Combined Graduate Level Examination 2019 Tier II

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Roll Number	
Candidate Name	
Venue Name	
Exam Date	18/11/2020
Exam Time	10:00 AM - 12:00 PM
Subject	CGLE Tier II Paper I Quantitative abilities

Section : **Quantitative abilities**

Q.1 The sum of three numbers is 280. If the ratio between the first and second numbers is 2 : 3 and the ratio between second and third numbers is 4 : 5, then find the second number.

Ans
✗ 1. 90
✗ 2. 86
✔ 3. 96
✗ 4. 80

Question ID : **8161615410**
Status : **Answered**
Chosen Option : **3**

Q.2 If $\dfrac{b}{a} = 0.7$, find the value of $\dfrac{a-b}{a+b} + \dfrac{11}{34}$.

Ans
✗ 1. 1
✗ 2. 0.2
✔ 3. 0.5
✗ 4. 0.3

Question ID : **8161615382**
Status : **Answered**
Chosen Option : **3**

Q.3 If $\dfrac{8+2\sqrt{3}}{3\sqrt{3}+5} = a\sqrt{3} - b$, then the value of $a+b$ is equal to:

Ans
✔ 1. 18
✗ 2. 15
✗ 3. 16
✗ 4. 24

Question ID : **8161615390**
Status : **Answered**
Chosen Option : **1**

Q.4 At what rate of interest will a sum of ₹4,500 amount to ₹6,525 at simple interest for 5 years?

Ans ✗ 1. 8%

✗ 2. 12%

✗ 3. 10%

✔ 4. 9%

Question ID : **8161615406**
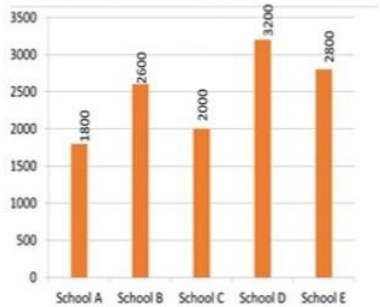Status : **Answered**
Chosen Option : **4**

Q.5 A sum of ₹1,50,000 is distributed among three persons − A, B and C − so that they receive 20%, 30% and 50%, respectively. A receives the same amount from another sum of money which is distributed among them so that they receive 50%, 30% and 20%, respectively. Find the total amount received from both sums of money, by B.

Ans ✗ 1. ₹55,000

✗ 2. ₹60,000

✔ 3. ₹63,000

✗ 4. ₹58,000

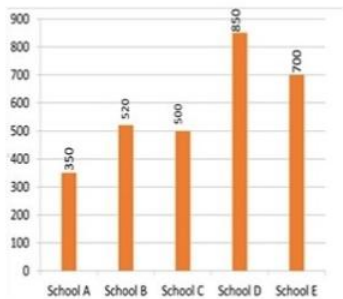Question ID : **8161615397**
Status : **Answered**
Chosen Option : **3**

Q.6 Study the following bar graph and answer the questions given below.

Total number of boys and girls in schools A, B, C, D and E.

Difference between the number of boys and girls in schools A, B, C, D and E.

The number of boys in school B is what percentage of the total number of students in that school?

Ans   ✗ 1. 50%

✗ 2. 55%

✗ 3. 40%

✔ 4. 60%

Question ID : **8161615477**
Status : **Answered**
Chosen Option : **4**

Q.7 If A's income is 60% less than B's income, then B's income is what percentage more than that of A's income?

Ans   ✗ 1. 40%

✗ 2. 80%

✗ 3. 120%

✔ 4. 150%

Question ID : **8161615395**
Status : **Answered**
Chosen Option : **4**

Q.8 If $(\sin\theta + \csc\theta)^2 + (\cos\theta + \sec\theta)^2 = k + \tan^2\theta + \cot^2\theta$, then the value of k is equal to:

Ans
✓ 1. 7
✗ 2. 2
✗ 3. 9
✗ 4. 5

Question ID : 8161615463
Status : **Answered**
Chosen Option : **1**

Q.9 The average of five positive numbers is 56. If the first number is three-fourth of the sum of the last four numbers, then the average of the last four numbers is:

Ans
✗ 1. 30
✓ 2. 40
✗ 3. 50
✗ 4. 35

Question ID : 8161615414
Status : **Answered**
Chosen Option : **2**

Q.10 एक वस्तु के क्रय मूल्य पर 15% की छूट के बाद उसका विक्रय मूल्य, एक दूसरी वस्तु के क्रय मूल्य पर 25% की छूट दिए जाने के बाद उसके विक्रय मूल्य के बराबर है। यदि दोनों वस्तुओं के क्रय मूल्यों का योग ₹640 है, तो प्रत्येक वस्तु का विक्रय मूल्य ज्ञात कीजिए।

Ans
✗ 1. ₹340
✓ 2. ₹255
✗ 3. ₹280
✗ 4. ₹250

Question ID : 8161615402
Status : **Answered**
Chosen Option : **2**

Q.11 The sum of two positive numbers is 240 and their HCF is 15. Find the number of pairs of numbers satisfying the given condition.

Ans
✗ 1. 8
✗ 2. 2
✓ 3. 4
✗ 4. 5

Question ID : 8161615388
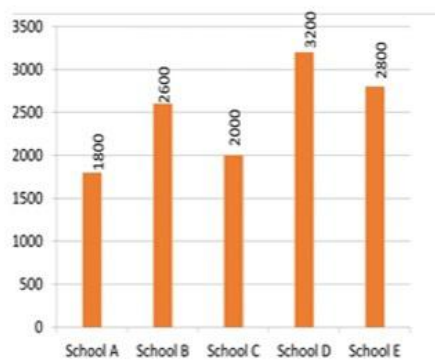Status : **Answered**
Chosen Option : **3**

Q.12 In a triangle ABC, D is a point on BC such that $\frac{AB}{AC} = \frac{BD}{DC}$. If $\angle B = 68°$ and $\angle C = 52°$, then measure of $\angle BAD$ is equal to:

Ans

✗ 1. $60°$

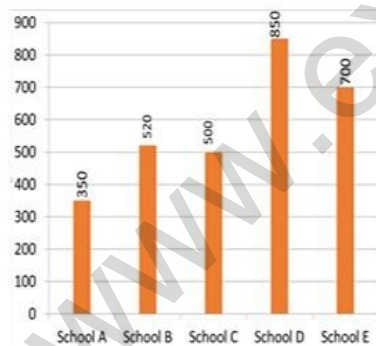✔ 2. $30°$

✗ 3. $50°$

✗ 4. $40°$

Question ID : **8161615450**
Status : **Answered**
Chosen Option : **2**

Q.13 Study the following bar graph and answer the questions given below.

Total number of boys and girls in schools A, B, C, D and E.

Difference between the number of boys and girls in schools A, B, C, D and E.

What is the ratio of number of boys to the number of girls in school E?

Ans

✔ 1. $5 : 3$

✗ 2. $4 : 3$

✗ 3. $5 : 4$

✗ 4. $7 : 4$

Question ID : **8161615475**
Status : **Answered**
Chosen Option : **1**

Q.14 The base of a pyramid is an equilateral triangle of side 10 m. If the height of the pyramid is $40\sqrt{3}$ m, then the volume of the pyramid is:

Ans

✗ 1. $800 \ m^3$

✗ 2. $900 \ m^3$

✔ 3. $1000 \ m^3$

✗ 4. $1200 \ m^3$

Question ID : **8161615427**
Status : **Answered**
Chosen Option : **3**

Q.15 If $\cos\theta = \dfrac{5}{13}$, then the value of $\tan^2\theta + \sec^2\theta$ is equal to:

Ans

✗ 1. $\dfrac{323}{25}$

✔ 2. $\dfrac{313}{25}$

✗ 3. $\dfrac{303}{25}$

✗ 4. $\dfrac{233}{25}$

Question ID : **8161615465**
Status : **Answered**
Chosen Option : **2**

Q.16 The sum of weights of A and B is 80 kg. 50% of A's weight is $\dfrac{5}{6}$ times the weight of B. Find the difference between their weights.

Ans

✔ 1. 20 kg

✗ 2. 10 kg

✗ 3. 25 kg

✗ 4. 15 kg

Question ID : **8161615394**
Status : **Answered**
Chosen Option : **1**

Q.17 If $x + \dfrac{16}{x} = 8$, then the value of $x^2 + \dfrac{32}{x^2}$ is:

Ans ✗ 1. 24

✔ 2. 18

✗ 3. 20

✗ 4. 16

Question ID : **8161615442**

Status : **Answered**

Chosen Option : **2**

Q.18 The ratio of boys and girls in a school is 27 : 23. If the difference between the number of boys and girls is 200, then find the number of boys.

Ans ✗ 1. 1250

✗ 2. 1200

✔ 3. 1350

✗ 4. 1300

Question ID : **8161615409**

Status : **Answered**

Chosen Option : **3**

Q.19 If $x\left(3 - \dfrac{2}{x}\right) = \dfrac{3}{x}$, then the value of $x^3 - \dfrac{1}{x^3}$ is equal to:

Ans ✗ 1. $\dfrac{61}{27}$

✗ 2. $\dfrac{52}{27}$

✗ 3. $\dfrac{8}{27}$

✔ 4. $\dfrac{62}{27}$

Question ID : **8161615445**

Status : **Answered**

Chosen Option : **4**

Q.20 If $\sin\theta + \sin^2\theta = 1$, then the value of $\cos^2\theta + \cos^4\theta$ is equal to:

Ans ✗ 1. 0

✗ 2. $\dfrac{1}{2}$

✗ 3. 5

✔ 4. 1

Question ID : **8161615461**

Status : **Answered**

Chosen Option : **4**

Q.21 The curved surface area of a cylinder is five times the area of its base. Find the ratio of radius and height of the cylinder.

Ans ✔ 1. 2 : 5

✗ 2. 2 : 3

✗ 3. 3 : 4

✗ 4. 3 : 5

Question ID : **8161615431**

Status : **Answered**

Chosen Option : **1**

Q.22 If $2 = x + \dfrac{1}{1 + \dfrac{1}{5 + \dfrac{1}{2}}}$, then the value of x is equal to:

Ans ✗ 1. $\dfrac{14}{13}$

✗ 2. 1

✔ 3. $\dfrac{15}{13}$

✗ 4. $\dfrac{13}{15}$

Question ID : **8161615383**

Status : **Answered**

Chosen Option : **3**

Q.23 Ramesh started a business investing a sum of ₹40,000. Six months later, Kevin joined by investing ₹20,000. If they make a profit of ₹10,000 at the end of the year, how much is the share of Kevin?

Ans
✔ 1. ₹2,000
✘ 2. ₹4,000
✘ 3. ₹3,000
✘ 4. ₹2,500

Question ID : **8161615416**
Status : **Answered**
Chosen Option : **1**

Q.24 The length of the shadow of a vertical tower on level ground increases by 10 m when the altitude of the sun changes from $45°$ to $30°$. The height of the tower is:

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

Question ID : **8161615470**
Status : **Answered**
Chosen Option : **4**

Q.25 The volume of a hemisphere is $2425\frac{1}{2}\ cm^3$. Find its radius. (Take $\pi = \frac{22}{7}$)

Ans
✘ 1. 10 cm
✘ 2. 9.5 cm
✘ 3. 12 cm
✔ 4. 10.5 cm

Question ID : **8161615428**
Status : **Answered**
Chosen Option : **4**

Q.26 If the radius of a cylinder is decreased by 20% and the height is increased by 20% to form a new cylinder, then the volume will be decreased by:

Ans
✔ 1. 23.2%
✘ 2. 32.2%
✘ 3. 22.3%
✘ 4. 20.5%

Question ID : **8161615435**
Status : **Answered**
Chosen Option : **1**

Q.27 A container contains 20 L mixture in which there is 10% sulphuric acid. Find the quantity of sulphuric acid to be added in it to make the solution to contain 25% sulphuric acid.

Ans ✗ 1. 3 L

✗ 2. 5 L

✔ 3. 4 L

✗ 4. 2 L

Question ID : **8161615417**
Status : **Answered**
Chosen Option : **3**

Q.28 The average ages of Kishore, his wife and their child 6 years ago was 38 years and that of his wife and their child 8 years ago was 32 years. Find the present age of Kishore.

Ans ✗ 1. 50 years

✗ 2. 48 years
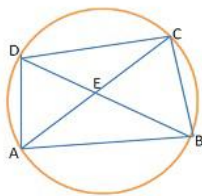
✔ 3. 52 years

✗ 4. 55 years

Question ID : **8161615413**
Status : **Answered**
Chosen Option : **3**

Q.29 An umbrella is marked for ₹150 and sold for ₹138. The rate of discount is:

Ans ✗ 1. 5%

✗ 2. 6%

✔ 3. 8%

✗ 4. 9%

Question ID : **8161615403**
Status : **Answered**
Chosen Option : **3**

Q.30 In the given figure, $\angle DBC = 65°, \angle BAC = 35°$ and $AB = BC$, then the measure of $\angle ECD$ is equal to:
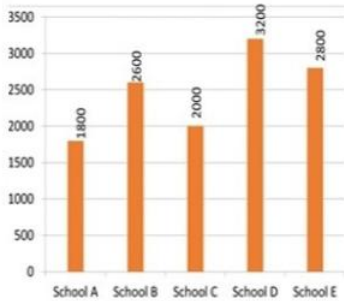

Ans

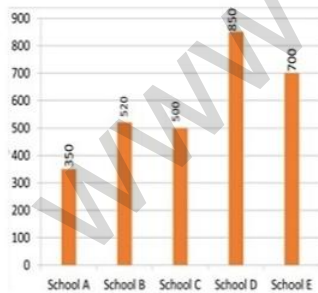✗ 1. $65°$

✔ 2. $45°$

✗ 3. $50°$

✗ 4. $55°$

Question ID : **8161615456**
Status : **Answered**
Chosen Option : **2**

Q.31 Study the following bar graph and answer the questions given below.

Total number of boys and girls in schools A, B, C, D and E.

Difference between the number of boys and girls in schools A, B, C, D and E.

What is the difference between the number of girls in school A and the number of girls in school C?

Ans

✔ 1. 25

✗ 2. 20

✗ 3. 30

✗ 4. 35

Question ID : **8161615476**
Status : **Answered**
Chosen Option : **1**

Q.32 Evaluate: $\frac{1}{15} + \frac{1}{35} + \frac{1}{63} + \frac{1}{99} + \frac{1}{143}$.

Ans

✗ 1. $\frac{4}{39}$

✗ 2. $\frac{7}{39}$

✓ 3. $\frac{5}{39}$

✗ 4. $\frac{10}{39}$

Question ID : **8161615385**
Status : **Answered**
Chosen Option : **3**

Q.33 The ratio of the height and the diameter of a right circular cone is 6 : 5 and its volume is $\frac{2200}{7} cm^3$. What is its slant height?
(Take $\pi = \frac{22}{7}$)

Ans

✗ 1. 25 cm

✗ 2. 26 cm

✓ 3. 13 cm

✗ 4. 5 cm
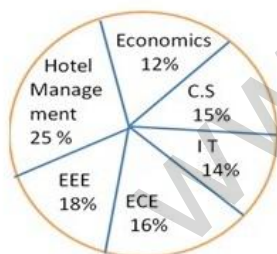
Question ID : **8161615433**
Status : **Answered**
Chosen Option : **3**

Q.34 Study the following pie-chart and table to answer the questions numbered 95 to 97.

Total number of students admitted in a university in various fields = 5000

Distribution of the number of students into various fields:

Fields	No. of Boys
Economics	56 %
C S	44 %
I T	65 %
ECE	72 %
EEE	68 %
Hotel Management	80 %

Economics 12%
C.S 15%
IT 14%
ECE 16%
EEE 18%
Hotel Management 25 %

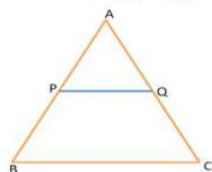What is the average number of boys in CS, ECE and EEE fields?

Ans

✗ 1. 406

✓ 2. 506

✗ 3. 514

✗ 4. 516

Question ID : **8161615473**
Status : **Answered**
Chosen Option : **2**

Q.35 In a triangle ABC, P and Q are points on AB and AC, respectively, such that AP = 1 cm, PB = 3 cm, AQ = 1.5 cm, and CQ = 4.5 cm. If the area of ΔAPQ is 12 cm^2, then find the area of BPQC.

Ans ✓ 1. 180 cm^2

✗ 2. 192 cm^2

✗ 3. 190 cm^2

✗ 4. 182 cm^2

Question ID : **8161615455**
Status : **Answered**
Chosen Option : **1**

Q.36 The radii of two cylinders are in the ratio 3 : 4 and their heights are in the ratio 8 : 5. The ratio of their volumes is equal to:

Ans ✗ 1. 8 : 9

✓ 2. 9 : 10

✗ 3. 7 : 10

✗ 4. 9 : 11

Question ID : **8161615432**
Status : **Answered**
Chosen Option : **2**

Q.37 The exterior angle obtained on producing the base of a triangle both the ways are 121° and 104°. What is the measure of the largest angle of the triangle?

Ans ✗ 1. 74°

✗ 2. 75°

✗ 3. 66°

✓ 4. 76°

Question ID : **8161615446**
Status : **Answered**
Chosen Option : **4**

Q.38 An article is listed at ₹7,600 and the discount offered unit is 10%. What additional discount must be given to bring the net selling price to ₹5,814?

Ans ✗ 1. 12%

✗ 2. 10%

✗ 3. 8%

✓ 4. 15%

Question ID : **8161615404**
Status : **Answered**
Chosen Option : **4**

Q.39 If $x^2 + \dfrac{1}{x^2} = 7$, then the value of $x^3 + \dfrac{1}{x^3}$ where $x>0$ is equal to:

Ans   ✗ 1. 15

      ✗ 2. 16

      ✗ 3. 12

      ✔ 4. 18

Question ID : **8161615444**
Status : **Answered**
Chosen Option : **4**

Q.40 The number of lead balls, each 3 cm in diameter, that can be made from a solid lead sphere of diameter 42 cm is:

Ans   ✗ 1. 2742

      ✔ 2. 2744

      ✗ 3. 4722

      ✗ 4. 7244

Question ID : **8161615429**
Status : **Answered**
Chosen Option : **2**

Q.41 Anil bought two articles A and B at a total cost of ₹10,000. He sold the article A at 15% profit and the article B at 10% loss. In the whole deal, he made no profit or no loss. Find the selling price of the article A.
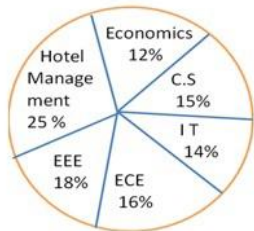
Ans   ✗ 1. ₹5,400

      ✗ 2. ₹4,500

      ✔ 3. ₹4,600

      ✗ 4. ₹4,200

Question ID : **8161615399**
Status : **Answered**
Chosen Option : **3**

Q.42 Study the following pie chart and table to answer the question

Total number of students admitted in a university in various fields = 5000

Distribution of the number of students into various fields:

Fields	No. of Boys
Economics	56 %
C S	44 %
I T	65 %
ECE	72 %
EEE	68 %
Hotel Management	80 %

The ratio of the number of boys in Economics to the number of students in Economics is:

Ans ✗ 1. 13 : 25

✔ 2. 14 : 25

✗ 3. 12 : 25

✗ 4. 17 : 25

Question ID : **8161615472**
Status : **Answered**
Chosen Option : **2**

Q.43 On selling 38 balls at ₹2,240, there is a loss equal to the cost price of 6 balls. The cost price of a ball is equal to:

Ans ✗ 1. ₹50

✗ 2. ₹80

✔ 3. ₹70

✗ 4. ₹60

Question ID : **8161615401**
Status : **Answered**
Chosen Option : **3**

Q.44 If $\sin(x + y) = \cos(x - y)$, then the value of $\cos^2 x$ is:

Ans ✗ 1. 5

✗ 2. 3

✔ 3. $\dfrac{1}{2}$

✗ 4. $\dfrac{1}{4}$

Question ID : **8161615469**
Status : **Answered**
Chosen Option : **3**

Q.45 If $\dfrac{1}{4.263} = 0.2346$, find the value of $\dfrac{1}{0.0004263}$.

Ans

✗ 1. 4.263

✗ 2. 2.346

✔ 3. 2346

✗ 4. 4263

Question ID : **8161615381**
Status : **Answered**
Chosen Option : **3**

Q.46 A, B and C can do a work separately in 18, 36 and 54 days, respectively. They started the work together, but B and C left 5 days and 10 days, respectively, before the completion of the work. In how many days was the work finished?

Ans

✔ 1. 13 days

✗ 2. 12 days

✗ 3. 14 days

✗ 4. 15 days

Question ID : **8161615423**
Status : **Answered**
Chosen Option : **1**

Q.47 If $x = \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}$ where $x > 0$, then the value of x is equal to:

Ans

✔ 1. 2

✗ 2. 3

✗ 3. 4

✗ 4. 1

Question ID : **8161615387**
Status : **Answered**
Chosen Option : **1**

Q.48 ABC is an equilateral triangle with side 12 cm and AD is the median. Find the length of GD if G is the centroid of △ABC.

Ans

✗ 1. $6\sqrt{3}$ cm

✗ 2. $4\sqrt{3}$ cm

✔ 3. $2\sqrt{3}$ cm

✗ 4. $3\sqrt{3}$ cm

Question ID : **8161615449**
Status : **Answered**
Chosen Option : **3**

Q.49 A delivery boy started from his office at 10 a.m. to deliver an article. He rode his scooter at a speed of 32 km/h. He delivered the article and waited for 15 minutes to get the payment. After the payment was made, he reached his office at 11.25 a.m., travelling at a speed of 24 km/h. Find the total distance travelled by the boy.

Ans
✔ 1. 32 km
✘ 2. 30 km
✘ 3. 35 km
✘ 4. 40 km

Question ID : **8161615422**
Status : **Answered**
Chosen Option : **1**

Q.50 एक भिन्न का अंश इसके हर से 6 कम है। यदि इसके अंश में से 1 घटाया जाए और इसके हर में 5 जोड़ा जाए, तो इसका हर इसके अंश से 4 गुना हो जाता है। भिन्न ज्ञात कीजिए।

Ans
✘ 1. $\frac{3}{11}$

✘ 2. $\frac{4}{11}$

✔ 3. $\frac{5}{11}$

✘ 4. $\frac{7}{11}$

Question ID : **8161615392**
Status : **Answered**
Chosen Option : **3**

Q.51 If $\frac{cos^2\theta}{cot^2\theta - cos^2\theta} = 3$, where $0^\circ < \theta < 90^\circ$ then the value of θ is:

Ans
✘ 1. 50°
✔ 2. 60°
✘ 3. 30°
✘ 4. 45°

Question ID : **8161615460**
Status : **Answered**
Chosen Option : **2**

Q.52 A dealer sold an article at a loss of 2%. Had he sold it for ₹44 more, he would have gained 20%. Find the cost price of the article.

Ans
✘ 1. ₹250
✘ 2. ₹400
✔ 3. ₹200
✘ 4. ₹300

Question ID : **8161615400**
Status : **Answered**
Chosen Option : **3**

Q.53 The base of a right prism is a square having side of 15 cm. If its height is 8 cm, then find the total surface area.

Ans
  ✗ 1. 920 cm^2

  ✓ 2. 930 cm^2

  ✗ 3. 900 cm^2

  ✗ 4. 940 cm^2

Question ID : **8161615436**
Status : **Answered**
Chosen Option : **2**

Q.54 The ratio between the present ages of A and B is 3 : 5. If the ratio of their ages five years hence becomes 13 : 20, then the present age of B is:

Ans
  ✗ 1. 32 years

  ✓ 2. 35 years

  ✗ 3. 30 years

  ✗ 4. 40 years

Question ID : **8161615412**
Status : **Answered**
Chosen Option : **2**

Q.55 The price of a variety of a commodity is ₹7/kg and that of another is ₹12/kg. Find the ratio in which two varieties should be mixed so that the price of the mixture is ₹10/kg.
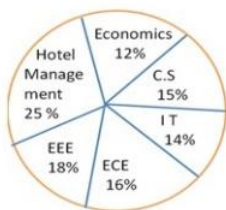
Ans
  ✗ 1. 3 : 4

  ✗ 2. 4 : 5

  ✓ 3. 2 : 3

  ✗ 4. 2 : 5

Question ID : **8161615418**
Status : **Answered**
Chosen Option : **3**

Q.56 Study the following pie-chart and table to answer the questions numbered 95 to 97.

Total number of students admitted in a university in various fields = 5000

Distribution of the number of students into various fields:

Fields	No. of Boys
Economics	56 %
C S	44 %
I T	65 %
ECE	72 %
EEE	68 %
Hotel Management	80 %

What is the difference between the number of girls in IT and number of girls in ECE?

Ans
✗ 1. 25
✓ 2. 21
✗ 3. 20
✗ 4. 30

Question ID : **8161615474**
Status : **Answered**
Chosen Option : **2**

Q.57 If $\dfrac{\sec\theta + \tan\theta}{\sec\theta - \tan\theta} = 2\dfrac{51}{79}$, then the value of $\sin\theta$ is equal to:

Ans
✓ 1. $\dfrac{65}{144}$
✗ 2. $\dfrac{35}{72}$
✗ 3. $\dfrac{91}{144}$
✗ 4. $\dfrac{39}{72}$

Question ID : **8161615467**
Status : **Answered**
Chosen Option : **1**

Q.58 A conical tent has to accommodate 25 persons. Each person must have 4 m^2 of space on the ground and 80 m^3 of air to breathe. Find the height of the tent.

Ans
✗ 1. 40 m
✗ 2. 45 m
✓ 3. 60 m
✗ 4. 50 m

Question ID : **8161615434**
Status : **Answered**
Chosen Option : **3**

Q.59 If $\sec\theta + \tan\theta = 3$, then the value of $\sec\theta$ is:

Ans

✔ 1. $\dfrac{5}{3}$

✘ 2. $\dfrac{4}{3}$

✘ 3. $\dfrac{3}{5}$

✘ 4. $\dfrac{3}{4}$

Question ID : **8161615464**
Status : **Answered**
Chosen Option : **1**

Q.60 The radius and height of a cylinder are in the ratio 4 : 7 and its volume is 2816 cm³. Find its radius. (Take $\pi = \frac{22}{7}$)

Ans

✘ 1. 7 cm

✘ 2. 6 cm

✘ 3. 5 cm

✔ 4. 8 cm

Question ID : **8161615430**
Status : **Answered**
Chosen Option : **4**

Q.61 If $\alpha + \beta = 90°$ and $\alpha = 2\beta$, then the value of $3\cos^2\alpha - 2\sin^2\beta$ is equal to:

Ans

✔ 1. $\dfrac{1}{4}$

✘ 2. $\dfrac{3}{2}$

✘ 3. $\dfrac{4}{3}$

✘ 4. $\dfrac{3}{4}$

Question ID : **8161615466**
Status : **Answered**
Chosen Option : **1**

Q.62 An athlete runs an 800 m race in 96 seconds. His speed (in km/h) is:

Ans ✗ 1. 40 km/h

✗ 2. 20 km/h

✗ 3. 25 km/h

✔ 4. 30 km/h

Question ID : **8161615419**
Status : **Answered**
Chosen Option : **4**

Q.63 A man sells two articles at ₹9,975 each. He gains 5% on one article and loses 5% on the other. Find his overall gain or loss.

Ans ✗ 1. Profit ₹60

✔ 2. Loss ₹50

✗ 3. Loss ₹60

✗ 4. Profit ₹50

Question ID : **8161615398**
Status : **Answered**
Chosen Option : **2**

Q.64 Find the sum of $6 + 8 + 10 + 12 + 14 \ldots\ldots\ldots + 40$.

Ans ✗ 1. 400

✗ 2. 424

✗ 3. 1600

✔ 4. 414

Question ID : **8161615378**
Status : **Answered**
Chosen Option : **4**

Q.65 If $cosec\,39° = x$, then the value of $\frac{1}{cosec^2 51°} + sin^2 39° + tan^2 51° - \frac{1}{sin^2 51° sec^2 39°}$ is:

Ans ✗ 1. $\sqrt{x^2 - 1}$

✗ 2. $\sqrt{1 - x^2}$

✗ 3. $1 - x^2$

✔ 4. $x^2 - 1$

Question ID : **8161615468**
Status : **Answered**
Chosen Option : **4**

Q.66 In how much time will the simple interest on a certain sum of money be $\frac{6}{5}$ times of the sum at 20% per annum?

Ans
  ✗ 1. 5 years

  ✗ 2. 8 years

  ✔ 3. 6 years

  ✗ 4. 7 years

> Question ID : **8161615405**
> Status : **Answered**
> Chosen Option : **3**

Q.67 What is the reflection of the point (5, −3) in the line y = 3?

Ans
  ✗ 1. (5, − 6)

  ✗ 2. (−5, 3)

  ✔ 3. (5, 9)

  ✗ 4. (5, 3)

> Question ID : **8161615440**
> Status : **Answered**
> Chosen Option : **3**

Q.68 In a triangle ABC, AB = $6\sqrt{3}$ cm, AC = 12 cm and BC = 6 cm. Then measure of $\angle B$ is equal to:

Ans
  ✔ 1. $90°$

  ✗ 2. $60°$

  ✗ 3. $70°$

  ✗ 4. $45°$

> Question ID : **8161615448**
> Status : **Answered**
> Chosen Option : **1**

Q.69 A man travelled a distance of 42 km in 5 hours. He travelled partly on foot at the rate of 6 km/h and partly on bicycle at the rate of 10 km/h. The distance travelled on foot is:

Ans
  ✗ 1. 10 km

  ✔ 2. 12 km

  ✗ 3. 18 km

  ✗ 4. 15 km

> Question ID : **8161615421**
> Status : **Answered**
> Chosen Option : **2**

Q.70

If $\sqrt{x} + \dfrac{1}{\sqrt{x}} = 3$, then the value of $x^3 + \dfrac{1}{x^3}$ is:

Ans

✗ 1. 324

✔ 2. 322

✗ 3. 326

✗ 4. 422

Question ID : **8161615441**
Status : **Answered**
Chosen Option : **2**

Q.71 The graphs of the linear equations $4x-2y=10$ and $4x+ky=2$ intersect at a point $(a, 4)$. The value of k is equal to:

Ans

✗ 1. 3

✗ 2. −3

✔ 3. −4

✗ 4. 4

Question ID : **8161615439**
Status : **Answered**
Chosen Option : **3**

Q.72 Find the least number which when divided by 12, 18, 24 and 30 leaves 4 as remainder in each case, but when divided by 7 leaves no remainder.

Ans

✗ 1. 634

✗ 2. 366

✔ 3. 364

✗ 4. 384

Question ID : **8161615389**
Status : **Answered**
Chosen Option : **3**

Q.73

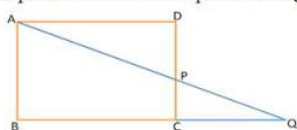The value of $5 - \dfrac{8 + 2\sqrt{15}}{4} - \dfrac{1}{8 + 2\sqrt{15}}$ is equal to:

Ans

✗ 1. $\dfrac{2}{3}$

✔ 2. 1

✗ 3. $\dfrac{1}{2}$

✗ 4. $\dfrac{1}{4}$

Question ID : **8161615386**
Status : **Answered**
Chosen Option : **2**

Q.74 In the given figure, ABCD is a rectangle and P is a point on DC such that BC = 24 cm, DP = 10 cm, and CD = 15 cm. If AP produced intersects BC produced at Q, then find the length of AQ.

Ans
- ✗ 1. 35 cm
- ✗ 2. 24 cm
- ✓ 3. 39 cm
- ✗ 4. 26 cm

Question ID : **8161615454**
Status : **Answered**
Chosen Option : **3**

Q.75 If $3\sin x + 4\cos x = 2$, then the value of $3\cos x - 4\sin x$ is equal to:

Ans
- ✓ 1. $\sqrt{21}$
- ✗ 2. $\sqrt{23}$
- ✗ 3. 21
- ✗ 4. $\sqrt{29}$

Question ID : **8161615462**
Status : **Answered**
Chosen Option : **1**

Q.76 If the perimeter of an isosceles right triangle is $8\left(\sqrt{2}+1\right)$ cm, then the length of the hypotenuse of the triangle is:

Ans
- ✗ 1. 10 cm
- ✓ 2. 8 cm
- ✗ 3. 24 cm
- ✗ 4. 12 cm

Question ID : **8161615447**
Status : **Answered**
Chosen Option : **2**

Q.77 Find the number of prime factors in the product $(30)^5 \times (24)^5$.

Ans
- ✗ 1. 45
- ✓ 2. 35
- ✗ 3. 10
- ✗ 4. 30

Question ID : **8161615384**
Status : **Answered**
Chosen Option : **2**

Q.78 At what rate per cent per annum will a sum of ₹15,625 amount to ₹21,952 in three years, if the interest is compounded annually?

Ans ✔ 1. 12%

✘ 2. 8%

✘ 3. 9%

✘ 4. 10%

Question ID : **8161615407**
Status : **Answered**
Chosen Option : **1**

Q.79 A divisor is 15 times the quotient and 3 times the remainder. If the remainder is 40, find the dividend.

Ans ✘ 1. 600

✘ 2. 900

✘ 3. 750

✔ 4. 1000

Question ID : **8161615379**
Status : **Answered**
Chosen Option : **4**

Q.80 ABCD एक समचतुर्भुज है जिसमें ∠ABC = 52° है। ∠ACD का माप ज्ञात कीजिए।

Ans ✔ 1. 64°

✘ 2. 48°

✘ 3. 54°

✘ 4. 26°

Question ID : **8161615459**
Status : **Answered**
Chosen Option : **1**

Q.81 The sum of length, breadth and height of a cuboid is 20 cm. If the length of the diagonal is 12 cm, then find the total surface area of cuboid.

Ans ✘ 1. 264 cm^2

✘ 2. 364 cm^2

✘ 3. 356 cm^2

✔ 4. 256 cm^2

Question ID : **8161615438**
Status : **Answered**
Chosen Option : **4**

Q.82 The train ticket fare from places A to B in 2nd class AC and 3rd class AC is ₹2,500 and ₹2,000, respectively. If the fares of 2nd class AC and 3rd class AC are increased by 20% and 10%, respectively, then find the ratio of the new fares of 2nd class AC and 3rd class AC.

Ans
✗ 1. 12 : 11
✗ 2. 13 : 11
✔ 3. 15 : 11
✗ 4. 15 : 13

Question ID : **8161615411**
Status : **Answered**
Chosen Option : **3**

Q.83 In an examination, 92% of the students passed and 480 students failed. If so, how many students appeared in the examination?

Ans
✗ 1. 5000
✗ 2. 6200
✔ 3. 6000
✗ 4. 5800

Question ID : **8161615393**
Status : **Answered**
Chosen Option : **3**

Q.84 Rahul invested equal sums of money at compound interest under two schemes A and B. Under scheme A, the interest rate was 10% per annum and under scheme B, the interest rate was 12% p.a. The compound interest after two years on the sum invested in scheme A was ₹1,050. How much is the interest earned under scheme B after two years, if the interest is compounded annually in both schemes?

Ans
✗ 1. ₹1,270
✗ 2. ₹1,372
✗ 3. ₹1,722
✔ 4. ₹1,272

Question ID : **8161615408**
Status : **Answered**
Chosen Option : **4**

Q.85 In the given figure, the measure of $\angle A$ is:
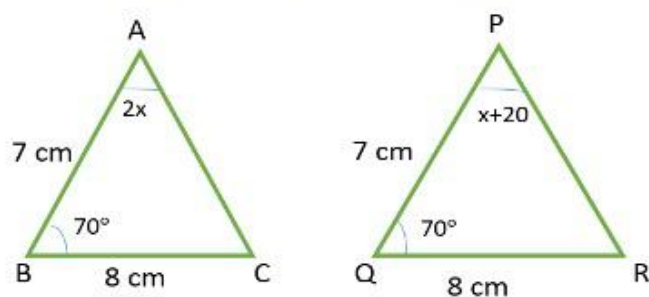
Ans

✔ 1. $40°$

✘ 2. $20°$

✘ 3. $60°$

✘ 4. $50°$

Question ID : **8161615453**
Status : **Answered**
Chosen Option : **1**

Q.86 A and B can do a piece of work in 18 days. B and C together can do it in 30 days. If A is twice as good a workman as C, find in how many days B alone can do the work?
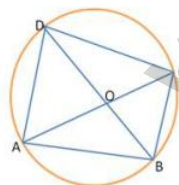
Ans

✘ 1. 80 days

✘ 2. 100 days

✘ 3. 75 days

✔ 4. 90 days

Question ID : **8161615424**
Status : **Answered**
Chosen Option : **4**

Q.87 A cyclic quadrilateral ABCD is such that AB = BC, AD = DC and AC and BD intersect at O. If $\angle CAD = 46°$, then the measure of $\angle AOB$ is equal to:

Ans

✘ 1. $84°$

✘ 2. $86°$

✔ 3. $90°$

✘ 4. $80°$

Question ID : **8161615457**
Status : **Answered**
Chosen Option : **3**

Q.88 A and B together can do a piece of work in 12 days. A alone can do it in 18 days. In how many days B alone can do the work?

Ans ✗ 1. 32 days

✗ 2. 30 days

✔ 3. 36 days

✗ 4. 24 days

Question ID : **8161615426**
Status : **Answered**
Chosen Option : **3**

Q.89 If the surface area of a sphere is 1386 cm^2, then its volume is:
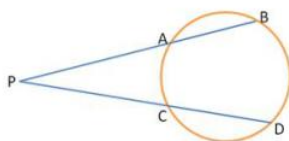
(Take $\pi = \frac{22}{7}$)

Ans ✗ 1. 8451 cm^3

✗ 2. 5418 cm^3

✗ 3. 4581 cm^3

✔ 4. 4851 cm^3

Question ID : **8161615437**
Status : **Answered**
Chosen Option : **4**

Q.90 In the figure, chords AB and CD of a circle intersect externally at P. If AB = 4 cm, CD = 11 cm and PD = 15 cm, then the length of PB is:

Ans ✗ 1. 14 cm

✗ 2. 12 cm

✗ 3. 8 cm

✔ 4. 10 cm

Question ID : **8161615458**
Status : **Answered**
Chosen Option : **4**

Q.91 In a two-digit number, its units digit exceeds its tens digit by 2 and that the product of the given number and the sum of its digits is equal to 460. The number is:

Ans
- ✗ 1. 64
- ✗ 2. 36
- ✔ 3. 46
- ✗ 4. 48

Question ID : **8161615391**
Status : **Answered**
Chosen Option : **3**

Q.92 The interior angle of a regular polygon exceeds its exterior angle by 90°. The number of sides of the polygon is:

Ans
- ✗ 1. 6
- ✗ 2. 12
- ✗ 3. 10
- ✔ 4. 8

Question ID : **8161615452**
Status : **Answered**
Chosen Option : **4**

Q.93 What is to be added to 15% of 180 so that the sum is equal to 20% of 360?

Ans
- ✗ 1. 40
- ✗ 2. 60
- ✗ 3. 50
- ✔ 4. 45

Question ID : **8161615396**
Status : **Answered**
Chosen Option : **4**

Q.94 A man walks at a speed of 8 km/h. After every kilometre, he takes a rest for 4 minutes. How much time will he take to cover a distance of 6 km?

Ans
- ✗ 1. 60 minutes
- ✔ 2. 65 minutes
- ✗ 3. 70 minutes
- ✗ 4. 69 minutes

Question ID : **8161615420**
Status : **Answered**
Chosen Option : **2**

Q.95

If $x - \dfrac{3}{x} = 6$, $x \neq 0$, then the value of $\dfrac{x^4 - \dfrac{27}{x^2}}{x^2 - 3x - 3}$ is:

Ans
- ✔ 1. 90
- ✘ 2. 270
- ✘ 3. 80
- ✘ 4. 54

Question ID : **8161615443**
Status : **Answered**
Chosen Option : **1**

Q.96

Evaluate the following:

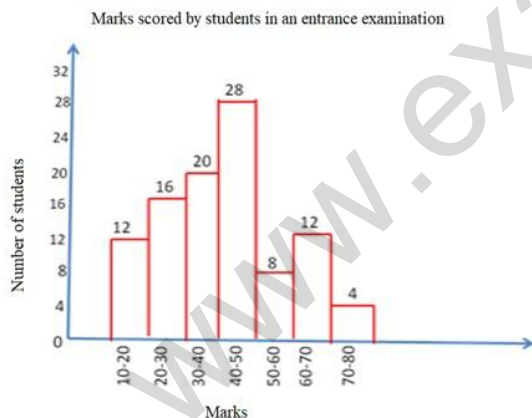$5 - [96 \div 4 \text{ of } 3 - (16 - 55 \div 5)]$

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

Question ID : **8161615380**
Status : **Answered**
Chosen Option : **3**

Q.97 Study the following histogram and answer the given question.

Marks scored by students in an entrance examination

What is the ratio of the number of students who scored 30 or more marks, but below 40 marks, to the total number of students in the entrance examination?

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

Question ID : **8161615471**
Status : **Answered**
Chosen Option : **2**

Q.98 A and B can do a work together in 18 days. A is three times as efficient as B. In how many days can B alone complete the work?

Ans

✗ 1. 60 days

✗ 2. 54 days

✓ 3. 72 days

✗ 4. 64 days

Question ID : **8161615425**
Status : **Answered**
Chosen Option : **3**

Q.99 In a triangle ABC, AB = AC and the perimeter of ΔABC is $8(2+\sqrt{2})$ cm. If the length of BC is $\sqrt{2}$ times the length of AB, then find the area of ΔABC.

Ans

✗ 1. 28 cm^2

✗ 2. 36 cm^2

✓ 3. 32 cm^2

✗ 4. 16 cm^2

Question ID : **8161615451**
Status : **Answered**
Chosen Option : **3**

Q.100 A, B and C together invests ₹53,000 in a business. A invests ₹5,000 more than B and B invests ₹6,000 more than C. Out of a total profit of ₹31,800, find the share of A.

Ans

✗ 1. ₹12,500

✓ 2. ₹13,800

✗ 3. ₹13,500

✗ 4. ₹12,800

Question ID : **8161615415**
Status : **Answered**
Chosen Option : **2**