Combined Graduate Level Examination (Tier-II), 2018

Roll No.	
Registration No.	
Name	
Test Venue	iON Digital Zone iDZ 1 Sector 62
Test Time	10:00 AM - 12:00 PM
Test Date	12/09/2019
Subject	CGLE Tier II Paper I Quantitative abilities

Section : **Quantitative abilities**

Q.1 Two-third of the number of employees of a company are males and the rest are females. If $\frac{3}{8}$ of the male employees and $\frac{2}{5}$ of the female employees are temporary employees and the total number of permanent employees is 740, then $\frac{7}{15}$ of the total number of employees exceeds the number of temporary female employees by:

Ans
✔ 1. 400
✘ 2. 340
✘ 3. 308
✘ 4. 320

Question ID : **558101373**
Status : **Answered**
Chosen Option : **1**

Q.2 Three fractions, x, y and z, are such that $x > y > z$. When the smallest of them is divided by the greatest, the result is $\frac{9}{16}$, which exceeds y by 0.0625. If $x + y + z = 1\frac{13}{24}$, then the value of $x + z$ is:

Ans
✘ 1. $\frac{7}{8}$
✘ 2. 1
✔ 3. $\frac{25}{24}$
✘ 4. $\frac{7}{6}$

Question ID : **558101366**
Status : **Answered**
Chosen Option : **3**

Q.3 If the 11-digit number $5678x43267y$ is divisible by 72, then the value of $\sqrt{5x + 8y}$ is:

Ans
✔ 1. 6
✘ 2. 4
✘ 3. 7
✘ 4. 8

Question ID : **558101360**
Status : **Answered**
Chosen Option : **1**

Q.4

What is the ratio of the third proportional to 0.4 and 0.8, to the mean proportional between 13.5 and 0.24?

Ans
1. 5 : 4
2. 7 : 8
3. 8 : 9
4. 9 : 10

Question ID : **558101391**
Status : **Not Answered**
Chosen Option : **--**

Q.5 If $x+\frac{1}{16x}=3$, then the value of $16x^3+\frac{1}{256x^3}$ is:

Ans
1. 423
2. 441
3. 432
4. 414

Question ID : **558101425**
Status : **Answered**
Chosen Option : **1**

Q.6 If 60% of a number is 120 more than 20% of the number, then 28% of the number is less than $33\frac{1}{3}\%$ of the number by:

Ans
1. 14
2. 12
3. 16
4. 15

Question ID : **558101378**
Status : **Answered**
Chosen Option : **3**

Q.7 A sum lent out at simple interest amounts to ₹6076 in 1 year and ₹7504 in 4 years. The sum and the rate of interest p.a. are respectively:

Ans
1. ₹5,600 and 9%
2. ₹5,600 and 8.5%
3. ₹5,400 and 9%
4. ₹5,400 and 10%

Question ID : **558101387**
Status : **Answered**
Chosen Option : **2**

Q.8 In ΔABC, the medians AD, BE and CF meet at O. What is the ratio of the area of ΔABD to the area of ΔAOE?

Ans
1. 2 : 1
2. 3 : 1
3. 5 : 2
4. 3 : 2

Question ID : **558101428**
Status : **Answered**
Chosen Option : **2**

Q.9 If $x + y + z = 2$, $xy + yz + zx = -11$ and $xyz = -12$, then what is the value of $\sqrt{x^3 + y^3 + z^3 - 2}$?

Ans
✔ 1. 6
✘ 2. 12
✘ 3. 9
✘ 4. 8

Question ID : **558101426**
Status : **Answered**
Chosen Option : **1**

Q.10 The value of $\left(1\frac{1}{3} \div 2\frac{6}{7} \text{ of } 5\frac{3}{5}\right) \div \left(6\frac{2}{5} \div 4\frac{1}{2} \text{ of } 5\frac{1}{3}\right) \times \left(\frac{3}{4} \times 2\frac{2}{3} \div \frac{5}{9} \text{ of } 1\frac{1}{5}\right) = 1 + k$, where k lies between:

Ans
✔ 1. -0.07 and -0.06
✘ 2. -0.08 and -0.07
✘ 3. -0.06 and -0.05
✘ 4. -0.05 and -0.04

Question ID : **558101363**
Status : **Not Answered**
Chosen Option : **--**

Q.11 5 years ago, the ratio of the age of A to that of B was 4 : 5. Five years hence, the ratio of the age of A to that of B will be 6 : 7. If, at present, C is 10 years younger than B, then what will be the ratio of the present age of A to that of C?

Ans
✘ 1. 3 : 2
✔ 2. 5 : 4
✘ 3. 4 : 3
✘ 4. 5 : 3

Question ID : **558101393**
Status : **Not Answered**
Chosen Option : **--**

Q.12 The area of the base of a right circular cone is 400π and its height is 15 cm. The curved surface area of the cone (in cm^2) is:

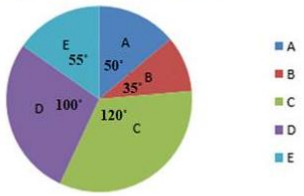
Ans
✘ 1. 480π
✔ 2. 500π
✘ 3. 450π
✘ 4. 560π

Question ID : **558101415**
Status : **Answered**
Chosen Option : **2**

Q.13

The given pie chart shows the quantity wise sales distribution of five products (A, B, C, D and E) of a company in 2016.

Quantity wise sales distribution of five products (A, B, C, D and E)

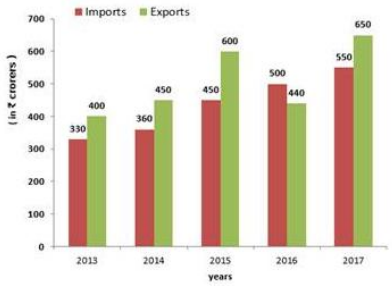


If 1500 units of product D were sold in 2016 and the total number of units sold by the company in 2017 was 18% more than that sold in 2016, then the total units sold by the company in 2017 is:

Ans
1. 6336
2. 6390
3. 6372
4. 6354

Question ID : **558101453**
Status : **Answered**
Chosen Option : **3**

Q.14 The given bar graph shows the imports and exports (in ₹ crores) of steel by a country from 2013 to 2017.



What is the ratio of the total imports in 2015 and 2017 to the total exports in 2013 and 2016?

Ans
1. 11 : 4
2. 9 : 8
3. 25 : 21
4. 9 : 11

Question ID : **558101457**
Status : **Answered**
Chosen Option : **3**

Q.15 An article is sold at a certain price. If it is sold at 80% of this price, then there will be a loss of 10%. What is the percentage profit when the article is sold at the original selling price?

Ans
1. $15\frac{1}{2}$
2. $12\frac{1}{2}$
3. 15
4. 12

Question ID : **558101380**
Status : **Answered**
Chosen Option : **2**

Q.16 In a circle, AB and DC are two chords. When AB and DC are produced, they meet at P. If PC = 5.6 cm, PB = 6.3 cm and AB = 7.7 cm, then the length of CD is:

Ans

✗ 1. 8.35 cm

✗ 2. 9 cm

✓ 3. 10.15 cm

✗ 4. 9.25 cm

Question ID : **558101439**
Status : **Answered**
Chosen Option : **3**

Q.17 The value of $\left(\frac{\sin A}{1-\cos A}+\frac{1-\cos A}{\sin A}\right) \div \left(\frac{\cot^2 A}{1+\operatorname{cosec} A}+1\right)$ is:

Ans

✗ 1. $\frac{3}{2}$

✗ 2. $\frac{1}{2}$

✗ 3. 1

✓ 4. 2

Question ID : **558101445**
Status : **Marked For Review**
Chosen Option : **3**

Q.18 A is 25% more than B and B is 40% less than C. If C is 30% more than D, then by what percent is A less than D?

Ans

✗ 1. 1.5

✓ 2. 2.5

✗ 3. 4

✗ 4. 5

Question ID : **558101376**
Status : **Answered**
Chosen Option : **2**

Q.19 In a class, $83\frac{1}{3}\%$ of the number of students are girls and the rest are boys. If 60% of the number of boys and 80% of the number of girls are present, then what percentage of the total number of students in the class is absent?

Ans

✗ 1. $26\frac{2}{3}$

✗ 2. $22\frac{2}{3}$

✓ 3. $23\frac{1}{3}$

✗ 4. $12\frac{1}{3}$

Question ID : **558101374**
Status : **Answered**
Chosen Option : **3**

Q.20

A spends 65% of his income. His income is increased by 20.1% and his expenditure is increased by 25%. His savings:

Ans
1. Increase by 11% ✔
2. Increase by 5% ✘
3. Decrease by 5% ✘
4. Decrease by 11% ✘

Question ID : **558101375**
Status : **Answered**
Chosen Option : **1**

Q.21 The average weight of a certain number of students in a group is 72 kg. If 10 students having an average weight of 78 kg leave and 4 students having an average weight of 80 kg join the group, the average weight of the students in the group decreases by 0.7 kg. The number of students initially in the group is:

Ans
1. 56 ✘
2. 46 ✔
3. 44 ✘
4. 54 ✘

Question ID : **558101394**
Status : **Answered**
Chosen Option : **2**

Q.22 If $\frac{1+\sin\emptyset}{1-\sin\emptyset} = \frac{p^2}{q^2}$, then $\sec\emptyset$ is equal to:

Ans
1. $\frac{2p^2q^2}{p^2+q^2}$ ✘
2. $\frac{1}{2}\left(\frac{q}{p}+\frac{p}{q}\right)$ ✔
3. $\frac{1}{p^2}+\frac{1}{q^2}$ ✘
4. $\frac{p^2q^2}{p^2+q^2}$ ✘

Question ID : **558101447**
Status : **Answered**
Chosen Option : **1**

Q.23 The marked price of an article is ₹800 and it is sold at a discount of 19%. If there is a gain of 8%, then by what percent above the cost price was the article marked?

Ans
1. $33\frac{1}{3}$ ✔
2. 35 ✘
3. 27 ✘
4. $36\frac{2}{3}$ ✘

Question ID : **558101384**
Status : **Not Answered**
Chosen Option : **--**

Q.24 The base of a right prism is a triangle with sides 20 cm, 21 cm and 29 cm. If its volume is 7560 cm^3, then its lateral surface area (in cm^2) is:

Ans
1. 2484 ✗
2. 2556 ✗
3. 2520 ✓
4. 2448 ✗

Question ID : **558101417**
Status : **Answered**
Chosen Option : **3**

Q.25 The expression $\sqrt{10+2\left(\sqrt{6}-\sqrt{15}-\sqrt{10}\right)}$ is equal to:

Ans
1. $\sqrt{3}+\sqrt{2}-\sqrt{5}$ ✓
2. $\sqrt{3}-\sqrt{2}-\sqrt{5}$ ✗
3. $\sqrt{3}-\sqrt{2}+\sqrt{5}$ ✗
4. $\sqrt{2}-\sqrt{3}-\sqrt{5}$ ✗

Question ID : **558101371**
Status : **Answered**
Chosen Option : **1**

Q.26 A cylindrical vessel of radius 3.5 m is full of water. If 15400 litres of water is taken out from it, then the drop in the water level in the vessel will be:

Ans
1. 72 cm ✗
2. 40 cm ✓
3. 35 cm ✗
4. 60 cm ✗

Question ID : **558101416**
Status : **Answered**
Chosen Option : **2**

Q.27 The value of $\frac{\sec\theta(1-\sin\theta)(\sin\theta+\cos\theta)(\sec\theta+\tan\theta)}{\sin\theta(1+\tan\theta)+\cos\theta(1+\cot\theta)}$ is equal to:

Ans
1. $2\cos\theta$ ✗
2. $\operatorname{cosec}\theta\sec\theta$ ✗
3. $2\sin\theta$ ✗
4. $\sin\theta\cos\theta$ ✓

Question ID : **558101442**
Status : **Not Answered**
Chosen Option : **--**

Q.28 A, B and C start a business. A invests $33\frac{1}{3}\%$ of the total capital, B invests 25% of the remaining and C invests the rest. If the total profit at the end of a year is ₹1,62,000, then A's share in profit is:

Ans
1. ₹81,000
2. ₹60,000
3. ₹54,000
4. ₹90,000

Question ID : **558101395**
Status : **Answered**
Chosen Option : **3**

Q.29 A solid metallic sphere of radius 8 cm is melted and drawn into a wire of uniform cross-section. If the length of the wire is 24 m, then its radius (in mm) is:

Ans
1. 6
2. 5
3. $5\frac{1}{3}$
4. $6\frac{2}{3}$

Question ID : **558101418**
Status : **Answered**
Chosen Option : **3**

Q.30 The sides of a triangle are 56 cm, 90 cm and 106 cm. The circumference of its circumcircle is:

Ans
1. 106π
2. 109π
3. 108π
4. 112π

Question ID : **558101429**
Status : **Answered**
Chosen Option : **1**

Q.31 The speed of a boat in still water is 18 km/h and the speed of the current is 6 km/h. In how much time (in hours) will the boat travel a distance of 90 km upstream and the same distance downstream?

Ans
1. $9\frac{1}{2}$
2. $11\frac{1}{4}$
3. 12
4. 10

Question ID : **558101400**
Status : **Answered**
Chosen Option : **2**

Q.32 The HCF of two numbers is 21 and their LCM is 221 times the HCF. If one of the numbers lies between 200 and 300, then the sum of the digits of the other number is:

Ans
1. 14
2. 17

✗ 3. 18

✓ 4. 15

Question ID : **558101369**
Status : **Marked For Review**
Chosen Option : **3**

Q.33 ΔABC and ΔDBC are on the same base BC but on opposite sides of it. AD and BC intersect each other at O. If AO = a cm, DO = b cm and the area of ΔABC = x cm^2, then what is the area (in cm^2) of ΔDBC?

Ans

✗ 1. $\frac{a}{b}x$

✗ 2. $\frac{ab}{2}x$

✓ 3. $\frac{bx}{a}$

✗ 4. $\frac{(a+b)}{2}x$

Question ID : **558101435**
Status : **Answered**
Chosen Option : **3**

Q.34 The value of $\tan^2\emptyset + \cot^2\emptyset - \sec^2\emptyset \operatorname{cosec}^2\emptyset$ is equal to:

Ans

✓ 1. -2

✗ 2. 1

✗ 3. 0

✗ 4. -1

Question ID : **558101444**
Status : **Answered**
Chosen Option : **4**

Q.35 The point of intersection of the graphs of the equations $3x - 5y = 19$ and $3y - 7x + 1 = 0$ is $P(\alpha, \beta)$. What is the value of $(3\alpha - \beta)$?

Ans

✗ 1. -2

✓ 2. -1

✗ 3. 1

✗ 4. 0

Question ID : **558101420**
Status : **Answered**
Chosen Option : **2**

Q.36 $(\sec\emptyset - \tan\emptyset)^2 \ (1 + \sin\emptyset)^2 \div \sin^2\emptyset = ?$

Ans

✗ 1. $\cos\emptyset$

✓ 2. $\cot^2\emptyset$

✗ 3. $\sec\emptyset$

✗ 4. $\cos^2 \emptyset$

Question ID : **558101441**
Status : **Marked For Review**
Chosen Option : **2**

Q.37 By selling two articles for ₹800, a person gains the cost price of three articles. The profit percent is:

Ans
✗ 1. 125
✗ 2. 140
✗ 3. 120
✓ 4. 150

Question ID : **558101381**
Status : **Marked For Review**
Chosen Option : **4**

Q.38 What is the compound interest on a sum of ₹7200 for $2\frac{2}{5}$ years at 20% p.a., interest compounded yearly (nearest to an integer)?

Ans
✗ 1. ₹4,290
✗ 2. ₹3,960
✗ 3. ₹4,205
✓ 4. ₹3,997

Question ID : **558101388**
Status : **Answered**
Chosen Option : **4**

Q.39 The value of $\frac{(0.545)(0.081)(0.51)(5.2)}{(0.324)^3+(0.221)^3-(0.545)^3}$ is:

Ans
✓ 1. -1
✗ 2. 1
✗ 3. 3
✗ 4. -3

Question ID : **558101364**
Status : **Not Answered**
Chosen Option : **--**

Q.40 The base of a right pyramid is an equilateral triangle with side 8 cm, and the height of the pyramid is $24\sqrt{3}$ cm. The volume (in cm^3) of the pyramid is:

Ans
✗ 1. 1152
✗ 2. 480
✗ 3. 576
✓ 4. 384

Question ID : **558101408**
Status : **Answered**
Chosen Option : **4**

Q.41 The sum of the interior angles of a regular polygon is 1260°. What is the difference between an exterior angle and an interior angle of the polygon?

Ans

✗ 1. 105°

✓ 2. 100°

✗ 3. 120°

✗ 4. 90°

Question ID : **558101433**
Status : **Answered**
Chosen Option : **2**

Q.42 In a circle with centre O, AC and BD are two chords. AC and BD meet at E when produced. If AB is the diameter and $\angle AEB = 68°$, then the measure of $\angle DOC$ is:

Ans

✗ 1. 32°

✗ 2. 30°

✗ 3. 22°

✓ 4. 44°

Question ID : **558101440**
Status : **Marked For Review**
Chosen Option : **3**

Q.43 In ΔABC, the perpendiculars drawn from A, B and C meet the opposite sides at D, E and F, respectively. AD, BE and CF intersect at point P. If $\angle EPD = 116°$ and the bisectors of $\angle A$ and $\angle B$ meet at Q, then the measure of $\angle AQB$ is:

Ans

✗ 1. 96°

✓ 2. 122°

✗ 3. 124°

✗ 4. 64°

Question ID : **558101431**
Status : **Answered**
Chosen Option : **2**

Q.44 The perimeters of two similar triangles ABC and PQR are 78 cm and 46.8 cm, respectively. If PQ = 11.7, then the length of AB is:

Ans

✓ 1. 19.5 cm

✗ 2. 23.4 cm

✗ 3. 24 cm

✗ 4. 20 cm

Question ID : **558101436**
Status : **Answered**
Chosen Option : **1**

Q.45 If the diameter of the base of a right circular cylinder is reduced by $33\frac{1}{3}$ % and its height is doubled, then the volume of the cylinder will:

Ans

✗ 1. increase by $1\frac{1}{9}$%

✗ 2. remain unchanged

✗ 3. increase by $11\frac{1}{9}\%$

✓ 4. decrease by $11\frac{1}{9}\%$

Question ID : **558101412**
Status : **Answered**
Chosen Option : **4**

Q.46 A right circular solid cone of radius 3.2 cm and height 7.2 cm is melted and recast into a right circular cylinder of height 9.6 cm. What is the diameter of the base of the cylinder?

Ans

✗ 1. 4.2 cm

✗ 2. 4.5 cm

✗ 3. 3.5 cm

✓ 4. 3.2 cm

Question ID : **558101414**
Status : **Answered**
Chosen Option : **4**

Q.47 40 litres of 60% concentration of acid solution is added to 35 litres of 80% concentration of acid solution. What is the concentration of acid in the new solution?

Ans

✗ 1. 66%

✗ 2. $66\frac{2}{3}\%$

✓ 3. $69\frac{1}{3}\%$

✗ 4. 69%

Question ID : **558101398**
Status : **Answered**
Chosen Option : **3**

Q.48 In ΔPQR, I is the incentre of the triangle. If $\angle QIR = 107°$, then what is the measure of $\angle P$?

Ans

✗ 1. 37°

✗ 2. 43°

✗ 3. 73°

✓ 4. 34°

Question ID : **558101432**
Status : **Answered**
Chosen Option : **4**

Q.49 If $x^4 - 83x^2 + 1 = 0$, then a value of $x^3 - x^{-3}$ can be:

Ans

✗ 1. 758

✓ 2. 756

✗ 3. 739

✗ 4. 737

Question ID : **558101422**

Status : **Answered**
Chosen Option : **2**

Q.50 Sujata marks an article 36% above the cost price and allows a 40% discount on the marked price. The loss percentage is:

Ans
1. 15 ✗
2. 16.8 ✗
3. 18.4 ✓
4. 4 ✗

Question ID : **558101383**
Status : **Answered**
Chosen Option : **3**

Q.51 If $3\,(\cot^2\emptyset - \cos^2\emptyset) = \cos^2\emptyset$, $0° < \emptyset < 90°$, then the value of $(\tan^2\emptyset + \operatorname{cosec}^2\emptyset + \sin^2\emptyset)$ is:

Ans
1. $\frac{13}{3}$ ✗
2. $\frac{61}{12}$ ✓
3. $\frac{25}{12}$ ✗
4. $\frac{15}{4}$ ✗

Question ID : **558101448**
Status : **Answered**
Chosen Option : **2**

Q.52 A hemispherical bowl of internal diameter 36 cm is full of a liquid. This liquid is to be filled into cylindrical bottles each of radius 3 cm and height 12 cm. How many such bottles are required to empty the bowl?

Ans
1. 72 ✗
2. 54 ✗
3. 36 ✓
4. 27 ✗

Question ID : **558101409**
Status : **Answered**
Chosen Option : **3**

Q.53 If $(5x+1)^3 + (x-3)^3 + 8(3x-4)^3 = 6\,(5x+1)(x-3)(3x-4)$, then x is equal to:

Ans
1. $\frac{5}{6}$ ✓
2. $\frac{1}{3}$ ✗
3. $\frac{2}{3}$ ✗
4. $\frac{3}{4}$ ✗

Question ID : **558101424**

Status : **Answered**
Chosen Option : **1**

Q.54 The average of 33 numbers is 74. The average of the first 17 numbers is 72.8 and that of the last 17 numbers is 77.2. If the 17^{th} number is excluded, then what will be the average of the remaining numbers (correct to one decimal place)?

Ans
✔ 1. 72.9
✘ 2. 73.4
✘ 3. 71.6
✘ 4. 70.8

Question ID : **558101397**
Status : **Marked For Review**
Chosen Option : **1**

Q.55 A solid cube is cut into three cuboids of same volumes. What is the ratio of the surface area of the cube to the sum of the surface areas of any two of the cuboids so formed?

Ans
✔ 1. 9 : 10
✘ 2. 27 : 16
✘ 3. 27 : 10
✘ 4. 9 : 8

Question ID : **558101419**
Status : **Answered**
Chosen Option : **4**

Q.56 If $\frac{\sin^2\emptyset-3\sin\emptyset+2}{\cos^2\emptyset}=1$, where $0° < \emptyset < 90°$, then what is the value of $(\cos2\emptyset + \sin3\emptyset + \text{cosec}2\emptyset)$?

Ans
✘ 1. $\frac{2+\sqrt{3}}{3}$
✘ 2. $\frac{3+4\sqrt{3}}{6}$
✔ 3. $\frac{9+4\sqrt{3}}{6}$
✘ 4. $\frac{3+2\sqrt{3}}{3}$

Question ID : **558101446**
Status : **Not Answered**
Chosen Option : **--**

Q.57 A loan has to be returned in two equal yearly instalments each of ₹44,100. If the rate of interest is 5% p.a., compounded annually, then the total interest paid is:

Ans
✘ 1. ₹5,840
✘ 2. ₹6,000
✔ 3. ₹6,200
✘ 4. ₹6,280

Question ID : **558101389**
Status : **Answered**

Chosen Option : **3**

Q.58 A sum of ₹x is divided among A, B and C such that the ratio of the shares of A and B is 6 : 7 and that of B and C is 3 : 2. If the difference between the shares of A and C is ₹540, then the value of x is:

Ans

✗ 1. 7425
✗ 2. 7020
✓ 3. 7155
✗ 4. 7290

Question ID : **558101392**
Status : **Answered**
Chosen Option : **3**

Q.59 The sides PQ and PR of ΔPQR are produced to points S and T, respectively. The bisectors of $\angle SQR$ and $\angle TRQ$ meet at U. If $\angle QUR = 79°$, then the measure of $\angle P$ is:

Ans

✗ 1. $41°$
✗ 2. $49°$
✓ 3. $22°$
✗ 4. $23°$

Question ID : **558101427**
Status : **Answered**
Chosen Option : **3**

Q.60 The value of $\frac{\sin(78°+\theta)-\cos(12°-\theta)+(\tan^2 70°-\operatorname{cosec}^2 20°)}{\sin 25°\cos 65°+\cos 25°\sin 65°}$ is:

Ans

✗ 1. 2
✓ 2. -1
✗ 3. -2
✗ 4. 0

Question ID : **558101449**
Status : **Answered**
Chosen Option : **2**

Q.61 Alloy A contains copper and zinc in the ratio of 4 : 3 and alloy B contains copper and zinc in the ratio of 5 : 2. A and B are taken in the ratio of 5 : 6 and melted to form a new alloy. The percentage of zinc in the new alloy is closest to:

Ans

✗ 1. 54
✗ 2. 34.2
✗ 3. 36.8
✓ 4. 35

Question ID : **558101399**
Status : **Answered**
Chosen Option : **4**

Q.62 If the price of petrol increases by 19%, and Sunitha intends to spend only an additional 12% on petrol, by what percent should she reduce the quantity of petrol purchased (nearest to an integer)?

Ans

✗ 1. 7

✔ 2. 6
✘ 3. 5
✘ 4. 8

Question ID : **558101377**
Status : **Marked For Review**
Chosen Option : **2**

Q.63 The value of $\sqrt{\frac{\text{cosec}\emptyset-\cot\emptyset}{\text{cosec}\emptyset+\cot\emptyset}} \div \frac{\sin\emptyset}{1+\cos\emptyset}$ is equal to:

Ans
✘ 1. $\text{cosec}\emptyset$
✘ 2. $\frac{1}{2}$
✘ 3. $\sec\emptyset$
✔ 4. 1

Question ID : **558101443**
Status : **Answered**
Chosen Option : **4**

Q.64 A, B and C invested their capitals in the ratio of 2 : 3 : 5. The ratio of months for which A, B and C invested is 4 : 2 : 3. If C gets a share of profit which is ₹1,47,000 more than that of A, then B's share of profit is:

Ans
✔ 1. ₹1,26,000
✘ 2. ₹1,68,000
✘ 3. ₹1,05,000
✘ 4. ₹1,89,000

Question ID : **558101396**
Status : **Answered**
Chosen Option : **1**

Q.65 In a quadrilateral ABCD, the bisectors of $\angle C$ and $\angle D$ meet at E. If $\angle CED = 56°$ and $\angle A = 49°$, then the measure of $\angle B$ is:

Ans
✘ 1. $71°$
✘ 2. $54°$
✔ 3. $63°$
✘ 4. $67°$

Question ID : **558101437**
Status : **Answered**
Chosen Option : **3**

Q.66 If $8x^3 - 27y^3 = (Ax + By)(Cx^2 - Dy^2 + 6xy)$, then $(A + B + C - D)$ is equal to:

Ans
✘ 1. -12
✔ 2. 12
✘ 3. 15

✗ 4. 9

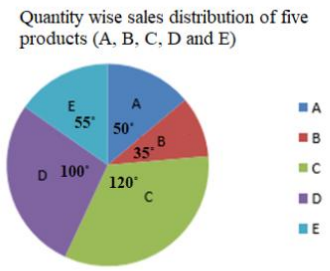
Question ID : **558101423**
Status : **Answered**
Chosen Option : **2**

Q.67 The number of factors of 3600 is:

Ans
✓ 1. 45
✗ 2. 44
✗ 3. 43
✗ 4. 42

Question ID : **558101365**
Status : **Answered**
Chosen Option : **1**

Q.68 The given pie chart shows the quantity wise sales distribution of five products (A, B, C, D and E) of a company in 2016.



If 320 units of product A were sold by the company, then how many units of products B and E together were sold by the company?

Ans
✗ 1. 567
✓ 2. 576
✗ 3. 512
✗ 4. 640

Question ID : **558101454**
Status : **Answered**
Chosen Option : **2**

Q.69 4 men and 5 women can complete a work in 15 days, whereas 9 men and 6 women can do it in 10 days. To complete the same work in 7 days, how many women should assist 4 men?

Ans
✗ 1. 11
✗ 2. 14
✗ 3. 12
✓ 4. 13

Question ID : **558101405**
Status : **Answered**
Chosen Option : **4**

Q.70 If $x = (164)^{169} + (333)^{337} - (727)^{726}$, then what is the units digit of x?

Ans
✗ 1. 5

2. 7
3. 8
4. 9

Question ID : **558101359**
Status : **Answered**
Chosen Option : **3**

Q.71 Pipes A and B can fill a tank in 16 hours and 24 hours, respectively, and pipe C alone can empty the full tank in x hours. All the pipes were opened together at 10:30 a.m., but C was closed at 2:30 p.m. If the tank was full at 8:30 p.m. on the same day, then what is the value of x?

Ans
1. 64
2. 48
3. 45
4. 96

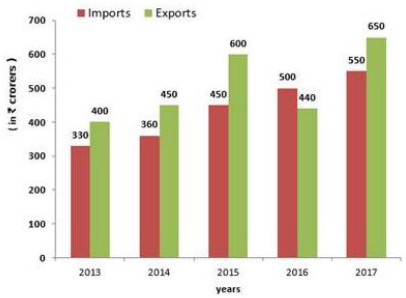
Question ID : **558101404**
Status : **Answered**
Chosen Option : **4**

Q.72 Let x be the least number which when divided by 15, 18, 20 and 27, the remainder in each case is 10 and x is a multiple of 31. What least number should be added to x to make it a perfect square?

Ans
1. 39
2. 37
3. 43
4. 36

Question ID : **558101370**
Status : **Answered**
Chosen Option : **1**

Q.73 The given bar graph shows the imports and exports (in ₹ crores) of steel by a country from 2013 to 2017.



The total imports of steel in 2014, 2016 and 2017 is what percent less than the total exports in 2013, 2015 and 2017 (correct to one decimal place)?

Ans
1. 13.4
2. 15.8
3. 16.2
4. 14.5

Question ID : **558101458**
Status : **Answered**
Chosen Option : **4**

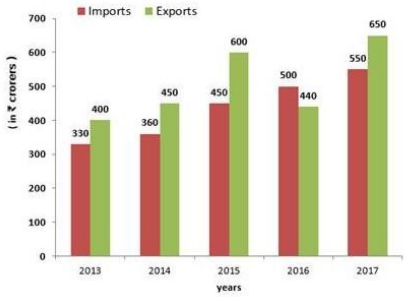
Q.74 A person sells an article at 16% below its cost price. Had he sold it for ₹33 more, he would have gained 14%. To gain 25%, he should sell the article for:

Ans

1. ₹128 ✗
2. ₹137.5 ✓
3. ₹135 ✗
4. ₹130.5 ✗

Question ID : **558101379**
Status : **Answered**
Chosen Option : **2**

Q.75 The given bar graph shows the imports and exports (in ₹ crores) of steel by a country from 2013 to 2017.



In how many years were the imports more than 80% of the average exports (per year) of the country during the given 5 years?

Ans

1. 4 ✗
2. 2 ✗
3. 1 ✗
4. 3 ✓

Question ID : **558101456**
Status : **Answered**
Chosen Option : **1**

Q.76 Renu was sitting inside train A, which was travelling at 50 km/h. Another train, B, whose length was three times the length of A crossed her in the opposite direction in 15 seconds. If the speed of train B was 58 km/h, then the length of train A (in m) is:

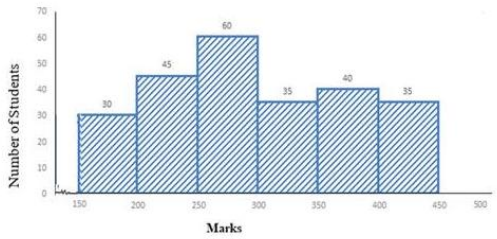
Ans

1. 210 ✗
2. 180 ✗
3. 160 ✗
4. 150 ✓

Question ID : **558101401**
Status : **Not Answered**
Chosen Option : **--**

Q.77

The given graph shows the marks obtained by students in an examination.



The number of students who obtained less than 300 marks is what percent more than the number of students who obtained 350 or more marks?

Ans
1. ✔ 80%
2. ✘ 28%
3. ✘ 44.4%
4. ✘ 22.7%

Question ID : **558101452**
Status : **Answered**
Chosen Option : **1**

Q.78 In ΔABC, AB = AC and D is a point on BC. If BD = 5 cm, AB = 12 cm and AD = 8 cm, then the length of CD is:

Ans
1. ✘ 14.8 cm
2. ✘ 16.2 cm
3. ✔ 16 cm
4. ✘ 14 cm

Question ID : **558101434**
Status : **Not Answered**
Chosen Option : **--**

Q.79 The ratio of the incomes of A and B last year was 4 : 3, respectively. The ratios of their individual incomes of the last year and the present year are 3 : 4 and 5 : 6, respectively. If their total income for the present year is ₹8.04 lakh, then the income of B last year was:

Ans
1. ✔ ₹2.7 lakh
2. ✘ ₹3.6 lakh
3. ✘ ₹2.4 lakh
4. ✘ ₹2.8 lakh

Question ID : **558101390**
Status : **Answered**
Chosen Option : **1**

Q.80 When a two-digit number is multiplied by the sum of its digits, the product is 424. When the number obtained by interchanging its digits is multiplied by the sum of the digits, the result is 280. The sum of the digits of the given number is:

Ans
1. ✘ 6
2. ✘ 9
3. ✔ 8
4. ✘ 7

Question ID : **558101372**
Status : **Answered**

Chosen Option : **3**

Q.81 To do a certain work, the ratio of the efficiencies of X and Y is 5 : 4. Working together, they can complete the same work in 10 days. Y alone starts the work and leaves after 5 days. The remaining work will be completed by X alone in:

Ans

✔ 1. 14 days

✗ 2. 12 days

✗ 3. 15 days

✗ 4. 10 days

Question ID : **558101407**
Status : **Answered**
Chosen Option : **1**

Q.82 The bisector of $\angle B$ in ΔABC meets AC at D. If AB = 10 cm, BC = 11cm and AC = 14 cm, then the length of AD is:

Ans

✗ 1. 6 cm

✗ 2. $\frac{22}{3}$ cm

✗ 3. 7 cm

✔ 4. $\frac{20}{3}$ cm

Question ID : **558101430**
Status : **Answered**
Chosen Option : **4**

Q.83 The value of $0.5\bar{6} - 0.7\overline{23} + 0.3\bar{9} \times 0.\bar{7}$ is:

Ans

✔ 1. $0.1\overline{54}$

✗ 2. $0.\overline{154}$

✗ 3. $0.\overline{158}$

✗ 4. $0.1\overline{58}$

Question ID : **558101362**
Status : **Not Answered**
Chosen Option : **--**

Q.84 A circle is inscribed in a quadrilateral ABCD touching AB, BC, CD and AD at the points P, Q, R and S, respectively, and $\angle B = 90°$. If AD = 24 cm, AB = 27 cm and DR = 6 cm, then what is the circumference of the circle?

Ans

✗ 1. 20π

✔ 2. 18π

✗ 3. 15π

✗ 4. 12π

Question ID : **558101438**
Status : **Not Answered**
Chosen Option : **--**

Q.85

Places A and B are 396 km apart. Train X leaves from A for B and train Y leaves from B for A at the same time on the same day on parallel tracks. Both trains meet after $5\frac{1}{2}$ hours. The speed of Y is 10 km/h more than that of X. What is the speed (in km/h) of Y?

Ans
1. 41 ✓
2. 54 ✗
3. 31 ✗
4. 56 ✗

Question ID : **558101403**
Status : **Answered**
Chosen Option : **1**

Q.86 If the curved surface area of a solid cylinder is one-third of its total surface area, then what is the ratio of its diameter to its height?

Ans
1. 5 : 2 ✗
2. 1 : 1 ✗
3. 2 : 1 ✗
4. 4 : 1 ✓

Question ID : **558101413**
Status : **Answered**
Chosen Option : **4**

Q.87 A sum amounts to ₹14,395.20 at 9.25 % p.a. simple interest in 5.4 years. What will be the simple interest on the same sum at 8.6 % p.a. in 4.5 years?

Ans
1. ₹3,715.20 ✓
2. ₹3,627 ✗
3. ₹3,797.76 ✗
4. ₹3,672 ✗

Question ID : **558101386**
Status : **Not Answered**
Chosen Option : **--**

Q.88 When an article is sold at its marked price, it gives a profit of 25%. If a discount of 9.6% is allowed on the marked price, then the profit percent will be:

Ans
1. 13 ✓
2. 15.4 ✗
3. 15 ✗
4. 16.6 ✗

Question ID : **558101385**
Status : **Answered**
Chosen Option : **1**

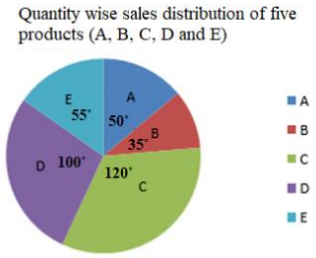
Q.89 A man sells his goods at a certain price, 20% of which is his profit. If the price at which he buys the goods increases by 10% and he sells them at an 8% higher price, then what will be his profit percent (correct to one decimal place)?

Ans
1. 21.8 ✗
2. 23.4 ✗
3. 21.4 ✗

✔ 4. 22.7

Question ID : **558101382**
Status : **Answered**
Chosen Option : **4**

Q.90 The given pie chart shows the quantity wise sales distribution of five products (A, B, C, D and E) of a company in 2016.



In 2016, if a total of 14616 units were sold, then the number of units of products D sold was:

Ans
✘ 1. 4263
✘ 2. 4872
✔ 3. 4060
✘ 4. 4096

Question ID : **558101455**
Status : **Answered**
Chosen Option : **3**

Q.91 The value of $9 \times 6 \div 24 + 8 \div 2$ of $5 - 30 \div 4$ of $4 + 27 \times 5 \div 9$ is:

Ans
✔ 1. $\frac{647}{40}$
✘ 2. $\frac{243}{8}$
✘ 3. $\frac{493}{8}$
✘ 4. $\frac{259}{8}$

Question ID : **558101361**
Status : **Not Answered**
Chosen Option : **--**

Q.92 A field roller, in the shape of a cylinder, has a diameter of 1 m and length of $1\frac{1}{4}$ m. If the speed at which the roller rolls is 14 revolutions per minute, then the maximum area (in m^2) that it can roll in 1 hour is:

(Take $\pi = \frac{22}{7}$)

Ans
✘ 1. 3960
✘ 2. 3600
✔ 3. 3300
✘ 4. 3560

Question ID : **558101411**
Status : **Marked For Review**
Chosen Option : **3**

Q.93 If the volume of a sphere is 4851 cm^3, then its surface area (in cm^2) is:

(Take $\pi = \frac{22}{7}$)

Ans
1. ✔ 1386
2. ✘ 2772
3. ✘ 1323
4. ✘ 1337

Question ID : **558101410**
Status : **Answered**
Chosen Option : **1**

Q.94 From a point exactly midway between the foot of two towers P and Q, the angles of elevation of their tops are 30° and 60°, respectively. The ratio of the height of P to that of Q is:

Ans
1. ✔ 1 : 3
2. ✘ 1 : 2
3. ✘ $1 : 2\sqrt{3}$
4. ✘ $2 : 3\sqrt{3}$

Question ID : **558101451**
Status : **Answered**
Chosen Option : **1**

Q.95 The graphs of the equations $2x + 3y = 11$ and $x - 2y + 12 = 0$ intersects at $P(x_1, y_1)$ and the graph of the equation $x - 2y + 12 = 0$ intersects the x-axis at Q (x_2, y_2). What is the value of $(x_1 - x_2 + y_1 + y_2)$?

Ans
1. ✘ 13
2. ✘ −11
3. ✔ 15
4. ✘ −9

Question ID : **558101421**
Status : **Answered**
Chosen Option : **3**

Q.96 If $x = \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}+\sqrt{3}}$ and y is the reciprocal of x, then what is the value of $(x^3 + y^3)$?

Ans
1. ✔ 488
2. ✘ 504
3. ✘ 472
4. ✘ 476

Question ID : **558101368**
Status : **Answered**
Chosen Option : **1**

Q.97 A man starts from his house and travelling at 30 km/h, he reaches his office late by 10 minutes, and travelling at 24 km/h, he reaches his office late by 18 minutes. The distance (in km) from his house to his office is:

Ans
1. ✘ 18

✔ 2. 16

✘ 3. 12

✘ 4. 20

Question ID : **558101402**
Status : **Marked For Review**
Chosen Option : **2**

Q.98 The value of $(\tan 29^\circ \cot 61^\circ - \operatorname{cosec}^2 61^\circ) + \cot^2 54^\circ - \sec^2 36^\circ + (\sin^2 1^\circ + \sin^2 3^\circ + \sin^2 5^\circ + \cdots + \sin^2 89^\circ)$ is:

Ans

✔ 1. $20\frac{1}{2}$

✘ 2. 21

✘ 3. $22\frac{1}{2}$

✘ 4. 22

Question ID : **558101450**
Status : **Not Answered**
Chosen Option : **--**

Q.99 If $\sqrt{10-2\sqrt{21}}+\sqrt{8+2\sqrt{15}}=\sqrt{a}+\sqrt{b}$, where a and b are positive integers, then the value of $\sqrt{ab}$ is closest to:

Ans

✘ 1. 4.6

✔ 2. 5.9

✘ 3. 6.8

✘ 4. 7.2

Question ID : **558101367**
Status : **Answered**
Chosen Option : **2**

Q.100 A can do 40% of a work in 12 days, whereas B can do 60% of the same work in 15 days. Both work together for 10 days. C completes the remaining work alone in 4 days. A, B and C together will complete 28% of the same work in:

Ans

✘ 1. $2\frac{1}{2}$ days

✘ 2. 3 days

✘ 3. $1\frac{1}{2}$ days

✔ 4. 2 days

Question ID : **558101406**
Status : **Answered**
Chosen Option : **4**