

# SSC CGL 2017 EXAM PAPER : Held on 09-AUG-2017 Shift-1 (Mathematics) 

QID : 51 -
Which value among $\sqrt[3]{5}, \sqrt[4]{6}, \sqrt[6]{12}, \sqrt[12]{276}$ is the largest?
$\sqrt[3]{5}, \sqrt[4]{6}, \sqrt[6]{12}, \sqrt[12]{276}$ में से सबसे बड़ी संख्या कौन सी है?

## Options:

1) 


2)

3)
4)

## $x$

## Correct Answer:

QID : 52-A piece of work was finished by A, B and C together. A and B together finished $60 \%$ of the work and B and C together finished $70 \%$ of the work. Who among the three is most efficient?

## Options:

1) A
2) $B$
3) C
4) A or B

Correct Answer: C
QID : 53 - Three solid spheres of radius $3 \mathrm{~cm}, 4 \mathrm{~cm}$ and 5 cm are melted and recasted into a solid sphere. What will be the percentage decrease in the surface area?

## Options:

1) 12
2) 14
3) 16
4) 28

Correct Answer: 28
QID : 54-The marked price of a sofa set is Rs 4800 which is sold at Rs 3672 at two successive discounts. If the first discount is $10 \%$, then what will be the second discount (in \%)?

## Options:

1) 13
2) 14
3) 15
4) 17

Correct Answer: 15
QID : 55-A, B and C invested amounts in the ratio 3:4:5 respectively. If the schemes offered compound interest at the rate of $20 \%$ per annum, $15 \%$ per annum and $10 \%$ per annum respectively, then what will be the ratio of their amounts after 1 year?

## Options:

1) $3: 15: 25$
2) $6: 6: 5$
3) $36: 46: 55$
4) $12: 23: 11$

Correct Answer: 36 : 46 : 55
QID : 56 - The average age of 120 members of a society is 60.7 years. By addition of 30 new members, the average age becomes 56.3 years. What is the average age (in years) of newly joined members?

## Options:

1) 36.5
2) 37.2
3) 38.3
4) 38.7

Correct Answer: 38.7

QID : 57 - By selling 175 pineapples, the gain is equal to the selling price of 50 pineapples. What is the gain percentage?

Options:

1) 28
2) 30
3) 32
4) 40

Correct Answer: 40
QID : 58-If A has got $20 \%$ more marks than $B$, then by what percent marks of $B$ are less than the marks of A?

## Options:

1) 16.66
2) 20
3) 33.33
4) 14.28

Correct Answer: 16.66
QID : 59-A train leaves Delhi at 10 a.m. and reaches Jaipur at 4 p.m. on same day. Another train leaves Jaipur at 12 p.m. and reaches Delhi at 5 p.m. on same day. What is the time of day (approximately) when the two trains will meet?

## Options:

1) $1: 42 \mathrm{p} . \mathrm{m}$.
2) $1: 27 \mathrm{p} . \mathrm{m}$.
3) $2: 04 \mathrm{p} . \mathrm{m}$.
4) $1: 49$ p.m.

Correct Answer: 1:49 p.m.
QID : 60 - The difference between the compound interest compounding half yearly for 1 year and the simple interest for 1 year on a certain sum of money lent out at $8 \%$ per annum is Rs 64 . What is the sum (in Rs)?

## Options:

1) 40000
2) 42000
3) 44000
4) 44800

Correct Answer: 40000
QID : 61 - If $(x-2)$ and $(x+3)$ are the factors of the equation $x^{2}+k_{1} x+k_{2}=0$, then what are the values of $\mathrm{k}_{1}$ and $\mathrm{k}_{2}$ ?

## Options:

1) $\mathrm{k} 1=6, \mathrm{k} 2=-1$

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2) $k 1=1, k 2=-6$
3) $\mathrm{k} 1=1, \mathrm{k} 2=6$
4) $k 1=-6, k 2=1$

Correct Answer: k $1=1, \mathrm{k} 2=-6$
QID : 62-If $(x-y)=7$, then what is the value of $(x-15)^{3}-(y-8)^{3}$ ?

## Options:

1) 0
2) 343
3) 392
4) 2863

Correct Answer: 0
QID : 63 - If $x-y-\sqrt{ } 18=-1$ and $x+y-3 \sqrt{2}=1$, then what is the value of $12 x y\left(x^{2}-y^{2}\right)$ ?

## Options:

1) 0
2) 1
3) $512 \sqrt{ } 2$
4) $612 \sqrt{ } 2$

Correct Answer: $612 \sqrt{ } 2$
QID : 64 - If $\mathrm{p} / \mathrm{q}=\mathrm{r} / \mathrm{s}=\mathrm{t} / \mathrm{u}=\sqrt{ } 5$, then what is the value of $\left[\left(3 \mathrm{p}^{2}+4 \mathrm{r}^{2}+5 \mathrm{t}^{2}\right) /\left(3 \mathrm{q}^{2}+4 \mathrm{~s}^{2}+5 \mathrm{u}^{2}\right)\right]$ ?

## Options:

1) $1 / 5$
2) 5
3) 25
4) 60

Correct Answer: 5
QID : 65 - In triangle ABC , a line is drawn from the vertex A to a point D on BC . If $\mathrm{BC}=9 \mathrm{~cm}$ and DC $=3 \mathrm{~cm}$, then what is the ratio of the areas of triangle ABD and triangle ADC respectively?

## Options:

1) $1: 1$
2) $2: 1$
3) $3: 1$
4) $4: 1$

Correct Answer: 2:1
QID : 66 - PQR is a right angled triangle in which $\angle \mathrm{R}=90^{\circ}$. If $\mathrm{RS} \perp \mathrm{PQ}, \mathrm{PR}=3 \mathrm{~cm}$ and $\mathrm{RQ}=4 \mathrm{~cm}$, then what is the value of RS (in cm )?

## Options:

1) $12 / 5$
2) $36 / 5$
3) 5
4) 2.5

Correct Answer: 12/5
QID : 67 - In triangle $P Q R, A$ is the point of intersection of all the altitudes and $B$ is the point of intersection of all the angle bisectors of the triangle. If $\angle \mathrm{PBR}=105^{\circ}$, then what is the value of $\angle \mathrm{PAR}$ (in degrees)?

## Options:

1) 60
2) 100
3) 105
4) 115

Correct Answer: 60
QID : 68 - If there are four lines in a plane, then what cannot be the number of points of intersection of these lines?

## Options:

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

Correct Answer: 7
QID : 69 - What is the simplified value of $\operatorname{cosec} 2 \mathrm{~A}+\cot 2 \mathrm{~A}$ ?

## Options:

1) $\sec A$
2) $\sec (A / 2)$
3) $\cot A$
4) $\cot 2 \mathrm{~A}$

Correct Answer: $\cot$ A
QID : 70-If $\mathrm{A}=30^{\circ}, \mathrm{B}=60^{\circ}$ and $\mathrm{C}=135^{\circ}$, then what is the value of $\sin ^{3} \mathrm{~A}+\cos ^{3} \mathrm{~B}+\tan ^{3} \mathrm{C}-3 \sin \mathrm{~A}$ $\cos \mathrm{B} \tan \mathrm{C}$ ?

## Options:

1) 0
2) 1
3) 8
4) 9

Correct Answer: 0
QID : 71-What is the least value of $\tan ^{2} \theta+\cot ^{2} \theta+\sin ^{2} \theta+\cos ^{2} \theta+\sec ^{2} \theta+\operatorname{cosec}^{2} \theta$ ?

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## Options:

1) 1
2) 3
3) 5
4) 7

Correct Answer: 7
QID : 72-

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If Mr. Raghav taught a total of 500 hours, then what is the difference in number of hours of teaching algebra and modern Maths?

## Options:

1) 15
2) 20
3) 25
4) 40

Correct Answer: 25
QID : 73-
x

Mr. Raghav taught Geometry for 36 hours. If the time taken in teaching Ratio consitutes one-fourth of the time for Arithmetic, then for how much time (in hours) did he taught the topic of Ratio?

## Options:

1) 46
2) 51.75
3) 69
4) 103.5

Correct Answer: 69
QID : 74-
$\times$

If Data Interpretation and Modern Maths were taught for a combined time of 96 hours, then for how much time (in hours) were Number system and Geometry taught?

Options:

1) 136
2) 184
3) 216
4) 232

Correct Answer: 232
QID : 75-
$x$

A new topic named Problem Solving was also introduced and it was decided that $10 \%$ time of all topics except Arithmetic will be devoted to it. What will be the central angle (in degrees) made by Problem Solving in the new pie chart?

## Options:

1) 17.28
2) 18
3) 19.44
4) 36

Correct Answer: 19.44

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