trade = exports + imports

नीचे दी गई तालिका में एक देश के 5 वर्षों के निर्यात तथा आयात के अनुपात को दर्शाया गया है।

कुल व्यापार = आयात + निर्यात

Year वर्ष	Exports : Imports निर्यात : आयात
Year 1 / वर्ष 1	10 : 9
Year 2 / वर्ष 2	11 : 7
Year 3 / वर्ष 3	4 : 3
Year 4 / वर्ष 4	5 : 8
Year 5 / वर्ष 5	12 : 13

If the total trade of the country in year 3 was 1183 crore dollars, then what was the difference (in crore dollars) between exports and imports of the country in that year?

Options:

- 1) 169
- 2) 173
- 3) 142
- 4) 158

Correct Answer: 169

QID : 73 -

The table given below shows the ratio of exports and imports of a country for 5 years.

Total trade = exports + imports

नीचे दी गई तालिका में एक देश के 5 वर्षों के निर्यात तथा आयात के अनुपात को दर्शाया गया है।

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Year 4 / वर्ष 4	5 : 8
Year 5 / वर्ष 5	12 : 13

The total trade for Year 2 and Year 4 is same. If exports of Year 4 are 315 crore dollars, then what are the imports (in crore dollars) of Year 2?

Options:

- 1) 306.4
- 2) 309.8
- 3) 323.7
- 4) 318.5

Correct Answer: 318.5

QID : 74 -

The table given below shows the ratio of exports and imports of a country for 5 years.

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नीचे दी गई तालिका में एक देश के 5 वर्षों के निर्यात तथा आयात के अनुपात को दर्शाया गया है।

कुल व्यापार = आयात + निर्यात

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Year 4 / वर्ष 4	5 : 8
Year 5 / वर्ष 5	12 : 13

Total trade of Year 1 is twice of the total trade of Year 5. If total trade of Year 1 is 5700 crore dollars, then what is the difference (in crore dollars) in exports of Year 1 and Year 5?

Options:

- 1) 1835
- 2) 1632
- 3) 1368
- 4) 1423

Correct Answer: 1632

QID : 75 -

The table given below shows the ratio of exports and imports of a country for 5 years.

Total trade = exports + imports

नीचे दी गई तालिका में एक देश के 5 वर्षों के निर्यात तथा आयात के अनुपात को दर्शाया गया है।

कुल व्यापार = आयात + निर्यात

Year वर्ष	Exports : Imports निर्यात : आयात
Year 1 / वर्ष 1	10 : 9
Year 2 / वर्ष 2	11 : 7
Year 3 / वर्ष 3	4 : 3
Year 4 / वर्ष 4	5 : 8
Year 5 / वर्ष 5	12 : 13

The total trade of 5 years is 3800, 3600, 2800, 3900 and 5000 crore dollars respectively. What is the difference (in crore dollars) in the average exports and average imports respectively?

Options:

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

Correct Answer: 60