

Combined Graduate Level Examination (Tier-II), 2018

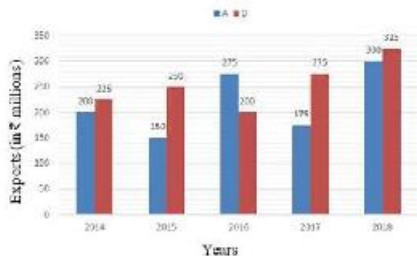
Test Venue	ION DIGITAL ZONE IDZ TUPUDANA
Test Time	10:00 AM - 12:00 PM
Test Date	11/09/2019
Subject	CGLE Tier II Paper I Quantitative abilities

Section : Quantitative abilities

Q.1 The value of $\frac{7+8 \times 8 \div 8 \text{ of } 8+8 \div 8 \times 4 \text{ of } 4}{4 \div 4 \text{ of } 4+4 \times 4 \div 4 - 4 \div 4 \text{ of } 2}$ is:

- Ans
- 1. 7.8
 - 2. 4.6
 - 3. 8.7
 - 4. 6.4

Q.2 The bar graph shows the exports of Cars of type A and B (in ₹ millions).



In which year, the exports of cars of type A was 10% more than the average exports (per year) of cars of type A over the five years?

- Ans
- 1. 2015
 - 2. 2017
 - 3. 2014
 - 4. 2016

Question ID : 558101358
 Status : Answered
 Chosen Option : 4

Q.3 If $\sin \theta = \sqrt{3} \cos \theta$, $0^\circ < \theta < 90^\circ$, then the value of $2\sin^2\theta + \sec^2\theta + \sin\theta \sec\theta + \operatorname{cosec}\theta$ is:

- Ans
- 1. $\frac{33+10\sqrt{3}}{6}$
 - 2. $\frac{19+10\sqrt{3}}{6}$

✗ 3. $\frac{33+10\sqrt{3}}{3}$

✗ 4. $\frac{19+10\sqrt{3}}{3}$

Q.4 To do a certain work, the ratio of efficiency of A to that of B is 3 : 7. Working together, they can complete the work in $10\frac{1}{2}$ days. They work together for 8 days. 60% of the remaining work will be completed by A alone in :

Ans ✗ 1. $5\frac{1}{2}$ days

✓ 2. 5 days

✗ 3. $6\frac{1}{2}$ days

✗ 4. 4 days

Q.5 The average of thirteen numbers is 47. The average of the first three numbers is 39 and that of next seven numbers is 49. The 11th number is two times the 12th number and 12th number is 3 less than the 13th number. What is the average of 11th and 13th numbers?

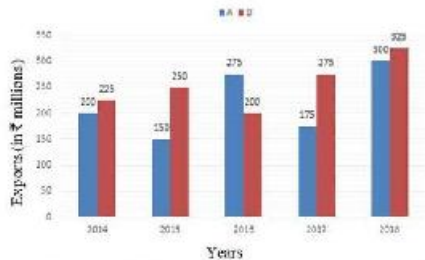
Ans ✗ 1. 54.5

✓ 2. 57

✗ 3. 56

✗ 4. 55.5

Q.6 The bar graph shows the exports of Cars of Type A and B (in ₹ millions).



What is the ratio of the total exports of cars of type A in 2014 and 2018 to the total exports of cars of type B in 2015 and 2016?

Ans ✗ 1. 11 : 10

✓ 2. 10 : 9

✗ 3. 5 : 4

✗ 4. 3 : 2

Question ID : 558101356
Status : Answered

Chosen Option : 2

Q.7 If $x^8 - 1442x^4 + 1 = 0$, then a possible value of $x - \frac{1}{x}$ is:

- Ans
- 1. 5
 - 2. 8
 - 3. 4
 - 4. 6

Q.8 The graphs of the equations $3x + y - 5 = 0$ and $2x - y - 5 = 0$ intersect at the point $P(\alpha, \beta)$. What is the value of $(3\alpha + \beta)$?

- Ans
- 1. 4
 - 2. -4
 - 3. 3
 - 4. 5

Q.9 If $\sqrt{86 - 60\sqrt{2}} = a - b\sqrt{2}$, then what will be the value of $\sqrt{a^2 + b^2}$, correct to one decimal place?

- Ans
- 1. 8.4
 - 2. 8.2
 - 3. 7.8
 - 4. 7.2

Q.10 The sides AB and AC of $\triangle ABC$ are produced to P and Q respectively. The bisectors of $\angle CBP$ and $\angle BCQ$ meet at R. If the measure of $\angle A$ is 44° , then what is the measure of $\frac{1}{2}\angle BRC$?

- Ans
- 1. 33°
 - 2. 38°
 - 3. 34°
 - 4. 32°

Question ID : 558101327
 Status : Answered
 Chosen Option : 3

Q.11 In $\triangle ABC$, D is a point on side BC such that $\angle ADC = \angle BAC$. If CA = 12 cm, CB = 8 cm, then CD is equal to:

- Ans
- 1. 12 cm
 - 2. 15 cm

✓ 3. 18 cm

✗ 4. 16 cm

Q.12 A person marks his goods $x\%$ above the cost price and allows a discount of 30% on the marked price. If his profit is 5%, then the value of x will be:

Ans ✓ 1. 50

✗ 2. 60

✗ 3. 45

✗ 4. 35

Q.13 If $a^2 + b^2 + c^2 + 96 = 8(a + b - 2c)$, then $\sqrt{ab - bc + ca}$ is equal to:

Ans ✗ 1. 6

✗ 2. $2\sqrt{2}$

✓ 3. 4

✗ 4. $2\sqrt{3}$

Q.14 A right circular cylinder of maximum volume is cut out from a solid wooden cube. The material left is what percent of the volume (nearest to an integer) of the original cube?

Ans ✗ 1. 19

✗ 2. 28

✗ 3. 23

✓ 4. 21

Q.15 The ratio of the volumes of two cylinders is $x : y$ and the ratio of their diameters is $a : b$. What is the ratio of their heights?

Ans ✗ 1. $xb : ya$

✗ 2. $xa : yb$

✓ 3. $xb^2 : ya^2$

✗ 4. $xa^2 : yb^2$

Question ID : 558101312
Status : Answered

Q.16 The value of the expression $(\cos^6\theta + \sin^6\theta - 1)(\tan^2\theta + \cot^2\theta + 2)$ is:

- Ans
- 1. 0
 - 2. -1
 - 3. -3
 - 4. 1

Q.17 If A is 28% more than B and C is 25% less than the sum of A and B, then by what percent will C be more than A (correct to one decimal place)?

- Ans
- 1. 32.2%
 - 2. 28%
 - 3. 43%
 - 4. 33.6%

Q.18 A shopkeeper bought 120 quintals of wheat. 20% of it was sold at 25% loss. At what percent gain should he sell the rest to gain 25% on the whole transaction?

- Ans
- 1. $36\frac{1}{2}$
 - 2. 40
 - 3. $37\frac{1}{2}$
 - 4. 35

Q.19 The value of $22.\bar{4} + 11.5\bar{67} - 33.5\bar{9}$ is:

- Ans
- 1. $0.\bar{32}$
 - 2. $0.\bar{412}$
 - 3. $0.3\bar{1}$
 - 4. $0.4\bar{12}$

Q.20 Anu sold an article for ₹480 at some profit. Had she sold it for ₹400, then there would have been a loss equal to one-third of the initial profit. What was the cost price of the article?

Ans

- 1. ₹450
- 2. ₹430
- 3. ₹425
- 4. ₹420

Q.21 In a school, $\frac{5}{9}$ of the number of students are girls and the rest are boys. $\frac{2}{5}$ of the number of boys are below 12 years of age and $\frac{5}{13}$ of the number of girls are 12 years or above 12 years of age. If the number of students below 12 years of age is 480, then $\frac{7}{13}$ of the total number of students in the school will be equal to:

- Ans**
- 1. 270
 - 2. 315
 - 3. 225
 - 4. 240

Q.22 $\frac{(2 \sin A)(1 + \sin A)}{1 + \sin A + \cos A}$ is equal to:

- Ans**
- 1. $1 + \sin A - \cos A$
 - 2. $1 - \sin A \cos A$
 - 3. $1 + \cos A - \sin A$
 - 4. $1 + \sin A \cos A$

Q.23 A and B can do a piece of work in 6 days and 8 days, respectively. With the help of C, they completed the work in 3 days and earned ₹1,848. What was the share of C?

- Ans**
- 1. ₹231
 - 2. ₹924
 - 3. ₹462
 - 4. ₹693

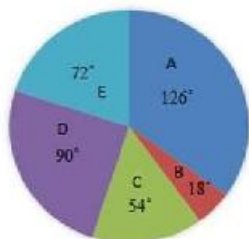
Q.24 If $x + y + z = 11$, $x^2 + y^2 + z^2 = 133$ and $x^3 + y^3 + z^3 = 801$, then the value of $\sqrt[3]{xyz}$ is:

- Ans**
- 1. -6
 - 2. 6

3. -8

4. 8

Q.25 The given pie chart shows the breakup of total number of the employees of a company working in different offices (A, B, C, D and E).
Total No. of employees = 2400



What is the number of offices in which the number of employees of the company is between 350 and 650?

- Ans**
- 1. 1
 - 2. 4
 - 3. 2
 - 4. 3

Q.26 Pipes A, B and C can fill a tank in 30 h, 40 h and 60 h respectively. Pipes A, B and C are opened at 7 a.m., 8 a.m., and 10 a.m., respectively on the same day. When will the tank be full?

- Ans**
- 1. 10.00 p.m.
 - 2. 10.20 p.m.
 - 3. 9.20 p.m.
 - 4. 9.40 p.m.

Q.27 If the radius of a right circular cylinder is decreased by 20% while its height is increased by 40%, then the percentage change in its volume will be:

- Ans**
- 1. 1.04% increase
 - 2. 10.4% decrease
 - 3. No increase or decrease
 - 4. 10.4% increase

Question ID : 558101316
Status : Answered
Chosen Option : 2

Q.28

The number of students in a class is 75, out of which $33\frac{1}{2}\%$ are boys and the rest are girls. The average score in mathematics of the boys is $66\frac{2}{3}\%$ more than that of the girls. If the average score of all the students is 66, then the average score of the girls is:

- Ans
- 1. 52
 - 2. 55
 - 3. 54
 - 4. 58

Q.29 A shopkeeper allows 28% discount on the marked price of an article and still makes a profit of 20%. If he gains ₹30.80 on the sale of one article, then what will be the cost price of the article?

- Ans
- 1. ₹164
 - 2. ₹145
 - 3. ₹160
 - 4. ₹154

Q.30 In $\triangle ABC$, $\angle A = 52^\circ$ and O is the orthocentre of the triangle (BO and CO meet AC and AB at E and F respectively when produced). If the bisectors of $\angle OBC$ and $\angle OCB$ meet at P , then the measure of $\angle BPC$ is:

- Ans
- 1. 124°
 - 2. 132°
 - 3. 138°
 - 4. 154°

Q.31 Let a, b and c be the fractions such that $a < b < c$. If c is divided by a , the result is $\frac{c}{a}$, which exceeds b by $\frac{7}{9}$. If $a + b + c = 1\frac{11}{12}$, then $(c - a)$ will be equal to:

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

Q.32

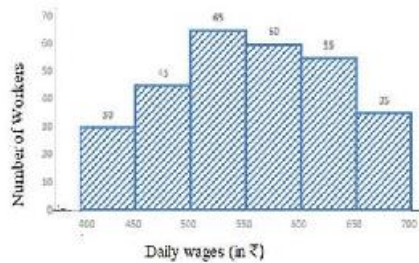
The value of $\frac{(253)^3 + (247)^3}{25.3 \times 25.3 - 624.91 + 24.7 \times 24.7}$ is 50×10^k , where the value of k is:

- Ans
- 1. 3
 - 2. 4
 - 3. 2
 - 4. -3

Q.33 Travelling at 60 km/h, a person reaches his destination in a certain time. He covers 60% of his journey in $\frac{2}{5}$ th of the time. At what speed (in km/h) should he travel to cover the remaining journey so that he reaches the destination right on time?

- Ans
- 1. 40
 - 2. 48
 - 3. 42
 - 4. 36

Q.34 Study the graph and answer the question that follows.



What is the ratio of the total number of workers whose daily wages are less than ₹500 to the total number of workers whose daily wages are ₹600 and above?

- Ans
- 1. 5 : 6
 - 2. 6 : 7
 - 3. 3 : 4
 - 4. 15 : 11

Q.35 The value of $\frac{(\cos 9^\circ + \sin 81^\circ)(\sec 9^\circ + \operatorname{cosec} 81^\circ)}{\sin 56^\circ \sec 34^\circ + \cos 25^\circ \operatorname{cosec} 65^\circ}$ is:

- Ans
- 1. 4
 - 2. $\frac{1}{2}$
 - 3. 2

4. $\frac{1}{4}$

Q.36 If $(\sqrt{2} + \sqrt{5} - \sqrt{3}) \times k = -12$, then what will be the value of k ?

- Ans 1. $\sqrt{2} + \sqrt{5} + \sqrt{3}$
 2. $(\sqrt{2} + \sqrt{5} + \sqrt{3})(2 - \sqrt{10})$
 3. $(\sqrt{2} + \sqrt{5} - \sqrt{3})(2 + \sqrt{5})$
 4. $(\sqrt{2} + \sqrt{5} + \sqrt{3})(2 - \sqrt{5})$

Q.37 If θ lies in the first quadrant and $\cos^2 \theta - \sin^2 \theta = \frac{1}{2}$, then the value of $\tan^2 2\theta + \sin^2 3\theta$ is:

- Ans 1. $\frac{7}{2}$
 2. 3
 3. 4
 4. $\frac{4}{3}$

Q.38 A sum of ₹18,000 is lent at 10% p.a. compound interest, compounded annually. What is the difference between the compound interest for 3rd year and 4th year?

- Ans 1. ₹220.60
 2. ₹217.80
 3. ₹221.80
 4. ₹215.40

Q.39 What is the value of $\operatorname{cosec}(65^\circ + \theta) - \sec(25^\circ - \theta) + \tan^2 20^\circ - \operatorname{cosec}^2 70^\circ$?

- Ans 1. 0
 2. 1
 3. 2
 4. -1

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Q.40 The ratio of the income of A to that of B is 5 : 7. A and B save ₹4,000 and ₹5,000 respectively. If the expenditure of A is equal to $86\frac{2}{4}\%$ of the expenditure of B, then the total income of A and B is:

- Ans
- 1. ₹25,200
 - 2. ₹24,000
 - 3. ₹26,400
 - 4. ₹28,800

Q.41 In ΔABC , $AB = 6$ cm, $AC = 8$ cm, and $BC = 9$ cm. The length of median AD is:

- Ans
- 1. $\frac{\sqrt{317}}{2}$ cm
 - 2. $\frac{\sqrt{119}}{2}$ cm
 - 3. $\frac{\sqrt{313}}{2}$ cm
 - 4. $\frac{\sqrt{115}}{2}$ cm

Q.42 If a nine-digit number $389x6378y$ is divisible by 72, then the value of $\sqrt{6x + 7y}$ will be:

- Ans
- 1. 6
 - 2. $\sqrt{13}$
 - 3. $\sqrt{46}$
 - 4. 8

Q.43
$$\frac{(1 + \cos \theta)^2 + \sin^2 \theta}{(\operatorname{cosec}^2 \theta - 1)\sin^2 \theta} =$$

- Ans
- 1. $\cos \theta(1 + \sin \theta)$
 - 2. $2 \cos \theta(1 + \sec \theta)$
 - 3. $\sec \theta(1 + \sin \theta)$
 - 4. $2 \sec \theta(1 + \sec \theta)$

Q.44 When 12, 16, 18, 20 and 25 divide the least number x , the remainder in each case is 4 but x is divisible by 7. What is the digit at the thousands' place in x ?

- Ans**
- 1. 5
 - 2. 8
 - 3. 4
 - 4. 3

Q.45 If $(a + b) : (b + c) : (c + a) = 7 : 6 : 5$ and $a + b + c = 27$, then what will be the value of $\frac{1}{a} : \frac{1}{b} : \frac{1}{c}$?

- Ans**
- 1. 3 : 6 : 4
 - 2. 3 : 2 : 4
 - 3. 4 : 3 : 6
 - 4. 3 : 4 : 2

Q.46 PQRS is a cyclic quadrilateral in which PQ = 14.4 cm, QR = 12.8 cm and SR = 9.6 cm. If PR bisects QS, what is the length of PS?


- Ans**
- 1. 15.8 cm
 - 2. 16.4 cm
 - 3. 13.6 cm
 - 4. 19.2 cm


Q.47 In what ratio, sugar costing ₹60 per kg be mixed with sugar costing ₹42 per kg such that by selling the mixture at ₹56 per kg there is a gain of 12%?


- Ans**
- 1. 5 : 6
 - 2. 8 : 9
 - 3. 4 : 5
 - 4. 5 : 7

Q.48 When an article is sold for ₹355, there is a loss of 29%. To gain 21%, it should be sold for ₹.

- Ans**
- 1. 629.20

 2. 580.80


 3. 605


 4. 635


Question ID : 558101279
 Status : Answered
 Chosen Option : 3

Q.49 $\left(\frac{1 - \tan \theta}{1 - \cot \theta}\right)^2 + 1 =$


Ans  1. cosec²θ


 2. sec²θ


 3. sin²θ


 4. cos²θ

Q.50 $\sqrt{\frac{\cot \theta + \cos \theta}{\cot \theta - \cos \theta}}$ is equal to:

Ans  1. sec θ + tan θ

 2. 1 + sec θ tan θ

 3. 1 - sec θ tan θ

 4. sec θ - tan θ

Q.51 If $5 \sin \theta - 4 \cos \theta = 0$, $0^\circ < \theta < 90^\circ$, then the value of $\frac{5 \sin \theta - 2 \cos \theta}{5 \sin \theta + 3 \cos \theta}$ is:

Ans  1. $\frac{3}{8}$

 2. $\frac{3}{7}$

 3. $\frac{2}{7}$

 4. $\frac{5}{8}$

Q.52 If the radius of the base of a cone is doubled, and the volume of the new cone is three times the volume of the original cone, then what will be the ratio of the height of the original cone to that of the new cone?

Ans  1. 1 : 3

✓ 2. 4 : 3

✗ 3. 2 : 9

✗ 4. 9 : 4

Q.53 Abhi rows upstream a distance of 28 km in 4 h and rows downstream a distance of 50 km in 2 h. To row a distance of 42.8 km in still water, he will take:

Ans ✓ 1. 2.8 h

✗ 2. 3.2 h

✗ 3. 2.4 h

✗ 4. 2.2 h

Q.54 A sum of ₹8,400 amounts to ₹11,046 at 8.75% p.a. simple interest in certain time. What is the simple interest on the sum of ₹9,600 at the same rate for the same time?

Ans ✗ 1. ₹2,990

✗ 2. ₹3,012

✗ 3. ₹2,686

✓ 4. ₹3,024

Q.55 If the diameter of the base of a cone is 42 cm and its curved surface area is 2310 cm², then what will be its volume (in cm³)?

Ans ✗ 1. 25872

✗ 2. 19404

✓ 3. 12936

✗ 4. 38808

Q.56 If a cuboid of dimensions 32 cm × 12 cm × 9 cm is cut into two cubes of same size, what will be the ratio of the surface area of the cuboid to the total surface area of the two cubes?

Ans ✓ 1. 65 : 72

✗ 2. 37 : 48

✗ 3. 24 : 35

✗ 4. 32 : 39

Q.57 When x is added to each of 2, 3, 30 and 35, then the numbers obtained in this order, are in proportion. What is the mean proportional between $(x + 7)$ and $(x - 2)$?

- Ans
- 1. 7
 - 2. 4
 - 3. 6
 - 4. 5

Q.58 The ratio of investment by A to that by B in a business is 14 : 15 and the ratio of their respective profits at the end of a year is 2 : 5. If A invested the money for 3 months, then for how much time (in months) B invested his money?

- Ans
- 1. 7
 - 2. 6
 - 3. 5
 - 4. 9

Q.59 In $\triangle ABC$, $AB = 7$ cm, $BC = 10$ cm, and $AC = 8$ cm. If AD is the angle bisector of $\angle BAC$, where D is a point on BC, then BD is equal to:

- Ans
- 1. $\frac{16}{3}$ cm
 - 2. $\frac{15}{4}$ cm
 - 3. $\frac{14}{3}$ cm
 - 4. $\frac{17}{4}$ cm

Q.60 The base of right prism is a trapezium whose parallel sides are 11 cm and 15 cm and the distance between them is 9 cm. If the volume of the prism is 1731.6 cm^3 , then the height (in cm) of the prism will be:

- Ans
- 1. 15.6
 - 2. 15.2
 - 3. 14.8
 - 4. 14.2

Q.61 Raghuav spends 80% of his income. If his income increases by 12% and the savings decrease by 10%, then what will be the percentage increase in his expenditure?

- Ans
- 1. 20.5
 - 2. 16
 - 3. 17.5
 - 4. 22

Q.62 The lateral surface area of a cylinder is 352 cm^2 . If its height is 7 cm, then its volume (in cm^3) is:

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

- Ans
- 1. 1408
 - 2. 1078
 - 3. 1243
 - 4. 891

Q.63 What will be the compound interest on a sum of ₹31,250 for 2 years at 12% p.a., if the interest is compounded 3-monthly?

- Ans
- 1. ₹8,106
 - 2. ₹8,116
 - 3. ₹8,016
 - 4. ₹8,156

Q.64 When 7897, 8110 and 8536 are divided by the greatest number x , then the remainder in each case is the same. The sum of the digits of x is:

- Ans
- 1. 14
 - 2. 5
 - 3. 9
 - 4. 6

Q.65 The ratios of copper to zinc in alloys A and B are 3 : 4 and 5 : 9, respectively. A and B are taken in the ratio 2 : 3 and melted to form a new alloy C. What is the ratio of copper to zinc in C?

- Ans
- 1. 8 : 13
 - 2. 3 : 5

3. 9 : 11

4. 27 : 43

Q.66 In $\triangle ABC$, D and E are the points on sides AB and BC respectively such that $DE \parallel AC$. If $AD : DB = 5 : 3$, then what is the ratio of the area of $\triangle BDE$ to that of the trapezium ACED?

Ans 1. 4 : 25

2. 9 : 55

3. 9 : 64

4. 1 : 6

Q.67 One year ago, the ratio of the age (in years) of A to that of B was 4 : 3. The ratio of their respective ages, 3 years from now, will be 6 : 5. What will be the ratio of respective ages of A and B, 9 years from now?

Ans 1. 7 : 6

2. 10 : 9

3. 9 : 8

4. 8 : 7

Q.68 The sides of a triangle are 11 cm, 60 cm and 61 cm. What is the radius of the circle circumscribing the triangle?

Ans 1. 31.5 cm

2. 31 cm

3. 30 cm

4. 30.5 cm

Q.69 A sum of ₹5,000 is divided into two parts such that the simple interest on the first part for $4\frac{1}{8}$ years at $6\frac{2}{3}\%$ p.a is double the simple interest on the second part for $2\frac{3}{4}$ years at 4% p.a. What is the difference between the two parts?

Ans 1. ₹680

2. ₹600

3. ₹560

4. ₹620

Q.70

If $x = \sqrt{1 + \frac{\sqrt{3}}{2}} - \sqrt{1 - \frac{\sqrt{3}}{2}}$, then the value of $\frac{\sqrt{2-x}}{\sqrt{2+x}}$ will be closest to:

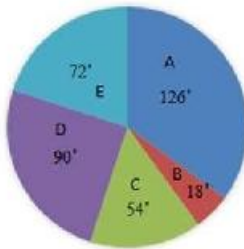
- Ans
- ✓ 1. 0.17
 - ✗ 2. 0.12
 - ✗ 3. 1.4
 - ✗ 4. 1.2

Q.71

The given pie chart shows the breakup of total number of the employees of a company working in different offices

(A, B, C, D and E).

Total No. of employees = 2400



If the percentage of male employees in office C is 20% and that of female employees in E is 40%, then what is the ratio of the number of female employees in C to that of female employees in E?

- Ans
- ✓ 1. 3 : 2
 - ✗ 2. 5 : 4
 - ✗ 3. 2 : 3
 - ✗ 4. 3 : 8

Q.72

In a trapezium ABCD, $DC \parallel AB$, $AB = 12$ cm and $DC = 7.2$ cm. What is the length of the line segment joining the mid-points of its diagonals?

- Ans
- ✗ 1. 2.6 cm
 - ✗ 2. 4.8 cm
 - ✓ 3. 2.4 cm
 - ✗ 4. 3.6 cm

Q.73

A number is first increased by 10% and then increased by 14%. The number, so obtained, is now decreased by 30%. What is the net increase or decrease percent in the original number (nearest to an integer)?

- Ans
- ✗ 1. 6% increase
 - ✓ 2. 7% decrease
 - ✗ 3. No increase or decrease

4. 9% decrease

Q.74 Radha marks her goods 25% above the cost price. She sells 35% of goods at the marked price, 40% at 15% discount and the remaining at 20% discount. What is her overall percentage gain?

- Ans 1. 11.25
 2. 10
 3. 11.75
 4. 12.75

Q.75 Chord AB of a circle is produced to a point P, and C is a point on the circle such that PC is a tangent to the circle. If PC = 18 cm, and BP = 15 cm, then AP is equal to:

- Ans 1. 5.8 cm
 2. 6.2 cm
 3. 6.6 cm
 4. 8.5 cm

Q.76 One of the factors of $(8^{2k} + 5^{2k})$, where k is an odd number, is:

- Ans 1. 86
 2. 88
 3. 84
 4. 89

Q.77 The internal and external radii of a hollow hemispherical vessel are 6 cm and 7 cm respectively. What is the total surface area (in cm^2) of the vessel?

- Ans 1. 183π
 2. 189π
 3. 177π
 4. 174π

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Q.78 When the price of an item was reduced by 25%, then its sale was increased by $x\%$. If there is an increase of 20% in the receipt of the revenue, then the value of x will be:

- Ans
- 1. 50
 - 2. 60
 - 3. 45
 - 4. 75

Q.79 In a constituency, 55% of the total number of voters are males and the rest are females. If 40% of the males are illiterate and 40% of the females are literate, then by what percent is the number of literate males more than that of illiterate females?

- Ans
- 1. $22\frac{8}{11}$
 - 2. $18\frac{2}{9}$
 - 3. $22\frac{2}{9}$
 - 4. $18\frac{2}{11}$

Q.80 From the top of a tower, the angles of depression of two objects on the ground on the same side of it, are observed to be 60° and 30° respectively and the distance between the objects is $400\sqrt{3}$ m. The height (in m) of the tower is:

- Ans
- 1. 800
 - 2. $800\sqrt{3}$
 - 3. 600
 - 4. $600\sqrt{3}$

Q.81 A train travelling at the speed of x km/h crossed a 200 m long platform in 30 seconds and overtook a man walking in the same direction at the speed of 6 km/h in 20 seconds. What is the value of x ?

- Ans
- 1. 50
 - 2. 54
 - 3. 56
 - 4. 60

Q.82 Let $x = (633)^{24} - (277)^{38} + (266)^{54}$. What is the units digit of x ?

- Ans
- 1. 7
 - 2. 6
 - 3. 4
 - 4. 8

Q.83 Three solid metallic spheres whose radii are 1 cm, x cm and 8 cm, are melted and recast into a single solid sphere of diameter 18 cm. The surface area (in cm^2) of the sphere with radius x cm is:

- Ans
- 1. 144π
 - 2. 72π
 - 3. 64π
 - 4. 100π

Q.84 The value of $\left(2 \frac{6}{7} \text{ of } 4 \frac{1}{5} \div \frac{2}{3}\right) \times 1 \frac{1}{9} \div \left(\frac{3}{4} \times 2 \frac{2}{3} \text{ of } \frac{1}{2} \div \frac{1}{4}\right)$ is:

- Ans
- 1. 5
 - 2. 8
 - 3. $\frac{1}{8}$
 - 4. $\frac{1}{5}$

Q.85 An article is sold at a certain price. If it is sold at $33\frac{1}{3}\%$ of this price, there is a loss of $33\frac{1}{3}\%$. What is the percentage profit when it is sold at 60% of the original selling price?

- Ans
- 1. 20
 - 2. 30
 - 3. $33\frac{1}{3}$
 - 4. $17\frac{1}{3}$

Q.86 If $a^3 + b^3 = 218$ and $a + b = 2$, then the value of ab is:

- Ans
- 1. 34
 - 2. -35
 - 3. -31
 - 4. 32

Q.87 In ΔABC , $\angle A = 58^\circ$. If I is the incentre of the triangle, then the measure of $\angle BIC$ is:

- Ans
- 1. 109°
 - 2. 123°
 - 3. 112°
 - 4. 119°

Q.88 If $2\sqrt{2}x^3 - 3\sqrt{3}y^3 = (\sqrt{2}x - \sqrt{3}y)(Ax^2 + By^2 + Cxy)$, then the value of $A^2 + B^2 - C^2$ is:

- Ans
- 1. 11
 - 2. 7
 - 3. 19
 - 4. 10

Q.89 A circle is inscribed in ΔABC , touching AB , BC and AC at the points P , Q and R respectively. If $AB - BC = 4$ cm, $AB - AC = 2$ cm and the perimeter of $\Delta ABC = 32$ cm, then $PE - AR$ is equal to:

- Ans
- 1. 12 cm
 - 2. 13 cm
 - 3. $\frac{33}{5}$ cm
 - 4. $\frac{38}{3}$ cm

Q.90 If each interior angle of a regular polygon is (128°) , then what is the sum of the number of its diagonals and the number of its sides?

- Ans
- 1. 15
 - 2. 19
 - 3. 17
 - 4. 21

Q.91 If the radius of a sphere is increased by 4 cm, its surface area is increased by 464π cm². What is the volume (in cm³) of the original sphere?

- Ans**
- 1. $\frac{15625}{6}\pi$
 - 2. $\frac{35937}{8}\pi$
 - 3. $\frac{11979}{2}\pi$
 - 4. $\frac{15625}{8}\pi$

Q.92 The sum of the digits of a two-digit number is $\frac{1}{5}$ of the number. The units digit is 4 less than the tens digit. If the number obtained on reversing its digits is divided by 7, the remainder will be:

- Ans**
- 1. 4
 - 2. 5
 - 3. 1
 - 4. 6

Q.93 The graph of the equation $x - 7y = -42$, intersects the y-axis at $P(\alpha, \beta)$ and the graph of $6x + y - 15 = 0$, intersects the x-axis at $Q(\gamma, \delta)$. What is the value of $\alpha + \beta + \gamma + \delta$?

- Ans**
- 1. $\frac{17}{2}$
 - 2. 6
 - 3. $\frac{9}{2}$
 - 4. 5

Q.94 In quadrilateral ABCD, the bisectors of $\angle A$ and $\angle B$ meet at O and $\angle AOB = 64^\circ$. $\angle C + \angle D$ is equal to:

- Ans**
- 1. 136°
 - 2. 128°
 - 3. 116°
 - 4. 148°

Question ID : 558101340
Status : Answered

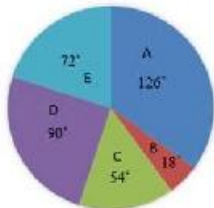
Q.95 'A' started a business with a capital of ₹54,000 and admitted 'B' and 'C' after 4 months and 6 months, respectively. At the end of the year, the profit was divided in the ratio 1 : 4 : 5. What is the difference between the capitals invested by 'B' and 'C'?

- Ans
- 1. ₹1,08,000
 - 2. ₹1,62,000
 - 3. ₹2,16,000
 - 4. ₹3,24,000

Q.96 A and B started their journeys from X to Y and Y to X, respectively. After crossing each other, A and B completed the remaining parts of their journeys in $6\frac{1}{8}$ h and 8 h respectively. If the speed of B is 28 km/h, then the speed (in km/h) of A is:

- Ans
- 1. 40
 - 2. 42
 - 3. 32
 - 4. 36

Q.97 The given pie chart shows the breakup of total number of the employees of a company working in different offices (A, B, C, D and E).
Total No. of employees = 2400



If 40% of the number of employees in office A are shifted equally to office B and E, then what is the difference between the number of employees in B and that in C?

- Ans
- 1. 72
 - 2. 120
 - 3. 82
 - 4. 130

Q.98 The volume of a right pyramid is $45\sqrt{3}\text{cm}^3$ and its base is an equilateral triangle with side 6 cm. What is the height (in cm) of the pyramid?

- Ans
- 1. 15
 - 2. 18

3. 12

4. 20

Q.99 A certain number of persons can complete a work in 34 days working 9 h a day. If the number of persons is decreased by 40%, then how many hours a day should the remaining persons work to complete the work in 51 days?

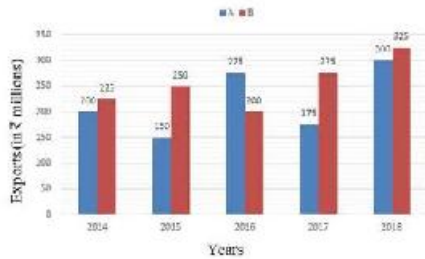
Ans 1. 9

2. 8

3. 12

4. 10

Q.100 The bar graph shows the exports of Cars of Type A and B (in ₹ millions).



The total exports of cars of type A in 2014 to 2017 is approximately what percentage less than the total exports of cars of type B in 2015 to 2018?

Ans 1. 31.3

2. 30.4

3. 14.3

4. 23.8



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