CAT 2021 Question Paper & Answer Key QA Slot-1

p,y **Ans** Suppose tbe length o£uacb side ofa regular bczagoo ABCDEE in 2 crrL It T is the mid poiat of ID, then the kogtb o£A7, in cm, is

✗ 1. $\sqrt{12}$

✗ 2. $\sqrt{15}$

✗ 3. $\sqrt{14}$

✔ 4. $\sqrt{13}$

Q.2 If k is a constant such that $|x^2 - 4x - 13| = k$ has exactly three distinct real roots, then the value of k is

✗ 3.21

Q.3 The strength of an indlgo solution In percentage Is equal to the amount of Indigo In grams per 100 cc of water. Two 800 cc bot0es are fillad with indigo solutions of strengths 33°A and t79t, respectively. A part of the solution from the first bottle is thrown away and replaced by an equal volume of the solution from the eecond

bot0e. b the strength of the indigo solution in the first bottle has now changed to 21% then the volume, In cc, of the aolutlon left in the eecond botge la

Case Sensitivity: No

Answer Type: Equal

Q.J   A basket of 2 apples, A oranges and 8 mangoes costs the same as a basket of 1 apple, 4 oranges and 8 mangoes, or 8 ba9kot ef 8 oranges and 7 mangoes. Then the number of mangoes in a basket of mangoes that has the same cast as the other baskets is

Ans

1. 13

2. 10

3. 11

4. 12

Q.5 **Annal purchaaaa earns pene at £ 8 each. To sell thaae, he hlree an employee at a** fixed wage. He sells 100 of these pens at y 12 each. If the remaining pens are sold at €11 each, then he mekea a net prefit of 7 300, while he makes a nat Rosa of Z 300 if

the remaining pens are aofd at y 9 each. The wage of the employee, in INR, is

Case Sensitivity: No

Ancwar Type: Equal

Pose.0le Answer.1000

Giyen 1000

Q.6 Identical chocolate pieces are gold In boxes of MO sizes, small and large. The large box ie eold for twice the price of the emall bone, If the eelling price per gram of chocolate in tne large box is 12Y+ less than that in the small box, then the percentage by which tha weight of chocolate in the large box exceeds that in the smag box ia nearest to

Ans

1. 124

2. 135

3. 144

4. 127

$$\text{If } 5 - \log \quad 1 + \quad + 4\text{fo}g_{10}\sqrt{1-x}$$

Answer Type. Eq Tal

$= \log_{10} \underline{2}$ their 100a equals

If $*.x, = 2$, and $tt+2 ' ' -+"+\frac{1}{n}r, ' 0, 1, 2, 3, ...,$ then $\bullet 2\ 2$ is equal to

Ans   1. 4

           2. 2

3. 3

4. 1

Q.9   How many three-digit numbers are greater than 100 and Increase by 198 when the

three dlghs are arranged in tha revarae order2

Case Sensitivity: No

Answer Type:Equal

Q.10 Two trains cross each other in 14 seconds when running In opposite directions along parallel tracks. The faster train is 160 m long and crosses a lamp post In 12 seconds. If the speed of the other train is s kw/h less than the faster one, its length, in , is

Ans 1.190

2. 184

3. 180

4. 192

UI **Suppose hospital A admitted 21 leea Covid infected patients dean hospiW B, and aS** eventual@ recovered. Tbe sum of recovery days for padents In hospitals A and B were 200 and 152, respectively. If the average recovery daye for patients admitted in hoepltal A was 3 more than the average In heapMl B then tks numbar admitted In

hospital A waa

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 35

o.‹2 Oxic p » Id for 5 consecutive months at the rate of Rs 10, 20, 25, 2S, and 50 per kg, resp»‹›«vety. A fauit »   a «run   amount of money on onion for each of the firat three months, and than spends half that amount on onlon for each of the next Mo montha. The average expense for onion, in rupaea per kg. for the fbmi/ over thaae 5 montha Is closest to

Ans   ✗ 1. 26

✗ 2. 20

3. 18

4. 18

. th area of a regu hexagon is equal to the sea of an equilatet N triangle of side 12 clii. then the length, iii erm ofesch si‹k of it hexagon is

1. 66

✓ 2. $2\sqrt{6}$

B $\sqrt{6}$

✗ 4. $4\sqrt{6}$

Q.14

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 120

O.15 The number of integers n tlint satisfy the inequalities $|n - 60| < |n - 100| < |n - 20|$ is

** 1.)

2. 20

✔ 3. 19

✘ 4. 21

Q.16 The amount Neeta and Geeta together earn in a day equals what Sita alone earns in 6 days. Tha amount SIta and Neeta togather earn In a day equals what Geeta alone aarns In 2 days. The ratio of the daily earnings of the one who earns the most to that of the one who earns the leaat is

Ans 1. 11 . 7

2. 11 : 3

3. 7 : 3

4. 3 : 2

Q.17   The number of groups of three or more distinct numbers that can be chosen from 1,

2, 3, 4, 5, 6, 7 and 8 so that the groups always include 3 and 5, while 7 and 8 are never included together is

Case Sensitivity: No

Answer Type: Equal

Q.18

$$f(x) = \frac{x^2 + 2x - 15}{2 - 7 - 18}$$ is negative if aad only if

An. R 5• x < —5 or —2 < x < 3

R $\bullet$ $-2 < x < 3$ or $x \quad 9$

3. $-\$ < y < -2$ or $3 < x < 9$

4. $x < -5$ or $3 <> < g$

Q.fi9   Amar, Akbar and Anthony are working on a project. Working together Amar and Akbar can cemplete the project in 1 year, Akbar and Anthony can cemplete in 16 months, Anthony and Amar can complete in 2 years. If the person who is neither the fastest nor the slowest works alone, the time in months he will take to complete

the project is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 32

Q.20 The natural numbers are divided into groups as (1), (2, 3, 4), (5, 6, 7, 8, 9), ... and so on. Then, the sum of the numbers in the 15th group is equal to

Ans   1. 6119

       2. 4941

4.7471

Q.21 Anil invests some money at a fixed rate of interest, compounded annually. If the interests accrued dudng the eecond and third year ar z son.zs and 7 886.72, reapectlvely, the Interest accrued, In INR, during the fourth year Is nearest to

Ans 1. 934.65

2. 929.48

3. 926.84

4. 931.72

Q.22 Anu, Vinu and Manu can complete a work alone in 15 days, 12 days and 20 days, respectively. Vinu works everyday. Anu works only on alternate days starting from the first day while Manu worke only on alternate daya starting from the second day. Then, the number of days needed to complete the work is

Ans 1.6

2.5

3.8

4.7