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QUANTITATIVE APTITUDE

Section III : General Test

Strictly as per the Latest Syllabus issued by NTA

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CUET(UG) Question Paper - 2022

National Testing Agency

23rd AUG 2022 – SHIFT 1

Section - III (General Test)

Quantitative Aptitude

General Instructions:

Marking scheme of the test:

- (a) Correct answer or the most appropriate answer: Five marks (+5)
- (b) Any incorrect option marked will be given minus one mark (-1).
- (c) Unanswered/Marked for review will be given no mark (0).

1. A town has population of 20,000 in 1980. In one year i.e. by 1981 it increased by 25%. Next year i.e. in 1982, it decreased by 20%. The next year in 1983 there was an increase of 30%. What is the population at end of 1983?

- (A) 28,000 (B) 24,000
(C) 26,000 (D) 25,000

Ans. Option (C) is correct.

Explanation:

Population in year 1980 = 20000

So,

$$\text{Population in year 1981} = 20,000 \times \frac{125}{100} = 25,000$$

$$\text{Population in year 1982} = 25,000 \times \frac{80}{100} = 20,000$$

$$\text{Population in year 1983} = 20,000 \times \frac{130}{100} = 26,000$$

2. A man can row at 6 kmph in still water. If the velocity of current is 2 kmph and it takes him 3 hour to row to a place and come back, how far is the place?

- (A) 8 km (B) 5 km
(C) 7 km (D) 4 km

Ans. Option (A) is correct.

Explanation: Let the distance = x km

As we know that, $\frac{\text{Distance}}{\text{Speed}} = \text{Time}$

$$\text{So, } \frac{x}{8} + \frac{x}{4} = 3$$

$$x = 8 \text{ km}$$

3. A car is sold for ₹ 85,000 at a loss of 20%. What is the cost price (CP) of the car?

- (A) ₹ 1,07,250 (B) ₹ 1,05,250
(C) ₹ 1,04,250 (D) ₹ 1,06,250

Ans. Option (D) is correct.

Explanation: Let the C.P. of the car = ₹ x

$$\text{Then } x = 85,000 \times \frac{100}{80} = ₹ 1,06,250$$

4. If I sell a cycle at ₹ 3,600, I make a profit of 20%. At what price I need to sell to make a profit of 10%.

- (A) ₹ 3,500 (B) ₹ 3,000
(C) ₹ 3,300 (D) ₹ 3,600

Ans. Option (C) is correct.

Explanation: Let the C.P. of the cycle = ₹ x

$$\text{Then } x = 3,600 \times \frac{100}{120} = 3,000$$

$$\text{Now, required sale price} = 3,000 \times \frac{110}{100} = ₹ 3,300$$

5. A, B and C are in a cycle race of 1,500 meters. A cycles twice as fast as B, C cycles $\frac{1}{2}$ as fast as B, C

completes the race in 40 minutes. Then, where was B from the finishing line when A finished the race?

- (A) 550 m from the finish line
(B) 450 m from the finish line
(C) 650 m from the finish line
(D) 750 m from the finish line

Ans. Option (D) is correct.

Explanation: Let the speed of C = x m/s

Then, speed of B = $2x$ m/s

And speed of A = $4x$ m/s

So, time taken by A to finish the race

$$= \frac{1}{4} \times 40 = 10 \text{ min or } 600 \text{ sec}$$

Hence, speed of A = $1,500/600 = 2.5$ m/s

Now speed of B = $2.5 = 1.25$ m/s

So, required distance = $1.25 \times 600 = 750$ m

6. Mohan asked 36 men to build his house in 30 day. 50% of the work got completed in just 10 days. So, Mohan removed some workers. Now, how many persons does he need to complete the remaining work in decided time?

- (A) 20 (B) 18
(C) 16 (D) 14

Ans. Option (B) is correct.

Explanation: Given that,

36 men can build 50% of the house in 10 days.

Let x men can complete the same in 20 days.

As we know that,

$$\begin{aligned} M_1D_1 &= M_2D_2 \\ 36 \times 10 &= x \times 20 \\ &= 18 \text{ men} \end{aligned}$$

7. P alone can do a piece of work in 5 days and Q alone in 4 days. P and Q undertook to do it for ₹ 3,000. With the help of R they completed the work in 2 days. How much is to be paid to R?
 (A) ₹ 300 (B) ₹ 400
 (C) ₹ 500 (D) ₹ 600

Ans. Option (A) is correct.

Explanation:

Time taken by P to finish the task = 5 days
 Time taken by Q to finish the task = 4 days
 Time taken by P, Q and R to finish the task = 2 days

Total work = LCM (5, 4, 2) = 20
 So, Efficiency of P = $20/5 = 4$
 Efficiency of Q = $20/4 = 5$
 And combined efficiency of P, Q and R = 10
 So, efficiency of R = 1

$$\text{So, amount paid to R} = \frac{1}{10} \times 3,000 = ₹300$$

8. A tyre has two punctures. The first puncture alone would have made the tyre flat in 6 minutes and the second alone would have done it in 9 minutes. If air leaks out at a constant rate, how long does it take both the punctures together to make it flat?
 (a) $3\frac{3}{5}$ minute (b) $4\frac{3}{5}$ minute
 (c) $5\frac{3}{5}$ minute (d) $2\frac{3}{5}$ minute

Ans. Option (A) is correct.

Explanation:

Time taken by 1st puncture = 6 min
 Time taken by 2nd puncture = 9 min
 So, time taken by both puncture

$$= \frac{1}{\frac{1}{6} + \frac{1}{9}} = \frac{18}{5} = 3\frac{3}{5} \text{ min}$$

9. If length of diagonal of a square is $7\sqrt{2}$ m. The area of the square is
 (A) 46 m^2 (B) 49 m^2
 (C) 39 m^2 (D) 48 m^2

Ans. Option (B) is correct.

Explanation: Given that,

Length of diagonal = $7\sqrt{2}$ m
 So, length of sides = 7 m
 So, area = $7^2 = 49 \text{ m}^2$

10. If A : B is 2 : 5. Then, the value of $2A + 3B : A + B$ is
 (A) 14 : 5 (B) 19 : 7
 (C) 3 : 11 (D) 17 : 15

Ans. Option (B) is correct.

Explanation: Given that,

$$A : B = 2 : 5$$

$$\begin{aligned} \text{So, } 2A + 3B : A + B &= 2 \times 2 + 3 \times 5 : 2 + 5 \\ &= 19 : 7 \end{aligned}$$

11. Find the greatest number that will divide 38, 88 and 163 so as to leave the same remainder in each case
 (A) 18 (B) 28
 (C) 25 (D) 15

Ans. Option (C) is correct.

Explanation:

Required number = HCF of the differences of the given numbers

$$\begin{aligned} &= \text{HCF}(88 - 38, 163 - 88, 163 - 38) \\ &= \text{HCF}(50, 75, 125) \\ &= 25 \end{aligned}$$

12. If principal = P, Rate, R = R% per annum, T = Time year, SI = Simple interest, then

$$(a) T = \frac{100 \times SI}{P \times R} \quad (b) SI = \frac{P \times R \times T}{100}$$

$$(c) R = \frac{P \times SI \times T}{100} \quad (d) T = \frac{P \times SI \times T}{100}$$

$$(e) R = \frac{100 \times SI}{P \times T}$$

- (A) a and c only (B) b, c and d only
 (C) a, b and e only (D) c, d and e only

Ans. Option (C) is correct.

Explanation: As we know that,

$$SI = \frac{P \times R \times T}{100}$$

From given choices options a, b and e are correct.

13. Two numbers are in the ratio 4 : 3. If 2 is added to each of the number the new ratio becomes 5 : 4.

Then, find the numbers

- (A) 20, 15 (B) 16, 12
 (C) 8, 6 (D) 12, 9

Ans. Option (C) is correct.

Explanation: Given that the ratio between the numbers = 4 : 3

Let the numbers are $4x$ and $3x$.

As per the question,

$$\frac{4x + 2}{3x + 2} = \frac{5}{4}$$

$$\begin{aligned} \text{So, } 16x + 8 &= 15x + 10 \\ x &= 2 \end{aligned}$$

Numbers = 8 and 6

14. The average of first 99 positive integers is:

- (A) 45 (B) 50
 (C) 55 (D) 60

Ans. Option (B) is correct.

Explanation:

Sum of 99 positive integers

$$= \frac{99(99 + 1)}{2} = \frac{99 \times 100}{2} = 4,950$$

$$\text{So, required average} = \frac{4,950}{99} = 50$$

15. $27 : 729 :: 31 ?$

- (A) 961 (B) 916
(C) 841 (D) 814

Ans. Option (A) is correct.

Explanation:

As 729 is the square of 27. So, the missing number will be the square of 31.

Hence, the required number = 961

So, option A is correct option.

16. Find the value of $\frac{5^{2/3} \times \sqrt[3]{5^7}}{\sqrt[3]{5^6}}$

- (A) 5 (B) 1
(C) $\sqrt{5}$ (D) $3\sqrt{5}$

Ans. Option (A) is correct.

Explanation:

$$\begin{aligned} \frac{5^{2/3} \times \sqrt[3]{5^7}}{\sqrt[3]{5^6}} &= \frac{5^{2/3} \times 5^{7/3}}{5^{6/3}} \\ &= \frac{5^{9/3}}{5^2} = \frac{5^3}{5^2} = 5 \end{aligned}$$

Hence, option A is correct option.

17. The angle of depression of a point situated at a distance 100 m from the base of a pole is 30° . Find height of the pole is:

- (A) $100(\sqrt{3} + 1)$ m (B) $\frac{100}{3}$ m
(C) $\frac{100}{3}\sqrt{3}$ m (D) $100\sqrt{3}$ m

Ans. Option (C) is correct.

Explanation:

In $\triangle ABC$

$$\tan 30^\circ = \frac{h}{100}$$

$$\frac{1}{\sqrt{3}} = \frac{h}{100}$$

$$h = \frac{100 \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}}$$

$$h = \frac{100\sqrt{3}}{3} \text{ m}$$

Hence, option C is correct option.

18. The value of $13.7 \times 12.7 \times 0.8$ is _____

- (A) 13.9193 (B) 13.9192
(C) 139.192 (D) 139.191

Ans. Option (C) is correct.

Explanation: $13.7 \times 12.7 \times 0.8 = 139.192$

19. The sum of greatest five digits and lowest/smallest four digits number is:

- (A) 91,999 (B) 19,999
(C) 10,999 (D) 1,00,999

Ans. Option (D) is correct.

Explanation: Required sum = $99,999 + 1,000$
= 1,00,999

20. If $\sqrt[3]{x} = 2y$. Then, the value of $\frac{y^3}{x}$ is _____

- (A) 1 (B) $\frac{2}{5}$
(C) $\frac{1}{8}$ (D) 8

Ans. Option (C) is correct.

Explanation:

Given that, $\sqrt[3]{x} = 2y$

$$x = 8y^3$$

$$\text{So, } \frac{y^3}{x} = \frac{1}{8}$$

So, option C is correct option.

21. The value of $\sqrt{0.01} \times \sqrt[3]{0.027} - 0.3$ is

- (A) -0.1 (B) -0.27
(C) 0.027 (D) 0.1

Ans. Option (B) is correct.

Explanation:

Given that,

$$\begin{aligned} \sqrt{0.01} \times \sqrt[3]{0.027} - 0.3 &= 0.1 \times 0.3 - 0.3 \\ &= 0.03 - 0.3 = -0.27 \end{aligned}$$

22. 2 women and 3 men can do a piece of work in 10 days while 3 women and 2 men can do the same work in 8 days. In how many days can 2 women and 1 man do the work?

- (A) $12\frac{1}{4}$ days (B) 15 days
(C) 25 days (D) $12\frac{1}{2}$ days

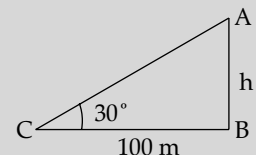
Ans. Option (D) is correct.

Explanation:

As given in the question,

$$\frac{2}{W} + \frac{3}{M} = \frac{1}{10}$$

$$\frac{3}{W} + \frac{2}{M} = \frac{1}{8}$$



From above equations,

$$\frac{1}{W} = \frac{7}{200} \text{ And } \frac{1}{M} = \frac{1}{100}$$

$$\begin{aligned} \text{So, now } \frac{2}{W} + \frac{1}{M} &= \frac{14}{200} + \frac{1}{100} \\ &= \frac{16}{200} \end{aligned}$$

$$\text{So, required days} = \frac{200}{16} = 12\frac{1}{2} \text{ days}$$

23. On 7th March, 2005 Monday falls. What was the day of the week on 7th March 2004?
 (A) Monday (B) Saturday
 (C) Sunday (D) Friday

Ans. Option (C) is correct.

Explanation:

As there is 1 odd day. So, 1 year before the day was Sunday.

24. The value of $\frac{(793 + 232)^2 - (793 - 232)^2}{793 \times 232}$ is
 (A) 7930 (B) 4
 (C) 2 (D) 2320

Ans. Option (B) is correct.

Explanation:

$$\begin{aligned} \text{Given that, } & \frac{(793 + 232)^2 - (793 - 232)^2}{793 \times 232} \\ & = \frac{4 \times 793 \times 232}{793 \times 232} = 4 \end{aligned}$$

25. The simple interest as a sum of money is $\frac{4}{5}$ th of the principal. Find the rate of interest if both the rate of interest and time are numerically equal.
 (A) 46% P.A. (B) $4\sqrt{2}$ % P.A.
 (C) 43% P.A. (D) $4\sqrt{5}$ % P.A.

Ans. Option (D) is correct.

Explanation:

Let the rate of interest and time = T

And Principal amount = P

As we know that,

$$SI = \frac{P \times R \times T}{100}$$

$$\text{So, } \frac{4}{5}P = \frac{P \times R \times T}{100} \quad (\text{Since, } R=T)$$

$$T = 4\sqrt{5}$$

So, rate of interest = $4\sqrt{5}$ % P.A.

26. The average of the four consecutive odd numbers is 16. What is the third number in the descending order?
 (A) 13 (B) 15
 (C) 17 (D) 19

Ans. Option (B) is correct.

Explanation:

Let the numbers = X, X+2, X+4, X+6

$$\text{So, Average} = \frac{X + X + 2 + X + 4 + X + 6}{4}$$

$$= 16$$

$$X = 13$$

So, Require number = X+2 = 15

27. A train running at a speed of 54 km/hr crosses a platform which is double of the length of the train in 18 seconds. What is the length of the platform and train ?

- (A) 180 m and 90 m (B) 90 m and 180 m
 (C) 70 m and 140 m (D) 140 m and 70 m

Ans. Option (A) is correct.

Explanation:

Let the length of train = L

So, the length of platform = 2 L

$$\text{Speed of the train} = 54 \text{ kmph} = 54 \times \frac{5}{18} = 15 \text{ m/s}$$

As we know that,

Distance = Speed \times Time

$$3L = 15 \times 18$$

$$L = 90 \text{ m}$$

So, the length of train = 90 m

And the length of platform = 180 m

28. Find the largest size of a bamboo that can be placed in a square of area 333 m² ?

- (A) 13 m (B) $13\sqrt{2}$ m
 (C) 26 m (D) $26\sqrt{2}$ m

Ans. Option (C) is correct.

Explanation:

Area of square = 333 m²

Let the side of square = a

$$\text{So, } a = \sqrt{333} \text{ m}$$

So, largest size of the bamboo = $a\sqrt{2}$

$$= \sqrt{2}\sqrt{333}$$

$$= \sqrt{666} \approx 26 \text{ m}$$

29. What is the average of marks obtained by the all students in computer?

- (A) 80 (B) 90
 (C) 85 (D) 95

Ans. Option (D) is correct.

Explanation:

$$\begin{aligned} \text{Average marks} &= \frac{90 + 90 + 80 + 95 + 85 + 100}{6} \\ &= 90 \end{aligned}$$

30. What is the overall percentage of marks obtained by GP in all subjects?

- (A) 72.88% (B) 76.75%
 (C) 74.50% (D) 75.75%

Ans. Option (D) is correct.

Explanation:

$$\begin{aligned} \text{Percentage marks} &= \frac{(66 + 60 + 62 + 30 + 85) \times 100}{75 + 75 + 80 + 60 + 110} \\ &= 75.75\% \end{aligned}$$

31. What is average marks obtained by the all students in Hindi?

- (A) 46 (B) 48
(C) 47.8 (D) 45.8

Ans. Option (A) is correct.

Explanation: Average marks obtained by the all students in Hindi = $\frac{50 + 55 + 40 + 45 + 30 + 56}{6}$
= 46

32. What is the ratio between total marks obtained in all subjects by RP and FA?

- (A) 84 : 89 (B) 50 : 51
(C) 1 : 1 (D) 10 : 11

Ans. Option (C) is correct.

Explanation: Marks obtained by RP in all subjects = $70 + 68 + 72 + 40 + 80 = 330$
Marks obtained by RP in all subjects = $54 + 70 + 50 + 56 + 100 = 330$
So, required ratio = $330 : 330 = 1 : 1$



CUET (UG) Question Paper - 2022

National Testing Agency

18th AUG 2022 – SHIFT 1

Section - III (General Test)

Quantitative Aptitude

General Instructions:

Marking scheme of the test:

- (a) Correct answer or the most appropriate answer: Five marks (+5)
- (b) Any incorrect option marked will be given minus one mark (-1).
- (c) Unanswered/Marked for review will be given no mark (0).

1. A train 420 m long passes a pole in 20 seconds. What is the speed of the train?

- (A) 20 m/s (B) 22 m/s
(C) 21 m/s (D) 24 m/s

Ans. Option (C) is correct.

Explanation: Given that,
The length of the train = 420 m
Time taken to cross the pole = 20 s
So, required speed = $\frac{\text{Distance}}{\text{Time}}$
 $= \frac{420}{20} = 21 \text{ m/s}$

2. If the edge of a cube is 17 cm, then the volume is:

- (A) 4813 cm³ (B) 4913 cm³
(C) 4713 cm³ (D) 5913 cm³

Ans. Option (B) is correct.

Explanation:
Given that,
Edge of cube = 17 cm
So, Volume = 17³ = 4913 cm³

3. Simple interest of ₹ 9,000 at 5% per annum for 6 months is:

- (A) ₹ 235 (B) ₹ 245
(C) ₹ 50 (D) ₹ 225

Ans. Option (D) is correct.

Explanation:
Given that,
P = ₹ 9,000
R = 5% per annum
T = 6 month = $\frac{1}{2}$ hr
As we know that,
SI = $\frac{PRT}{100} = \frac{(9000 \times 5 \times 1)}{2 \times 100} = ₹ 225$

4. If $x^2 - 9y^2 - 6xy = 0$, then $x : y$ is equal to:

- (A) 3 : 2 (B) 1 : 3
(C) 3 : 1 (D) 2 : 3

Ans. Option (A) is correct.

Explanation:
 $x^2 + 9y^2 - 6xy = 0$
 $x^2 - 3xy - 3xy + 9y^2 = 0$
 $x(x - 3y) - 3y(x - 3y) = 0$
 $(x - 3y)(x - 3y) = 0$
 $(x - 3y)^2 = 0$
So, $x - 3y = 0$
 $x = 3y$
 $x : y = 3 : 1$

5. The average of 3 consecutive odd numbers is 65. What is the ratio of these numbers?

- (A) 61 : 65 : 65 (B) 59 : 61 : 63
(C) 63 : 65 : 61 (D) 65 : 61 : 69

Ans. Option (C) is correct.

Explanation:
Given that,
The average of three consecutive odd numbers = 65
So, the numbers = 63, 65, 67
Now, the required ratio = 63 : 65 : 67

6. The sum of the ages of father and his son is 45 years. Five years ago, the product of their ages was 34. The age of father is:

- (A) 40 years (B) 45 years
(C) 39 years (D) 38 years

Ans. Option (C) is correct.

Explanation:
Given that,
F + S = 45
And (F - 5)(S - 5) = 34
(F - 5)(S - 5) = 34 × 1 or 17 × 2
Here F - 5 = 34
Then, F = 39
And S - 5 = 1
Then, S = 6

As we can see that the sum of F and S is 45.
Hence, the age of Father = 39

7. Sum of the ages of 4 children born at the intervals of 4 years each is 52 years. What is the age of the eldest one?
 (A) 7 years (B) 14 years
 (C) 19 years (D) 24 years

Ans. Option (C) is correct.

Explanation:

Let the age of children = $X, X+4, X+8, X+12$
 As per the question,
 $X + X+4 + X+8 + X+12 = 52$
 $4X = 52 - 24$
 $X = 7$
 So, age of eldest child = $7 + 12 = 19$ years

8. What is the value of x , if $x\%$ of 142 + 30% of 280 = 368
 (A) 150 (B) 200
 (C) 175 (D) 225

Ans. Option (B) is correct.

Explanation: $x\%$ of 142 + 30% of 280 = 368

$$\text{So, } \frac{142}{100}x + \frac{30}{100} \times 280 = 368$$

$$\frac{142}{100}x = 368 - 84 = 284$$

$$x = 200$$

9. If 0.03 is $X\%$ of 0.3, then the value of X is:
 (A) 30 (B) 10
 (C) 3 (D) 9

Ans. Option (B) is correct.

Explanation:

$$X\% \text{ of } .3 = .03$$

$$X = \frac{0.03}{0.3} \times 100$$

$$X = 10$$

10. A can complete a work in 16 days. B can complete the same work in 8 days. If both of them come together, then in how many days can they complete the same work?
 (A) $2\frac{1}{3}$ days (B) $5\frac{1}{3}$ days
 (C) $7\frac{1}{3}$ days (D) $6\frac{1}{3}$ days

Ans. Option (C) is correct.

Explanation: Given that,
 Time taken by A = 16 days
 Time taken by B = 8 days

$$\text{Time taken by A and B together} = \frac{1}{\frac{1}{16} + \frac{1}{8}}$$

$$= \frac{128}{24}$$

$$= \frac{16}{3}$$

$$= 5\frac{1}{3} \text{ days}$$

11. HCF of first five odd natural numbers is:

- (A) 5 (B) 3
 (C) 2 (D) 1

Ans. Option (D) is correct.

Explanation:

First five natural numbers = 1, 2, 3, 4, 5
 So, HCF = 1

12. The value of $4 - 3 \div 3 + 5$

- (A) 5 (B) 0
 (C) 7 (D) 8

Ans. Option (A) is correct.

Explanation:

$$\text{Given that: } 4 - 3 \div 3 + 5$$

$$= 4 - 1 + 5$$

$$= 8$$

13. If 900 m long train crosses 700 m long platform in 1 minute, then speed of the train in kilometer per hour is:

- (A) $\frac{80}{3}$ km/h (B) 96 km/h
 (C) 15 km/h (D) $\frac{33}{3}$ km/h

Ans. Option (B) is correct.

Explanation: Total distance that train have to cover = $900 + 700 = 1,600$ m = 1.6 km

$$\text{Time} = 1 \text{ min} = \frac{1}{60} \text{ hr}$$

$$\text{So, Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{1.6}{\frac{1}{60}} = 1.6 \times 60 = 96 \text{ km/hr}$$

14. The factors of $4x^2 - 8x + 3$ are:

- (A) $(2x-3)(2x+1)$
 (B) $(2x+3)(2x-1)$
 (C) $(2x+3)(2x-1)$
 (D) $(2x-3)(2x-1)$

Ans. Option (D) is correct.

Explanation: $4x^2 - 8x + 3 = 0$

$$4x^2 - 6x - 2x + 3 = 0$$

$$2x(2x-3) - 1(2x-3) = 0$$

$$(2x-3)(2x-1) = 0$$

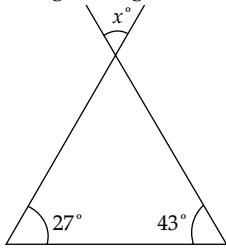
15. Common factor of $2a^2b, 4ab^2, 6ac^2$

- (A) 2ab (B) 2a
 (C) 2abc (D) 2b

Ans. Option (A) is correct.

Explanation: Given that: $2a^2b, 4ab^2, 6ac^2$
 Common factor = 2a

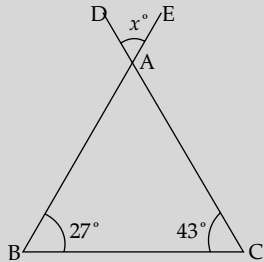
16. Value of x in the given figure is:



- (A) 43° (B) 27°
 (C) 70° (D) 110°

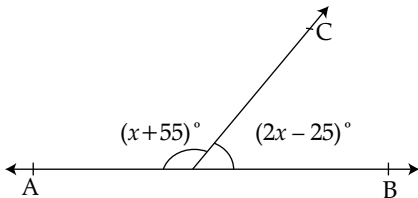
Ans. Option (C) is correct.

Explanation:



From given diagram,
 $\angle DAE = \angle BAC = x^\circ$
 We know that,
 $\angle ABC + \angle BCA + \angle CAB = 180^\circ$
 $27^\circ + 43^\circ + \angle CAB = 180^\circ$
 $\therefore \angle CAB = 180^\circ - 70^\circ$
 $= 110^\circ$
 Hence, option D is correct option.

17. In the given figure AOB is a straight line, the value of x is:



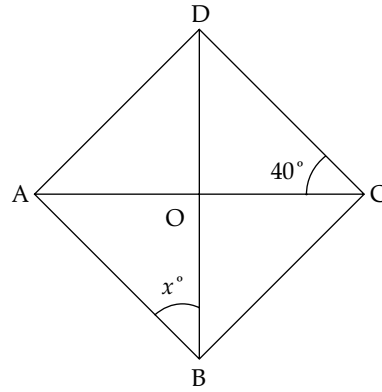
- (A) 60° (B) 70°
 (C) 50° (D) 45°

Ans. Option (C) is correct.

Explanation:

As we know that,
 Straight angle = 180°
 So, $x + 55^\circ + 2x - 25^\circ = 180^\circ$
 $3x = 180^\circ - 30^\circ$
 $x = 50^\circ$

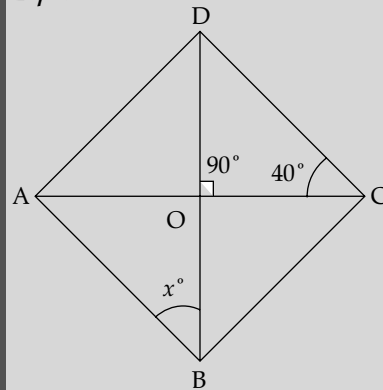
18. In the given figure ABCD is a rhombus, if $\angle ACD = 40^\circ$ then x is:



- (A) 50° (B) 40°
 (C) 60° (D) 90°

Ans. Option (A) is correct.

Explanation:



We know that, in Rhombus
 $\angle DCO = \angle BCO = 40^\circ$
 $\therefore \angle BCD = 80^\circ$
 So, $\angle BCD = \angle BAD = 80^\circ$
 Here, $\angle BAO = \frac{50^\circ}{2} = 40^\circ$
 $\therefore \triangle AOB, \angle BAO + \angle AOB + \angle OBA = 180^\circ$
 $\therefore 40 + 90 + x^\circ = 180^\circ$
 $\therefore x^\circ = 50^\circ$
 Hence, option A is correct option.

19. Percentage of students who are interested in cricket and hockey.

- (A) 40% (B) 33%
 (C) 50% (D) 36%

Ans. Option (C) is correct.

Explanation:

Given that,
 Number of students interested in Cricket = 50
 Number of students interested in Hockey = 20
 Required percentage = $\frac{70}{140} \times 100 = 50\%$

20. How many more students are interested in football than badminton?
- (A) 15 (B) 30
(C) 20 (D) 10

Ans. Option (D) is correct.

Explanation:

Given that,
Number of students interested in Football = 40
Number of students interested in Badminton = 30
Required number = $40 - 30 = 10$

21. Number of students who are not interested in cricket and football is.
- (A) 90 (B) 70
(C) 50 (D) 80

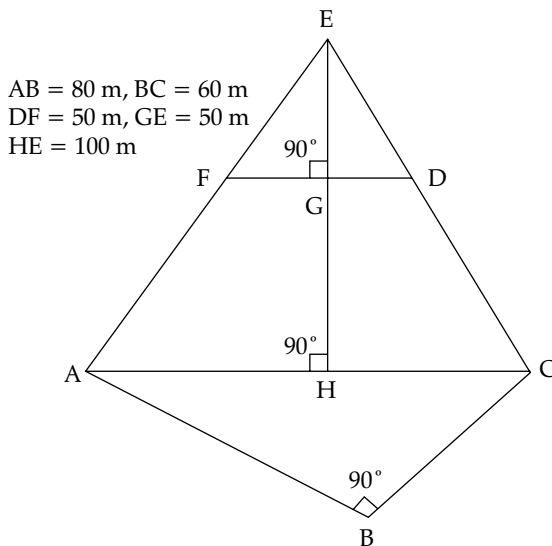
Ans. Option (C) is correct.

Explanation:

Number of students who are not interested in cricket and football = $20 + 30 = 50$

Passage:

Direction: Please read the following carefully and answer question no. from 21 to 24.



22. Area of triangular region FDE is:
- (A) 1000 m^2 (B) 1250 m^2
(C) 2400 m^2 (D) 1600 m^2

Ans. Option (B) is correct.

Explanation:

$$\begin{aligned} \text{Area of triangle, FDE} &= \frac{1}{2} \times \text{Base} \times \text{Height} \\ &= \frac{1}{2} \times 50 \times 50 \\ &= 1250 \text{ m}^2 \end{aligned}$$

23. Area of region ACDF is:
- (A) 3750 m^2 (B) 3500 m^2
(C) 3250 m^2 (D) 3000 m^2

Ans. Option (A) is correct.

Explanation:

$$\begin{aligned} \text{In triangle ABC,} \\ AC &= (AB^2 + BC^2)^{1/2} \\ &= (6,400 + 3,600)^{1/2} \\ &= 100 \text{ m} \end{aligned}$$

$$\begin{aligned} \text{Area of ACDF} &= \frac{1}{2} \times \text{sum of parallel lines} \\ &\quad \times \text{distance between them} \\ &= \frac{1}{2} \times (100 + 50) \times 50 \\ &= \frac{1}{2} \times 150 \times 50 \\ &= 3750 \text{ m}^2 \end{aligned}$$

24. Area of whole figure is:
- (A) 7000 m^2 (B) 7200 m^2
(C) 7400 m^2 (D) 7500 m^2

Ans. Option (C) is correct.

Explanation:

$$\begin{aligned} \text{Area of whole figure} &= \text{Area of triangle FDE} \\ &\quad + \text{Area of ACDF} + \text{Area of triangle ABC} \\ &= 1250 + 3750 + \frac{1}{2} \times \text{Base} \times \text{Height} \\ &= 5000 + \frac{1}{2} \times 80 \times 60 \\ &= 7400 \text{ m}^2 \end{aligned}$$

25. If the base radius of a cone is 7 cm and height of it is 14 cm, then:
- (a) Slant height = $6\sqrt{5}$ cm
(b) Slant height = $7\sqrt{5}$ cm
(c) Volume = 718.67 cm^3
(d) Volume = 708.66 cm^3
(e) Ratio of height and slant height = $2 : \sqrt{5}$

Choose the correct answer from the options given below:

- (A) a, c and d only
- (B) b, c and e only
- (C) b and c only
- (D) a, c and e only

Ans. Option (C) is correct.

Explanation:

Base radius of cone = 7 cm

Height = 14 cm

Then slant height = $\sqrt{(14^2 + 7^2)}$

$$= \sqrt{245} = 7\sqrt{5}$$

And volume = $\frac{1}{3}\pi r^2 h$

$$= \frac{1}{3} \times \frac{22}{7} \times 7^2 \times 14$$

$$= 718.67 \text{ cm}^3$$

Ratio of height and slant height

$$= 14 : 7\sqrt{5} = 2 : \sqrt{5}$$



CUET (UG) Question Paper - 2022

National Testing Agency

17th AUG 2022 – SHIFT 1

Section - III (General Test) Quantitative Aptitude

General Instructions:

Marking scheme of the test:

(a) Correct answer or the most appropriate answer: Five marks (+5)

(b) Any incorrect option marked will be given minus one mark (-1).

(c) Unanswered/Marked for review will be given no mark (0).

1. The interest earned on ₹ 25000 in 5 years at simple interest is ₹ 1500. What is the rate of interest?

(A) 1.1% (B) 1.2%
(C) 1.4% (D) 1.6%

Ans. Option (B) is correct.

Explanation: Given that,

$$P = 25000$$

$$T = 5 \text{ years}$$

$$S.I. = 1500$$

Let rate of interest = R% per annum

As we know that,

$$S.I. = \frac{P \times R \times T}{100}$$
$$1500 = \frac{2500 \times R \times 5}{100}$$
$$R = 1.2\%$$

2. Given that $a : b = 5 : 3$ and $b : c = 2 : 5$
Which of the following is true?

(A) $a < b < c$ (B) $b < c < a$
(C) $b < a < c$ (D) $a < c < b$

Ans. Option (D) is correct.

Explanation: Given that,

$$a : b = 5 : 3$$

$$b : c = 2 : 5$$

So, $a : b : c = 10 : 6 : 15$

Hence, $b < a < c$.

3. Arrange the given ratios in descending order:

(a) 7 : 15 (b) 15 : 23
(c) 17 : 25 (d) 21 : 39

Choose the correct answer from the options given below:

(A) $c > a > b > d$ (B) $a > d > c > b$
(C) $c > b > d > a$ (D) $d > a > b > c$

Ans. Option (C) is correct.

Explanation: From the given fractions, descending order will be as written below.

$$\frac{17}{25} > \frac{15}{23} > \frac{21}{39} > \frac{7}{15}$$

So, $c > b > d > a$

4. A is younger than B by 7 years. If their ages are in the respective ratio of 7 : 9 then how old is A?

(A) 31.5 years (B) 16.5 years
(C) 24.5 years (D) 18.5 years

Ans. Option (C) is correct.

Explanation: Let the age of A = 7X

Then age of B = 9X

As per the question,

$$9X - 7X = 7$$

$$\text{So, } X = 3.5$$

So, the age of A = $7 \times 3.5 = 24.5$ years

5. The average of 3 odd consecutive numbers is 15. What is the sum of first and last numbers?

(A) 30 (B) 20
(C) 40 (D) 35

Ans. Option (A) is correct.

Explanation: Let the numbers = X, X + 2, X + 4

$$\text{So, Average} = \frac{X + X + 2 + X + 4}{3} = 15$$

$$X = 13$$

So, the numbers = 13, 15, 17

Required sum = $13 + 17 = 30$

6. What is the value of 70% of 420 + 30% of 280

(A) 284 (B) 268
(C) 368 (D) 378

Ans. Option (D) is correct.

Explanation:

70% of 420 + 30% of 280

$$= (70/100) \text{ of } 420 + (30/100) \text{ of } 280$$

$$= 7 \times 42 + 3 \times 28$$

$$= 294 + 84 = 378$$

7. 2.56 expressed as a percent of 1.6 is.

(A) 16% (B) 25%
(C) 160% (D) 90%

Ans. Option (C) is correct.

Explanation:

$$\text{Required percentage} = \frac{2.56}{1.6} \times 100$$

$$= 160\%$$

8. P can do a work in 12 days. Q can do the same work in 10 days. If P and Q come together, both of them can complete the same work in how many days?

- (A) $2\frac{2}{11}$ days (B) $3\frac{3}{11}$ days
(C) $5\frac{5}{11}$ days (D) $4\frac{4}{11}$ days

Ans. Option (C) is correct.

Explanation: Time taken by P = 12 days
Time taken by Q = 10 days
Total work = L.C.M.(10, 12) = 60 units
So, P's per day work = $60/12 = 5$
And Q's per day work = $60/10 = 6$
So, Required time = $\frac{60}{(5+6)} = 5\frac{5}{11}$ days

9. $\frac{3}{4}$ part of the tank is filled by a motor pump in 15 minutes, then the rest part of the tank will be filled in

- (A) 3.5 minutes (B) 5 minutes
(C) 8 minutes (D) 20 minutes

Ans. Option (B) is correct.

Explanation: Given that,
Time taken to fill $\frac{3}{4}$ part = 15 min
So, Time taken to fill remaining $\frac{1}{4}$ part = $15/3 = 5$ min

10. The ratio of two numbers is 5 : 6 and their HCF is 8. What is the LCM of these numbers?

- (A) 180 (B) 240
(C) 280 (D) 140

Ans. Option (B) is correct.

Explanation: : Given that,
The ration of numbers = 5 : 6
And HCF = 8
So, the LCM = $8 \times 5 \times 6 = 240$

11. A can complete a work in 4 minutes. B in 5 minutes, C in 6 minutes and D in 10 minutes respectively. The average number of units of work completed by them per minute will be

- (A) 0.789 (B) 0.179
(C) 0.501 (D) 0.800

Ans. Option (B) is correct.

Explanation: Given that,
Time taken by A = 4 min
Time taken by B = 5 min
Time taken by C = 6 min
Time taken by D = 10 min
So, their work per min = $1/4 + 1/5 + 1/6 + 1/10 = 43/60$
So, the required average = $(43/60)/4 = 0.179$

12. The value of $2 \div 2 - 2$

- (A) 1 (B) -1
(C) 0 (D) $\frac{1}{2}$

Ans. Option (B) is correct.

Explanation: Given that,

$$2 \div 2 - 2 = 1 - 2 = -1$$

13. A chair is sold for ₹ 96 at 20% loss. The cost price of the chair is

- (A) ₹ 120 (B) ₹ 80
(C) ₹ 115.20 (D) ₹ 76.80

Ans. Option (A) is correct.

Explanation: Given that,

S.P = ₹ 96 and loss = 20%

So, the C.P. = $(96 \times 100) / 80 = ₹ 120$

14. The value of $\frac{(8.9)^2 - (2.1)^2}{8.9 - 2.1}$

- (A) 8.6 (B) 6.8
(C) 10.0 (D) 11.0

Ans. Option (D) is correct.

Explanation: Given that,

$$\text{Here } \frac{8.9^2 - 2.1^2}{8.9 - 2.1} = \frac{(8.9 + 2.1)(8.9 - 2.1)}{8.9 - 2.1} = 11$$

15. The value of $\left(\frac{x}{y}\right)^{2a-3b} \times \left(\frac{x}{y}\right)^{3b-4c} \times \left(\frac{x}{y}\right)^{4c-2a}$

- (A) $\frac{x}{y}$ (B) 1
(C) 0 (D) $\left(\frac{x}{y}\right)^{2a+3b+4c}$

Ans. Option (B) is correct.

Explanation: Here,

$$\begin{aligned} &\left(\frac{x}{y}\right)^{2a-3a} \times \left(\frac{x}{y}\right)^{3b-4c} \times \left(\frac{x}{y}\right)^{4c-2a} \\ &= \left(\frac{x}{y}\right)^{2a-3b+3b-4c+4c-2a} = \left(\frac{x}{y}\right)^0 \\ &= 1 \end{aligned}$$

16. In parallelogram ABCD, angle A is greater than angle B by 10° , then measure of angle D is

- (A) 95° (B) 75°
(C) 85° (D) 65°

Ans. Option (C) is correct.

Explanation: Let $\angle B = X$

Then $\angle A = X + 10^\circ$

As we know that,

$$X + X + 10 = 180^\circ$$

So, $X = 85^\circ$

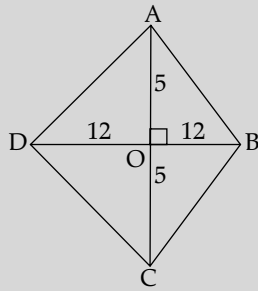
So, $\angle B = \angle D = 85^\circ$

17. If the length of diagonals of a rhombus are 10 cm and 24 cm then the side of the rhombus is.

- (A) 26 cm (B) 24 cm
(C) 13 cm (D) 12 cm

Ans. Option (C) is correct.

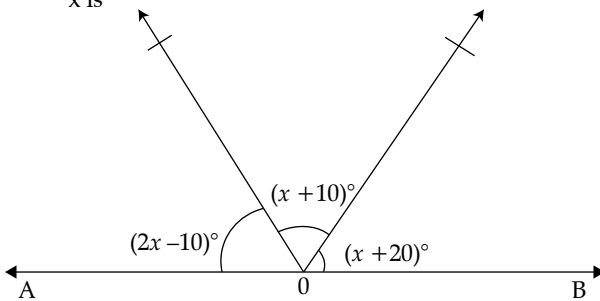
Explanation: Since, diagonals of rhombus bisect each other at 90° .



$$\begin{aligned} \text{In } \triangle AOB, AB^2 &= OA^2 + OB^2 \\ &= 25 + 144 = 169 \Rightarrow AB = 13 \text{ cm} \end{aligned}$$

So, option 3 is correct option.

18. In the figure AOB is a straight line then the value of x is



- (A) 60° (B) 50°
(C) 40° (D) 70°

Ans. Option (C) is correct.

Explanation: As $\angle AOB$ is a straight angle.

$$\begin{aligned} \text{So, } 2x - 10 + x + 10 + x + 20 &= 180^\circ \\ 4x + 20 &= 180^\circ \\ x &= 40^\circ \end{aligned}$$

19. The side of the square is

- (A) $\frac{7}{2}$ cm (B) 7 cm
(C) 14 cm (D) 12 cm

Ans. Option (C) is correct.

Explanation: From the given figure,
Side of square = $2r = 2 \times 7 = 14$ cm

20. The perimeter of the figure is:

- (A) 42 cm (B) 20 cm
(C) 86 cm (D) 64 cm

Ans. Option (D) is correct.

Explanation: From the given figure,
Perimeter of figure = $3 \times 14 + (22/7) \times 7$
 $= 42 + 22 = 64$ cm

21. Area of the figure is

- (A) 119 cm^2 (B) 273 cm^2
(C) 350 cm^2 (D) 42 cm^2

Ans. Option (A) is correct.

Explanation:

$$\begin{aligned} \text{Area of figure} &= 14^2 - \frac{1}{2} \left(\frac{22}{7} \times 7 \times 7 \right) \\ &= 196 - 77 = 119 \text{ cm}^2 \end{aligned}$$

22. The marks of 5 students in a unit test are given below:

$x - 1, 2x + 1, 2x - 2, x - 1, 2x + 3$ where $x = 5$. On the basis of above information answer the questions from 58 to 60.

The mode of data in numerals is

- (A) 11 (B) 13
(C) 4 (D) 8

Ans. Option (C) is correct.

Explanation: Marks of the students = $x - 1, 2x + 1, 2x - 2, x - 1, 2x + 3$ where $x = 5$

So, marks = 4, 11, 8, 4, 13

So, mode = 4

23. The median of data in numerals is

- (A) 11 (B) 4
(C) 8 (D) 13

Ans. Option (C) is correct.

Explanation: Median of 4, 4, 8, 11, 13 = 8

24. The mean of the data in numerals is

- (A) 4 (B) 8
(C) 13 (D) 11

Ans. Option (B) is correct.

Explanation:

$$\begin{aligned} \text{Mean of the data} &= \frac{4 + 4 + 8 + 11 + 13}{5} \\ &= 8 \end{aligned}$$



CUET (UG) Question Paper - 2022

National Testing Agency

08th AUG 2022 – SHIFT 1

Section - III (General Test)

Quantitative Aptitude

General Instructions:

Marking scheme of the test:

(a) Correct answer or the most appropriate answer: Five marks (+5).

(b) Any incorrect option marked will be given minus one mark (-1).

(c) Unanswered/Marked for review will be given no mark (0).

1. What is the value of x if $4 : x = x : 16$ _____?

(A) 16 (B) 8
(C) 9 (D) 12

Ans. Option (B) is correct.

Explanation: It is given that,

$$4/x = x/16$$

$$x^2 = 64$$

$$x = 8$$

2. If $P = ₹ 2000$, $R = 5\%$ per annual, $T = 5$ year

A. Total sum of amount = ₹ 2200

B. SI = ₹ 200

C. SI = ₹ 500

D. Total sum of amount = ₹ 2500

Choose the correct answer from the options given below:

(A) C and D Only

(B) A and C Only

(C) B and C Only

(D) A and D Only

Ans. Option (A) is correct.

Explanation: It is given that,

$$P = 2000, R = 5\%, T = 5 \text{ year}$$

As we know that,

$$SI = \frac{(P \times R \times T)}{100}$$

$$= \frac{(2000 \times 5 \times 5)}{100}$$

$$= ₹ 500$$

$$\text{Total amount} = 2000 + 500 = ₹ 2500$$

3. Find the LCM of $\frac{3}{5}$, $\frac{4}{9}$ and $\frac{5}{8}$ is

(A) 45

(B) 55

(C) 60

(D) 65

Ans. Option (C) is correct.

Explanation: Given numbers are $\frac{3}{5}$, $\frac{4}{9}$, $\frac{5}{8}$.

As we know,

$$\text{LCM of fraction} = \frac{\text{LCM of Numerator}}{\text{HCF of Denominator}}$$

$$= \frac{\text{LCF}(3,4,5)}{\text{HCF}(5,8,9)} = \frac{60}{1}$$

$$= 60$$

4. In a swimming pool measuring $80 \text{ m} \times 60 \text{ m}$, 120 men take a dip. If the average displacement of water by a man is 6 m^3 , then the rise in water level is –

(A) 0.25 m (B) 0.10 m

(C) 0.15 m (D) 0.35 m

Ans. Option (C) is correct.

Explanation: It is given that,

Length of swimming pool = 80 m

Breadth of swimming pool = 60 m

Let the depth of swimming pool = D m

Volume of water displaced = Displacement of water by 120 man.

$$80 \times 60 \times D = 120 \times 6$$

$$4800 \times D = 720$$

$$D = 0.15 \text{ m}$$

5. The average age of group of 5 friends is 32 years. The youngest friend amongst them is 4 years old. What was the average age of the group at the time of birth of the youngest friend?

(A) 36 years

(B) 35 years

(C) 34 years

(D) 33 years

Ans. Option (B) is correct.

Explanation: Given that,

The average age of 5 friend = 32 years

So, sum of their ages = $32 \times 5 = 160$ years

The youngest friend is 4 years old, that means youngest was born 4 years ago.

Now 4 years ago,

$$\text{Sum} = 160 - (4 \times 5) = 160 - 20 = 140 \text{ years}$$

So, the average age of group at the time of the birth of youngest one = $140/4 = 35$ years

Hence, option B is correct answer.

6. A volume of a wall is 128 cm^3 . If the height of the wall is 6 times its breadth and the length is 9 times its breadth, find the breadth.

(A) $\sqrt[3]{3.45}$ cm

(B) $\sqrt[3]{4.74}$ cm

(C) $\sqrt[3]{2.37}$ cm

(D) $\sqrt[3]{2.38}$ cm

Ans. Option (C) is correct.

Explanation: Given that,

$$\text{The volume of the wall} = 128 \text{ cm}^3$$

Let the breadth = x cm
 So, Height = $6x$ cm
 And Length = $9x$ cm
 As we know that,
 Volume = $L \times B \times H$
 $128 = 9x \times 6x \times x$
 $128 = 54x^3$
 $x = 3\sqrt[3]{2.37}$

7. If $P = x\%$ of Y and $Q = y\%$ of x , then which of following is true?

(A) $P = Q$ (B) $P > Q$
 (C) $P < Q$
 (D) Relationship between P and Q cannot be established

Ans. Option (A) is correct.

Explanation: Here, $P = x\%$ of $Y = XY/100$
 and $Q = Y\%$ of $X = XY/100$
 So, $P = Q$

8. A man makes a profit of 20% after selling a product on 28% discount on the printed price. Find the ratio of printed price to cost price

(A) 7 : 3 (B) 5 : 3
 (C) 4 : 3 (D) 8 : 3

Ans. Option (B) is correct.

Explanation: Let the C.P. of product = X
 Then S.P. = $1.2X$
 Now let the printed price = Y
 Then S.P. = $0.72Y$
 Now, comparing both S.P.,
 $0.72Y = 1.2X$
 $Y/X = 1.2 / 0.72$
 $= 5/3$
 So, the ratio of printed price to cost price = $5/3$

9. Alice is faster than Bob, Alice and Bom each walk 30 km. The sum of their speeds is 8 km/hr and sum of time taken by them is 16 hours. Then Alice's speed is equal to

(A) 5 (B) 4
 (C) 6 (D) 8

Ans. Option (A) is correct.

Explanation: Let Alice speed = x km/h
 Then, Bob's speed = $8 - x$ km/h
 As we know that,
 Distance / Speed = Time
 So, $\frac{30}{X} + \frac{30}{8-X} = 16$
 $30(8-x) + 30x = 16 \times (8-x)$
 $240 - 30x + 30x = 128x - 16 \times 2$
 $x^2 - 8x + 15 = 0$
 $(x-5)(x-3) = 0$
 $x = 3$ and $x = 5$
 As per the question, Alice speed = 5 km/h

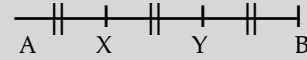
10. A and B are two points in a river. Point X and Y divide the line AB in three equal parts. Let the flow of the river is from A to B. The ratio of the time taken to row from point A to Y and from B to Y is 3 : 4.

Find the ratio of the speed of the boat upstream to the flow of the river.

(A) 5 : 6 (B) 6 : 5
 (C) 4 : 5 (D) 5 : 4

Ans. Option (B) is correct.

Explanation:



$$AX = XY = YB$$

Ratio of time taken by boat to go from A to Y and B to Y = 3 : 4

As we know that,

Speed of the boat going downstream = (Speed of the boat + Speed of the current)

Speed of the boat going upstream = (Speed of the boat - Speed of the current)

Time = Distance/Speed

Let $AX = XY = BY = d$

Let the speed of the boat = a km/h

Let the speed of the current = b km/h

As per the question:

$$2d/(a+b) \div d/(a-b) = 3/4$$

$$\Rightarrow 2(a-b)/(a+b) = 3/4$$

$$\Rightarrow 11b = 5a$$

$$\Rightarrow a/b = 11/5$$

Speed of the boat upstream = $(11 - 5) = 6$

Flow of the current = 5

\Rightarrow The required ratio = 6 : 5

11. A and B can complete a piece of work in 30 days. B and C in 10 days, which C and A in 5 days. If all of them work together, the time taken in completing the work

(A) 4 Days (B) 5 Days
 (C) 6 Days (D) 7 Days

Ans. Option (C) is correct.

Explanation: It is given that,

Time taken by A and B = 30 days

Time taken by C and B = 10 days

Time taken by A and C = 5 days

Let total work be 30 units (LCM of 30, 10 and 5).

(A+B)'s one day work = $30/30 = 1$ units

(B+C)'s one day work = $30/10 = 3$ units

(C+A)'s one day work = $30/5 = 6$ units

Adding all three equations,

$$2A + 2B + 2C = 10$$

$$2(A+B+C) = 10$$

$$A+B+C = 5$$

So,

(A+B+C)'s one day work = 5 units

So, time taken by them together to finish the task = $30/5 = 6$ days.

12. Suresh covers a distance by a cycle at 10 km/h. He returns to the starting point in a car at a speed of 50 km/h. Find the average speed for the entire journey.

(A) 36.66 km/h (B) 16.66 km/h
 (C) 26.66 km/h (D) 46.66 km/h

Ans. Option (B) is correct.

Explanation: Let the distance = X km
 Time taken to cover the distance by a cycle = X/10 hr
 And time taken to cover the distance by a car = X/50 hr
 So, Average speed = $\frac{\text{Total distance}}{\text{Total time}}$

$$= \frac{2X}{\frac{X}{10} + \frac{X}{50}}$$

$$= \frac{1000}{60} = 16.66 \text{ km/h}$$

13. A boy secures 70%, 40% and 60% marks in test papers with 100, 50 and 150 respectively as maximum marks. The percentage of his aggregate is :
 (A) 55 (B) 60
 (C) 56.66 (D) 70

Ans. Option (B) is correct.

Explanation:
 70% of 100 = (70/100) of 100 = 70 marks
 40% of 50 = (40/100) of 50 = 20 marks
 60% of 150 = (60/100) of 150 = 90 marks
 So, marks secured = 70 + 20 + 90 = 180 marks
 And Total marks = 100 + 50 + 150 = 300 marks
 So, required percentage = $(180/300) \times 100 = 60\%$

14. Radha sells her scooter for ₹50000 at a loss of 20%. At what price she should sell her scooter to make a profit of 10% ?
 (A) ₹ 65750 (B) ₹ 64750
 (C) ₹ 66750 (D) ₹ 68750

Ans. Option (D) is correct.

Explanation: Given that,
 The S.P. of scooter = ₹ 50000
 Loss percentage = 20%
 So, C.P. = $(50000 \times 100) / 80 = ₹ 62500$
 Now, new profit percentage = 10%
 So, new S.P. = $(62500 \times 110) / 100 = ₹ 68750$

15. Ratio between age of P and Q is 5 : 7. If 2 years ago Q's age was 2 years more than the age of P after 4 years, then find their total age
 (A) 30 years (B) 35 years
 (C) 42 years (D) 48 years

Ans. Option (D) is correct.

Explanation: Let the age of P = 5x
 Then the age of Q = 7x
 As per the question,
 $7x - 2 = (5x + 4) + 2$
 $2x = 8$
 $x = 4$
 Total sum = $12x = 48$

16. $(a + b)^2 = 5 + 2\sqrt{6}$, what can be the possible value of 'b' from the following?
 (A) $\sqrt{7}$ (B) $\sqrt{3}$
 (C) $\sqrt{6}$ (D) 5

Ans. Option (B) is correct.

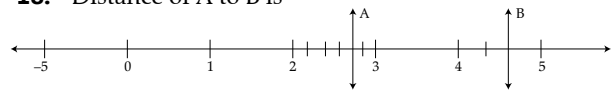
Explanation: Given that,
 $(a + b)^2 = 5 + 2\sqrt{6}$
 From the given equation possible values of a and b are $\sqrt{2}$ and $\sqrt{3}$

17. If $x - \frac{1}{x} = 3$ then the value of $x^2 + \frac{1}{x^2}$ is
 (A) 9 (B) 11
 (C) 7 (D) 3

Ans. Option (B) is correct.

Explanation: As we know that,
 $(x - 1/x)^2 = x^2 + 1/x^2 - 2 \times x \times 1/x$
 So, $3^2 = x^2 + 1/x^2 - 2$
 $x^2 + 1/x^2 = 9 + 2 = 11$

18. Distance of A to B is

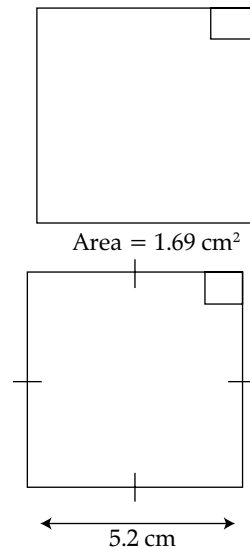


- (A) 1.8 unit (B) 1.9 unit
 (C) 2 unit (D) 2.1 unit

Ans. Option (C) is correct.

Explanation: It is clear from the given diagram, that distance between A and B is 2 unit.

19. The ratio of the sides of the squares in the given figure is



- (A) 13 : 4 (B) 1 : 4
 (C) 4 : 3 (D) 10 : 4

Ans. Option (B) is correct.

Explanation:

Side of first square = $\sqrt{1.69} = 1.3$ cm
 Side of the second square = 5.2 cm
 So, required ratio = $1.3 / 5.2 = 1 / 4$

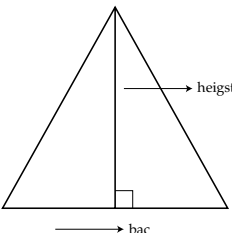
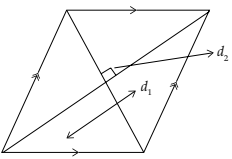
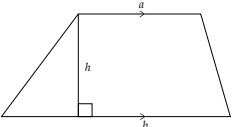
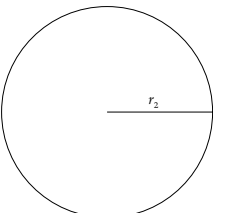
20. Find the mean of 12, 15, 7, 8 and 'x + 13', if x = 2
 (A) 11.2 (B) 9.2
 (C) 11.4 (D) 12

Ans. Option (C) is correct.

Explanation:

Given numbers = 12, 15, 7, 8 and x + 13
 Where x = 2
 So, last number = 15
 Now, mean = sum of all numbers/5
 = $57 / 5 = 11.4$

21. Match List I with List II

List I		List II	
A.		I.	πr^2
B.		II.	$1/2 \times \text{base} \times \text{height}$
C.		III.	$1/2 \times d_1 \times d_2$
D.		IV.	$1/2 \times (a+b) \times h$

Choose the correct answer from the options given below:

- (A) A-IV, B-II, C-III, D-I (B) A-III, B-IV, C-II, D-I
 (C) A-I, B-III, C-IV, D-II (D) A-II, B-III, C-IV, D-I

Ans. Option (D) is correct.

Explanation: From the given options, option D is perfect match of areas of given figures.

22. The diameter of a circle whose area is numerically 110 more than its circumference is
 (A) 5 units (B) 7 units
 (C) 14 units (D) 10 units

Ans. Option (B) is correct.

Explanation:

As we know that, area of circle = πr^2
 And circumference = $2\pi r$
 As per the question,
 $\pi r^2 = 2\pi r + 110$
 $\pi r^2 - 2\pi r = 110$
 $\pi r(r - 2) = 110$
 $r(r - 2) = 7 \times 5$
 So, r = 7

23. If $m - n = 16$ and $m^2 + n^2 = 400$, the value of mn is =
 (A) 72 (B) 25
 (C) 144 (D) 192

Ans. Option (A) is correct.

Explanation: As we know that,

$(m - n)^2 = m^2 + n^2 - 2mn$
 $16^2 = 400 - 2mn$
 $2mn = 400 - 256$
 $2mn = 144$
 $mn = 72$

24. The value of 'y' in the question $2x + 3y - 7 = 0$ if $x = -3/2$
 (A) 10 (B) 10/3
 (C) 4/3 (D) 13/3

Ans. Option (B) is correct.

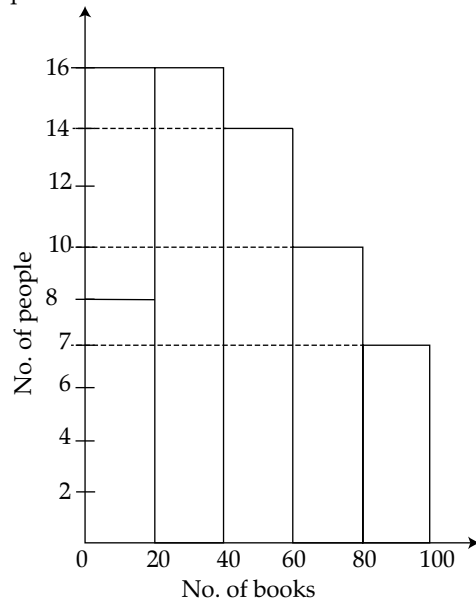
Explanation: Given that,

$2x + 3y - 7 = 0$ if $x = -(3/2)$
 $-2(3/2) + 3y - 7 = 0$
 $-3 + 3y - 7 = 0$
 $3y - 10 = 0$
 $3y = 10$
 $y = 10/3$

Hence, option B is correct option.

Direction for question (25 - 27)

From the graph given below, answer the following question.



25. The total number of people owing books more than '40' is
 (A) 60 (B) 31
 (C) 14 (D) 30

Ans. Option (B) is correct.

Explanation: The total number of people owing books more than 40 = 14 + 10 + 7 = 31

26. The number of people owing books more than 20 but less than 60 is
 (A) 14 (B) 16
 (C) 30 (D) 40

Ans. Option (B) is correct.

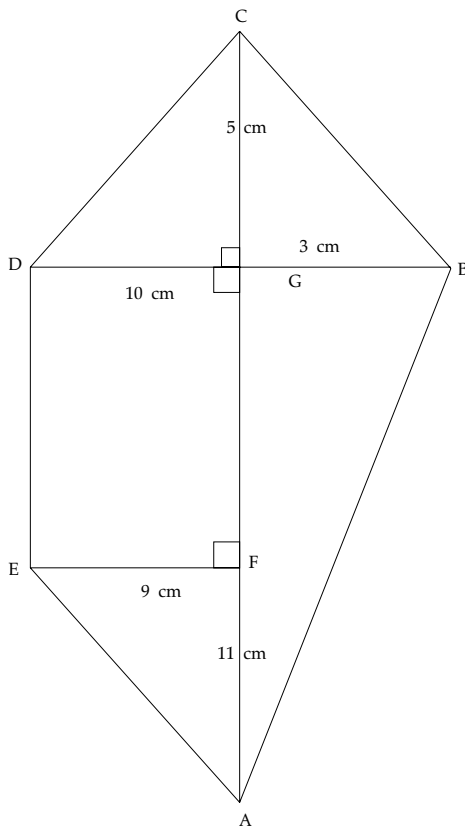
Explanation: The number of people owing books more than 20 but less than 60 = 16

27. The total number of people surveyed is
 (A) 16 (B) 56
 (C) 54 (D) 55

Ans. Option (D) is correct.

Explanation: The total number of people surveyed = 16 + 14 + 10 + 8 + 7 = 55

Direction for questions (28-30): From the given diagram, answer the following question.



28. 'AC' is 23 cm in the adjoining figure. Consider the figure and answer the questions
 The area of DGFE is
 (A) 133 cm² (B) 140 cm²
 (C) 70 cm² (D) 66.5 cm²

Ans. Option (D) is correct.

Explanation:

The area of DGFE (here, GF = h = 7 cm)
 = $\frac{1}{2} (a + b) \times h = \frac{1}{2} (10 + 9) \times 7$
 = $\frac{1}{2} \times 19 \times 7 = 66.5 \text{ cm}^2$

29. The area of $\triangle BDC$ if DB is a straight line
 (A) 32.5 cm² (B) 65 cm²
 (C) 25 cm² (D) 15 cm²

Ans. Option (A) is correct.

Explanation: Area of triangle

$BDC = \frac{1}{2} \times B \times H$
 = $\frac{1}{2} \times 13 \times 5 = 32.5 \text{ cm}^2$

30. The total area of figure is
 (A) 184.5 cm² (B) 205 cm²
 (C) 175.5 cm² (D) 153 cm²

Ans. Option (C) is correct.

Explanation: Area of figure = area $\triangle BDC$ + area $\triangle AGB$ + area $\triangle EFA$ + Area of rec. DGFE

= $\frac{1}{2} (B \times H + B \times H + B \times H + (a+b)H)$
 = $\frac{1}{2} (13 \times 5 + 18 \times 3 + 9 \times 11 + (10 + 9)7)$
 = $\frac{1}{2} (65 + 54 + 99 + 133)$
 = 175.5 cm²



CUET (UG) Question Paper - 2022

National Testing Agency

06th AUG 2022 – SHIFT 1

Section - III (General Test) Quantitative Aptitude

General Instructions:

Marking scheme of the test:

- (a) Correct answer or the most appropriate answer: Five marks (+5)
- (b) Any incorrect option marked will be given minus one mark (-1).
- (c) Unanswered/Marked for review will be given no mark (0).

1. Given set is (2, 17, 31) is set of :
- (A) Prime numbers (B) Whole numbers
(C) Odd numbers (D) Even numbers
- Choose the correct answer from the options given below :
- (A) (a) only (B) (a) and (b) only
(C) (b) only (D) (c) and (d) only

Ans. Option (B) is correct.

Explanation: As all three numbers 2, 17 and 31 are prime numbers and whole numbers as well. Only 2 is even and rest two numbers are odd. So, statement (a) & (b) follow.

2. Consider a watch becomes fast by 10 minutes everyday. By what percent does it become fast?
- (A) $\frac{5}{12}\%$ (B) $\frac{1}{6}\%$
(C) $\frac{25}{36}\%$ (D) 2.5%

Ans. Option (C) is correct.

Explanation:
Clock gain = 10 min
Total minutes in a day = $24 \times 60 = 1440$ min
So required percentage = $\frac{10}{1440} \times 100 = \frac{25}{36}\%$

3. A 400 m long train passes a railway platform in 20 seconds with speed 90 km/hr. What is the length of platform?
- (A) 105 m (B) 102 m
(C) 99 m (D) 100 m

Ans. Option (D) is correct.

Explanation:
Given that,
Length of train = 400 m
Time taken by the train to cross the platform = 20 sec
Speed of the train = 90 km/h
= $90 \times (5/18)$ m/s
= 25 m/s

Let the length of platform = L
As per the time formula,
 $20 = (400 + L) / 25$
 $500 = 400 + L$
 $L = 500 - 400 = 100$ m

4. An amount becomes its 3 times in 20 years. What is the rate of simple interest per annum?
- (A) 15% (B) 10%
(C) 6.67% (D) 6%

Ans. Option (B) is correct.

Explanation:
Given that,
Time duration = 20 years
Let the principal amount = x
So, interest earned in this duration = 2x
As per the simple interest formula,
 $SI = (P \times R \times T) / 100$
 $2x = (x \times R \times 20) / 100$
 $R = (2 \times 100) / 20$
 $R = 10\%$ p.a.

5. Which of the following represents $x \cdot y = 64$?
- (A) $8 : x = 8 : y$ (B) $x : 8 = y : 8$
(C) $x : 16 = y : 4$ (D) $32 : x = y : 2$

Ans. Option (D) is correct.

Explanation:
From option (D),
 $(32/x) = (y/2)$
 $x \cdot y = 32 \times 2$
= 64

6. Ratio $5^{8.14} : 5^{5.14}$ is equal to :
- (A) 1 : 5 (B) 5 : 1
(C) 25 : 1 (D) 125 : 1

Ans. Option (D) is correct.

Explanation:
 $(5^{8.14} / 5^{5.14}) = (5^{8.14 - 5.14} / 1)$
= $(5^3 / 1)$
= 125 / 1 or 125 : 1

7. The sum of the ages of 5 children born at intervals of 3 years each is 50 years. What is the age of the youngest child ?
 (A) 4 years (B) 7 years
 (C) 9 years (D) 10 years

Ans. Option (A) is correct.

Explanation:

Let the age of the youngest child = x years
 Then the age of other four children will be $x+3, x+6, x+9, x+12$ years respectively.
 As per the question,
 $x + x + 3 + x + 6 + x + 9 + x + 12 = 50$
 $5x = 50 - 30$
 $x = 4$ years
 So, the age of the youngest child = 4 years

8. The average of 3 even consecutive integers is 12. What is their product ?
 (A) 1640 (B) 1690
 (C) 1650 (D) 1680

Ans. Option (D) is correct.

Explanation:

Let three even consecutive numbers be $x, x+2$ and $x+4$.
 As per the average formula,
 Average = $(x + x + 2 + x + 4) / 3$
 $12 = (3x + 6) / 3$
 $3x = 30$
 $x = 10$
 So, numbers are 10, 12 and 14.
 Then required product = $10 \times 12 \times 14 = 1680$

9. Find the average of following numbers. 12, 15, 18, 14, 16, 13, 25, 28, 23, 27
 (A) 18.25 (B) 12.5
 (C) 19.1 (D) 16.1

Ans. Option (C) is correct.

Explanation:

Given numbers are 12, 15, 18, 14, 16, 13, 25, 28, 23, 27.
 As per the average formula,
 Average = $(12 + 15 + 18 + 14 + 16 + 13 + 25 + 28 + 23 + 27) / 10$
 $= 191 / 10$
 $= 19.1$

10. What percent decrease in salaries would exactly cancel the 20 percent increase ?
 (A) $15\frac{1}{3}\%$ (B) $14\frac{2}{3}\%$
 (C) $16\frac{2}{3}\%$ (D) $33\frac{1}{3}\%$

Ans. Option (C) is correct.

Explanation:

Let the salary amount in starting = ₹ 100
 Then after 20% increment the salary amount = ₹ 120

$$\begin{aligned} \text{Required percentage decrease} &= [(120 - 100) / 120] \times 100 \\ &= 2000 / 120 = 50/3\% = 16(2/3)\% \end{aligned}$$

11. P, Q and R can complete a work in 12, 9 and 15 days respectively. Working together, they will complete the same work in:
 (A) $3\frac{39}{47}$ days (B) $5\frac{15}{42}$ days
 (C) $3\frac{38}{47}$ days (D) $5\frac{39}{47}$ days

Ans. Option (A) is correct.

Explanation:

Given that,
 Time taken by P to finish the work = 12 days
 Time taken by Q to finish the work = 9 days
 Time taken by R to finish the work = 15 days
 By L.C.M. method of time and work,
 Total work = L.C.M.(12, 9, 15) = 180
 So, per day work of P = $180 / 12 = 15$
 and per day work of Q = $180 / 9 = 20$
 and per day work of R = $180 / 15 = 12$
 So, per day work of P, Q and R together = $15 + 20 + 12 = 47$
 So, the required days = $180 / 47 = 3\frac{39}{47}$ days

12. If 36 farmers can do a piece of work in 24 hours, In how many hours will 18 farmers do it?
 (A) 36 hours (B) 42 hours
 (C) 48 hours (D) 56 hours

Ans. Option (C) is correct.

Explanation: Given that,

Time taken by 36 farmers to complete the work = 24 hr
 Let the time taken by 18 farmers to complete the same work = x hr
 Then by unitary method,
 $36 \times 24 = 18 \times x$
 $x = 864 / 18$
 $= 48$ hr

13. The LCM and HCF of two numbers are 35 and 15 respectively. The product of these numbers is _____.
 (A) 625 (B) 525
 (C) 425 (D) 325

Ans. Option (B) is correct.

Explanation:

Given that,
 1st number = 35
 2nd number = 15
 As we know,
 Product of two numbers = LCM \times HCF
 So, LCM \times HCF = $35 \times 15 = 525$

14. What will be the simple interest earned on an amount of ₹ 22000 in 8 months at $8\frac{1}{4}\%$ per annum?

(A) ₹ 1013 (B) ₹ 1012
(C) ₹ 1210 (D) ₹ 1215

Ans. Option (C) is correct.

Explanation:

Given that,

$$P = ₹22000$$

$$T = 8 \text{ month} = \frac{2}{3} \text{ years}$$

$$R = 8\frac{1}{4}\% = \frac{33}{4}\%$$

As we know,

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$\text{S.I.} = \frac{22000 \times 33 \times 2}{3 \times 4 \times 100}$$

$$\text{S.I.} = ₹1210$$

15. The value of $3 - 3 \div 3$:

(A) 2 (B) 4
(C) 0 (D) 1

Ans. Option (A) is correct.

Explanation:

$$3 - 3 \div 3$$

$$= 3 - 1$$

$$= 2$$

16. If 20% of a number is 30, then the number is :

(A) 6 (B) 150
(C) 60 (D) 15

Ans. Option (B) is correct.

Explanation:

Let the number is x .

As per the question,

$$20\% \text{ of } x = 30$$

$$1\% \text{ of } x = 30/20$$

$$100\% \text{ of } x = 1.5 \times 100$$

$$= 150$$

17. The value of $x^{a-b} \times x^{b-c} \times x^{c-a}$ is :

(A) 1 (B) 0
(C) -1 (D) x

Ans. Option (A) is correct.

Explanation:

$$x^{a-b} \times x^{b-c} \times x^{c-a} = x^{a-b+b-c+c-a} \\ = x^0 = 1$$

18. If two adjacent angles of a parallelogram are $(2x + 30)^\circ$ and $(3x - 15)^\circ$. Then the value of x is :

(A) 36 (B) 39
(C) 33 (D) 35

Ans. Option (C) is correct.

Explanation:

Given that,

The angles two adjacent angles of a parallelogram are

$$(2x + 30)^\circ \text{ and } (3x - 15)^\circ.$$

We know that the sum of two adjacent angle of parallelogram is 180° .

$$\text{So, } (2x + 30) + (3x - 15) = 180^\circ$$

$$5x + 15 = 180^\circ$$

$$5x = 165^\circ$$

$$x = 33^\circ$$

19. If lengths of two diagonals of rectangle are $(2x - 3)$ cm and $(x + 2)$ cm, then the value of x is :

(A) 1 (B) 5
(C) $5/2$ (D) $5/3$

Ans. Option (B) is correct.

Explanation:

Given that,

Lengths of two diagonals of rectangle are $(2x - 3)$ cm and $(x + 2)$ cm.

We know that the length of diagonals of rectangle are equal.

$$\text{So, } 2x - 3 = x + 2$$

$$2x - x = 2 + 3$$

$$x = 5$$

20. If a square has a diagonal of length $6\sqrt{2}$ cm, then the area of square is :

(A) 48 cm^2 (B) 72 cm^2
(C) 16 cm^2 (D) 36 cm^2

Ans. Option (D) is correct.

Explanation:

Given that,

$$\text{Length of the diagonal of square} = 6\sqrt{2} \text{ cm}$$

As we know,

$$\text{Side of square} = \frac{\text{Diagonal}}{\sqrt{2}}$$

$$= \frac{6\sqrt{2}}{\sqrt{2}} = 6 \text{ cm}$$

$$\text{So, area of square} = 6 \times 6 \\ = 36 \text{ cm}^2$$

21. The value of x in the equation $2x - 3 = 7 - 3x$

(A) 10 (B) 2
(C) -2 (D) 5

Ans. Option (B) is correct.

Explanation:

Given that,

$$2x - 3 = 7 - 3x$$

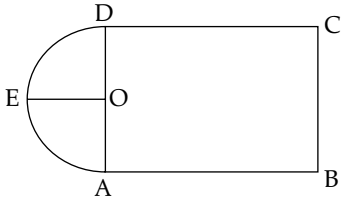
$$2x + 3x = 7 + 3$$

$$5x = 10$$

$$x = 2$$

22. Please read the following carefully and answer the Questions:

In the given figure ABCD is square and OE = 7 cm.



The perimeter of the figure is :

- (A) 42 cm (B) 44 cm
(C) 64 cm (D) 86 cm

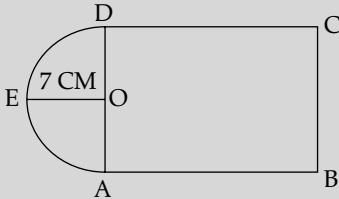
Ans. Option (C) is correct.

Explanation:

Given that,
OE = 7 cm
As per the given figure,
Perimeter of figure = Perimeter of Semi-circle + DC + CB + BA
Where Perimeter of semicircle

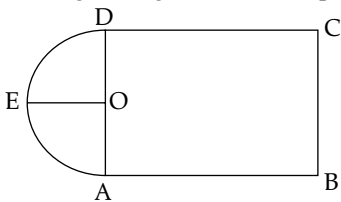
$$= \frac{22}{7} \times 7 = 22 \text{ cm}$$

And DC = CA = BA = 7 + 7 = 14 cm
So, Perimeter of figure = 22 + 14 + 14 + 14 = 64 cm



23. Please read the following carefully and answer the questions:

In the given figure ABCD is square and OE = 7 cm.



Length of diagonal of the square is :

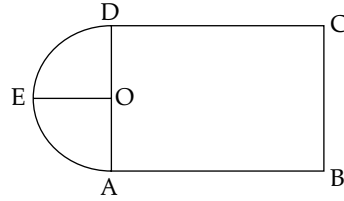
- (A) $14\sqrt{2}$ cm (B) $7\sqrt{2}$ cm
(C) 14 cm (D) 7 cm

Ans. Option (A) is correct.

Explanation:

As already calculated in above question,
DC = CA = BA = 7 + 7 = 14 cm
So, diagonal = side $\sqrt{2}$
= $14\sqrt{2}$ cm

24. Please read the following carefully and answer the questions : In the given ABCD is a square and OE = 7 cm



Area covered by the figure is :

- (A) 350 cm² (B) 273 cm²
(C) 372 cm² (D) 237 cm²

Ans. Option (B) is correct.

Explanation:

As per the given figure,
Area of given figure = Area of semicircle
+ Area of square
= $\frac{1}{2} \times \frac{22}{7} \times 7^2 + 14^2$
= 77 + 196
= 273 cm²

25. Please read the following carefully and answer the questions :

The marks of 7 students in a unit test are given below :

9, 10, 7, 6, 9, 3, 5

The mode of the data is :

- (A) 7 (B) 9
(C) 10 (D) 6

Ans. Option (B) is correct.

Explanation:

Given that,
Marks of seven students are 9, 10, 7, 6, 9, 3, 5.
Here most often digit is 9.
So, mode = 9.

26. Please read the following carefully and answer the questions :

The marks of 7 students in a unit test are given below :

9, 10, 7, 6, 9, 3, 5

Median of the data is :

- (A) 6 (B) 10
(C) 9 (D) 7

Ans. Option (D) is correct.

Explanation:

After arranging the data in ascending order.
3, 5, 6, 7, 9, 9, 10
Here, the number of observations is odd.

$$\begin{aligned} \text{So, Median} &= \left(\frac{n+1}{2} \right)^{\text{th}} \text{ term} \\ &= \left(\frac{7+1}{2} \right)^{\text{th}} \text{ term} \\ &= 4^{\text{th}} \text{ term} \\ &= 7 \end{aligned}$$

27. Please read the following carefully and answer the questions :

The marks of 7 students in a unit test are given below :

9, 10, 7, 6, 9, 3, 5

Mean of the data is :

(A) 9

(B) 10

(C) 7

(D) 6

Ans. Option (C) is correct.

Explanation:

Given that,

Data = 9, 10, 7, 6, 9, 3, 5.

As we know,

$$\begin{aligned}\text{Mean} &= \frac{\text{Sum of all numbers}}{\text{Total numbers}} \\ &= \frac{9+10+7+6+9+3+5}{7} \\ &= \frac{49}{7} \\ &= 7\end{aligned}$$



CUET Question Paper 2021

National Testing Agency

UIQP02 23rd SEP 2021—SHIFT 1

Paper-1

(This includes Questions pertaining to General Test only)

Max. Marks : 60

Time allowed : 20 Min.

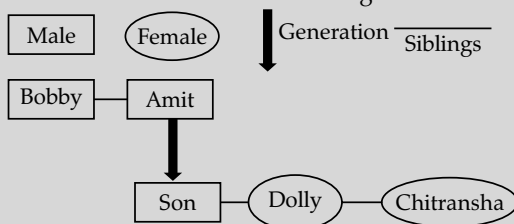
General Instructions:

- (i) This paper consists of 15 MCQs, attempt.
- (ii) Correct answer or the most appropriate answer: Four marks (+4).
- (iii) Any incorrect option marked will be given minus One mark (-1).
- (iv) Unanswered/Marked for Review will be given No mark (0).
- (v) If more than one option is found to be correct then Four marks (+4) will be awarded to only those who have marked any of the correct options.
- (vi) If all options are found to be correct then Four marks (+4) will be awarded to all those who have attempted the question.
- (vii) If none of the options is found correct or a Question is found to be wrong or a Question is dropped then all candidates who have appeared will be given Four marks (+4).
- (viii) Calculator / any electronic gadgets are not permitted.

1. Amit and Bobby are brothers. Chitransha and Dolly are sisters. Amit's son is Dolly's brother. How is Bobby related to Chitransha?
- (1) Father (2) Uncle
(3) Grandfather (4) Brother

Ans. Option (2) is correct.

Explanation: According to question, Amit & Bobby are brothers and Chitransha & Dolly are sisters. We will make family diagram from the given information. We will use following conventions.



It is clearly seen from the family diagram that Bobby is the uncle of Chitransha.

2. Three of the following are alike in a certain way and therefore, form a group. Which is the one that does not belong to that group?
- (1) Snail (2) Tortoise
(3) Spider (4) Turtle

Ans. Option (3) is correct.

Explanation: All the given animals have protective shells except spider. Therefore, Spider does not belong to the group of other three.

3. What number will come in the blank in the following number series?
13, 14, 22, 31, _____, 120, 336
- (1) 35 (2) 45
(3) 65 (4) 95

Ans. Option (4) is correct.

Explanation:

$$\begin{aligned}13+1^2 &= 14 \\14+2^3 &= 22 \\22+3^2 &= 31 \\31+4^3 &= 95 \\95+5^2 &= 120 \\120+6^3 &= 336\end{aligned}$$

We are adding square and cube of natural numbers consecutively to the terms. So, the number will come at blank is 95.

4. 21 workers can make 1500 breads in 18 days. How many workers are required to make 1000 breads in 21 days?
- (1) 10 (2) 12
(3) 15 (4) 16

Ans. Option (2) is correct.

Explanation: 1500 breads are made in 18 days by 21 workers.

$$1 \text{ bread would be made in 1 day by } \frac{21 \times 18}{1500}$$

workers

$$1000 \text{ bread would be made in 1 day by } \frac{21 \times 18 \times 1000}{1500} \text{ workers}$$

$$1000 \text{ bread would be made in 21 days by } \frac{21 \times 18 \times 1000}{1500 \times 21} = 12 \text{ workers}$$

So, needed workers = 12 workers.

5. A bus covers the first 39 km of its journey in 45 minutes and the remaining 25 km in 35 minutes. What is the average speed of the car?
 (1) 30 km/hr (2) 48 km/hr
 (3) 50 km/hr (4) 54 km/hr

Ans. Option (2) is correct.

Explanation: Since, we know that

$$\text{Average speed} = \frac{\text{total distance}}{\text{total time}}$$

$$\therefore \text{Total distance} = 39 + 25 = 64 \text{ km}$$

$$\text{and total time} = 45 + 35 = 80 \text{ min}$$

$$= \frac{80}{60}$$

$$H = \frac{4}{3} \text{ H}$$

$$\therefore \text{Average speed} = \frac{64}{\frac{4}{3}} = \frac{64 \times 3}{4} = 48 \text{ km/H}$$

6. $8.2 \times 7.5 \times 9.3 =$ _____
 (1) 175.95 (2) 375.95
 (3) 571.95 (4) 751.95

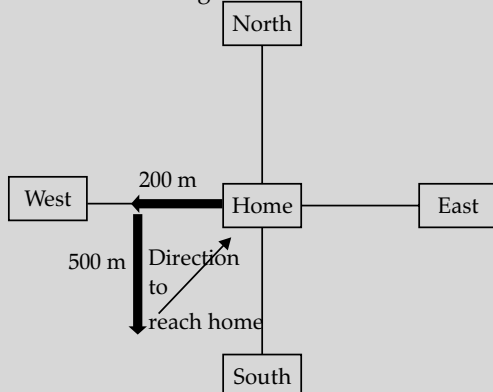
Ans. Option (3) is correct.

Explanation: The given expression will be solved by multiplying numbers one by one. There are 2 total decimal places in first numbers. Ignore the decimal places and complete the multiplication as if operating on two integers. Thus, $82 \times 75 = 6150$
 Hence, rewrite the product with 2 total decimal places = 61.50
 Now, we will multiply 61.50 with 9.3
 There are 3 total decimal places in both numbers. Ignore the decimal places and complete the multiplication as if operating on two integers. Thus, $6150 \times 93 = 571950$
 Rewrite the product with 3 total decimal places. Therefore, $61.50 \times 9.3 = 571.950$
 Hence, $8.2 \times 7.5 \times 9.3 = 571.950$

7. A horse is taken out every morning by the owner whose home faces East. They walk 200 m West, then 500 m in the South direction. Which direction should they take to reach home?
 (1) South-East (2) South-West
 (3) North-East (4) North-West

Ans. Option (3) is correct.

Explanation: According to given information, we will make a diagram.



So, horse should move to North-East direction to reach home.

8. Where are the headquarters of international Union for Conservation of Nature and Natural Resources (IUCN) located?

- (1) New York (2) Sydney
 (3) Switzerland (4) Singapore

Ans. Option (3) is correct.

Explanation:

- International Union for Conservation of Nature (IUCN) is an international organization.
- It works in the field of conservation of the world's flora and fauna.
- It was created in 1948 as an important international body, especially in light of the IUCN Red List.
- It is headquartered in Gland, Switzerland.
- The IUCN Red List of Threatened Species is the world's most comprehensive checklist of the global conservation status of flora and fauna species.
- It provides scientific data on the status of species and subspecies of flora and fauna at a global level.

9. Dinesh is taller than Chinku and Elina. Akash is not as tall as Elina. Chinku is taller than Akash. Dinesh is not as tall as Bikash. Who among them is next to the tallest one?

- (1) Bikash (2) Chinku
 (3) Akash (4) Dinesh

Ans. Option (4) is correct.

Explanation:

According to the question,

- Dinesh > Chinku ... (i)
 Dinesh > Elina ... (ii)
 Akash < Elina ... (iii)
 Chinku > Akash ... (iv)
 Bikash > Dinesh ... (v)

Using all above conditions

Bikash > Dinesh > Elina & Chinku > Akash

As we can see, Bikash is tallest among them and Dinesh is next to Bikash.

10. Pox 186 is a
 (1) Glacier (2) Star
 (3) Galaxy (4) Satellite

Ans. Option (3) is correct.

Explanation:

- An image, obtained by NASA's Hubble Space Telescope, shows a 'late-blooming' galaxy, a small, distorted system of gas and stars that still appears to be in the process of development.
- This galaxy is named POX 186.
- The galaxy is 68 million light-years away in the constellation Virgo.
- It can be considered a dwarf galaxy (a small galaxy composed of about 1000 up to several billion stars).

- The Hubble Space Telescope images revealed that POX to be extremely small by galaxy standards.
- It is measuring only about 900 light-years across and containing just 10 million stars. While the Milky Way galaxy (our solar system is a part of the Milky Way) is about 100,000 light-years across and contains over 100 billion stars.

11. HRMN 99, recently figured in the news, is related to
 (1) fruit (2) animal
 (3) virus (4) disease

Ans. Option (1) is correct.

Explanation:

- HRMN 99, recently figured in news, is related to fruit.
- HRMN 99 is a self-pollinating variety of apple.
- It grows in low altitude at 1800 feet above the sea level and does not require chilling hours.
- It can be grown in plain, tropical and subtropical areas.
- Shri Hariman Sharma a renowned progressive farmer hailing from Paniala village of Bilaspur district in Himachal Pradesh has developed this variety of apple.

12. The most important text of vedic mathematics is
 (1) *Sulva Sutras* (2) *Atharvaveda*
 (3) *Satapatha Brahmana* (4) *Chandogya Upanishad*

Ans. Option (1) is correct.

Explanation:

- The most important text of Vedic mathematics is *Sulva Sutras*.
- The *Sulva Sutras* is a part of the larger corpus of texts called the *Shrauta Sutras*.
- They are the only known sources of knowledge of Indian mathematics from the Vedic period.
- These are sutra texts belonging to the *Srauta* ritual and containing geometry related to fire-altar construction.
- The four major *Sulva Sutras*, which are mathematically the most significant, are those composed by *Baudhayana*, *Manava*, *Apastamba* and *Katyayana*.
- Their language is late Vedic Sanskrit.

Atharvaveda	<ul style="list-style-type: none"> • The <i>Atharva Veda</i> (the fourth <i>Veda</i>) is the "knowledge store-house of <i>atharvanas</i>, the procedures for everyday life". • The <i>Atharva Veda</i> was mainly composed by two groups of <i>rishis</i> known as the <i>Atharvanas</i> and the <i>Angirasa</i>.
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Satpatha Brahmana	<ul style="list-style-type: none"> • The <i>Satapatha Brahmana</i> (belongs to <i>Shukla Yajurveda</i>) is a Hindu sacred text which describes details of Vedic rituals, including philosophical and mythological background. • It is attributed to the Vedic sage <i>Yajnavalkya</i>.
Chandogya Upanishad	<ul style="list-style-type: none"> • The <i>Chandogya Upanishad</i> presents the <i>Madhu Vidya</i> (honey knowledge) in first eleven volumes of the third chapter. • The Oldest <i>Upanishads</i> are <i>Brhadaran-yaka</i> and <i>Chandogya Upanishads</i> which date as back as the first millennium BC.

13. The words *Satyameva Jayate* in the State Emblem of India are taken from

- (1) *Samaveda* (2) *Rigveda*
 (3) *Ramayana* (4) *Upanishads*

Ans. Option (4) is correct.

Explanation:

- The words "*Satyameva Jayate*" (Truth alone triumphs), inscribed on the state emblem of India, has been taken from *Mundaka Upanishad*.
- It was adopted as the national motto of India on 26 January 1950, the day India became a republic.
- It is inscribed in the *Devanagari* script at the base of the *Lion Capital of Ashoka* and forms an integral part of the Indian national emblem.
- The Government of India adopted the *Lion Capital* as the National Emblem on 26 January 1950.
- The *Mundaka Upanishad* is an ancient Sanskrit Vedic text, embedded inside *Atharva Veda*.

Rigveda	<ul style="list-style-type: none"> • An ancient Indian collection of Vedic Sanskrit hymns. • <i>Vyasa</i> is the compiler of the Vedas.
Samaveda	<ul style="list-style-type: none"> • The <i>Samaveda</i> is the <i>Veda</i> of melodies and chants.

Ramayana	<ul style="list-style-type: none"> The Ramayana was composed in Sanskrit by the poet Valmiki.
Upanishads	<ul style="list-style-type: none"> The Upanishads are philosophical books. They contain the teachings of many great religious teachers and saints. They are believed to be 108 in total.

14. Who was the leader of the Bardoli Satyagraha?

- (1) Rajendra Prasad
- (2) Vallabhbhai Patel
- (3) Mahatma Gandhi
- (4) Jivatram Bhagwandas Kripalani

Ans. Option (2) is correct.

Explanation:

- The leader of Bardoli Satyagraha was Sardar Vallabhbhai Patel.
- The Bardoli Satyagraha, 1928 was a movement in the independence struggle led by Sardar Patel for the farmers of Bardoli against the unjust raising of taxes.
- The Bardoli Taluk in modern-day Gujarat was hit by floods and famines in 1925.
- The floods and famines adversely affected crop yield and it affected the farmers financially.

- Ignoring the situation, the Bombay Presidency increased the tax rates by 22%.
- In January 1928, farmers in Bardoli invited Vallabhai Patel to launch the protest movement against the government.

15. PMJDY Scheme stands for

- (1) Pradhan Mitra Jeevan Dhan Yojana
- (2) Pradhan Mantri Jan Dhan Yojana
- (3) Pradhan Mitra Jan Dhan Yojana
- (4) Pradhan Mantri Jeevan Dhan Yojana

Ans. Option (2) is correct.

Explanation:

- PMJDY stands for Pradhan Mantri Jan Dhan Yojana.
- It is a National Mission for Financial Inclusion to ensure access to financial services, namely, a basic savings & deposit accounts, remittance, credit, insurance, pension in an affordable manner.
- It was launched by the Prime Minister Narendra Modi on 28th August 2014.
- The main objectives of the scheme are to ensure access of financial products & services at an affordable cost and use of technology to lower cost & widen reach.
- In August 2021, out of total 43.04 crore PMJDY accounts, 36.86 crore (85.6%) were operative.



CUET Question Paper 2021

National Testing Agency

UIQP02 23rd SEP 2021—SHIFT 2

Paper-2

(This includes Questions pertaining to General Test only)

Max. Marks : 356

Time allowed : 109 Min.

General Instructions:

- (i) This paper consists of 89 MCQs, attempt.
- (ii) Correct answer or the most appropriate answer: Four marks (+4).
- (iii) Any incorrect option marked will be given minus One mark (-1).
- (iv) Unanswered/Marked for Review will be given No mark (0).
- (v) If more than one option is found to be correct then Four marks (+4) will be awarded to only those who have marked any of the correct options.
- (vi) If all options are found to be correct then Four marks (+4) will be awarded to all those who have attempted the question.
- (vii) If none of the options is found correct or a Question is found to be wrong or a Question is dropped then all candidates who have appeared will be given Four marks (+4).
- (viii) Calculator / any electronic gadgets are not permitted.

1. There is a certain relation between two given words on one side of :: and one word is given on another side. The word is to be found from the given alternatives, having the same relation with this word as the given pair has. Select the best alternatives.

Darwin : Evolution :: Archimedes : ?

- (1) Friction (2) Lubrication
(3) Buoyancy (4) Liquids

Ans. Option (3) is correct.

Explanation:

The first word is the name of a scientist and the second word is his main invention or theory. Darwin gave the theory of evolution, in the same way, Archimedes gave the theory of buoyancy.

2. There is a certain relation between two given words on one side of :: and one word is given on another side. The word is to be found from the given alternatives, having the same relation with this word as the given pair bear. Choose the best alternative.

Virology : Virus :: Semantics : ?

- (1) Amoeba (2) Language
(3) Nature (4) Society

Ans. Option (2) is correct.

Explanation:

Virology is the study of viruses. While semantics is related to language. It is the study of the meanings of words and phrases. Option (b) is the correct option to establish the similar analogy in two pairs of words.

3. In the following question, a pair of words given followed by four pairs of words as alternatives. The

candidate is required to choose the pair in which the words bear the same relationship to each other as the words of the given pair bear.

Apostate : Religion

- (1) Teacher : Education (2) Traitor : Country
(3) Potentate : Kingdom (4) Jailer : Law

Ans. Option (2) is correct.

Explanation:

Apostate is someone who has renounced religion or popular belief. Both the words have a negative relationship that reflects in option 2 as well. In the similar way, a traitor is averse to the cause of the nation.

All the other options give positive relationships. Teachers promote education. Potentate is a monarch belonging to a particular kingdom. A jailer is a custodian of law.

4. Choose the group of letters which is different from others.

- (1) DkUZ (2) LPuB
(3) FoMY (4) UXeN

Ans. Option (1) is correct.

Explanation:

In all given options small letter is a vowel except DkUZ. In this way DkUZ is different from others.

5. Choose the group of letters which is different from others.

- (1) DXCLQZ (2) PFZUBM
(3) XGKNTY (4) NWMBHJ

Ans. Option (2) is correct.

Explanation:

All other group of letters does not contain vowel except PFZUBM. In this way PFZUBM is different from others.

6. In a certain code language, BEAT is written as YVZG. What will be the code of MILD?
 (1) ONRW (2) OWER
 (3) ONWR (4) NROW

Ans. Option (4) is correct.

Explanation:

According to question,

Word	B	E	A	T
Code	Y	V	Z	G

As we can see code is written by reversing the order of letters from the last.

Forward order position	1	2	3	4	5	6	7	8	9	10
Letter	A	B	C	D	E	F	G	H	I	J
Backward order position	26	25	24	23	22	21	20	19	18	17

Forward order position	11	12	13	14	15	16	17	18	19	20
Letter	K	L	M	N	O	P	Q	R	S	T
Backward order position	16	15	14	13	12	11	10	9	8	7

Forward order position	21	22	23	24	25	26
Letter	U	V	W	X	Y	Z
Backward order position	6	5	4	3	2	1

We can clearly see that B, E, A, T are respectively 2nd, 5th, 1st and 20th letters from the start and their codes Y, V, Z and G are respectively 2nd, 5th, 1st and 20th letters from the last.

Using the same coding method:

Word	M	I	L	D
Code	N	R	O	W

7. If BE QUICK is coded as ZC OSGAL, then the code of the last letter of the third word in the sentence I LOVE MY COUNTRY is:
 (1) A (2) T (3) U (4) W

Ans. Option (4) is correct.

Explanation:

Every letter of the given words is shifted 2 positions backwards to obtain the respective letter of the code. Similarly, the last letter of the third word COUNTRY is Y, which will be coded as W.

8. In a certain code language, THANKS is written as SKNTHA. How is STUPID written in that code language?

- (1) DIPUTS (2) DISPUT
 (3) DIPUST (4) None of the above

Ans. Option (4) is correct.

Explanation:

According to question,

Word	T	H	A	N	K	S
Code	S	K	N	T	H	A

We can clearly see first three letters of word became last three letters of code in same order and last three letters of word became first three letters of code in reverse order.

Therefore,

Word	S	T	U	P	I	D
Code	D	I	P	S	T	U

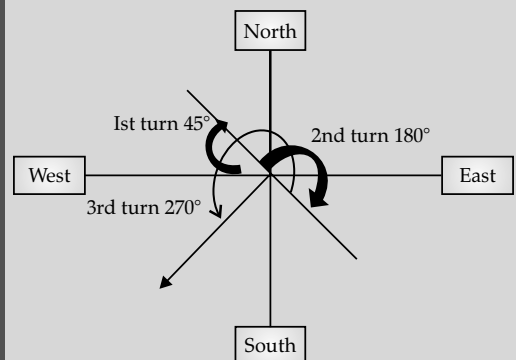
9. A man is facing West. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anti-clockwise direction. Which direction is he facing now?
 (1) South (2) North-West
 (3) West (4) South-West

Ans. Option (4) is correct.

Explanation:

According to the question, we will make direction diagram for the question.

Since, person is facing to the west so, we have coloured it.



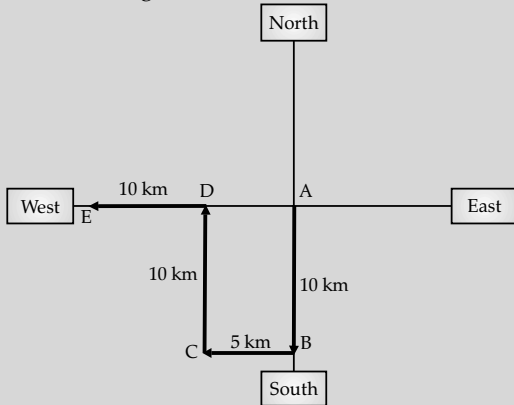
As per the diagram, he is facing South-west direction.

10. One day, Ravi left home and cycled 10 km southwards, turned right and cycled 5 km and turned right and cycled 10 km and turned left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight?
 (1) 10 km (2) 15 km
 (3) 20 km (4) 25 km

Ans. Option (2) is correct.

Explanation:

As per the given information we will make a direction diagram.



Ravi cycled from point A to B, B to C, C to D and finally from D to E. We can see from the figure that the distance between A & E = 5 + 10 = 15 km
So, he has to cycle 15 km to reach home.

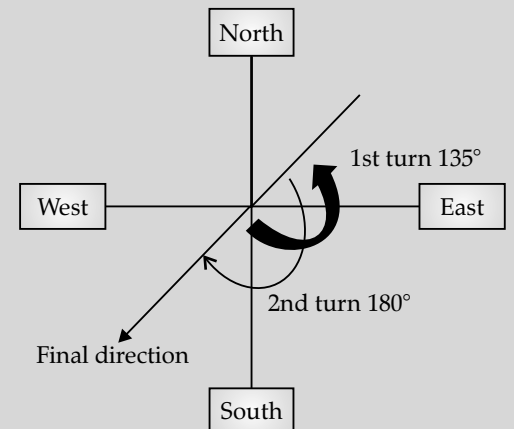
11. A man is facing South. He turns 135° in the anti-clockwise direction and then 180° in the clockwise direction. Which direction is he facing now?
 (1) North-East (2) North-West
 (3) South-East (4) South-West

Ans. Option (4) is correct.

Explanation:

According to the question, we will make direction diagram for the question.

Since person is facing to the south so we have coloured it.



As per the diagram, he is facing South-West direction.

12. In the following question, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series.
 4832, 5840, 6848, ?
 (1) 7815 (2) 7846
 (3) 7856 (4) 7887

Ans. Option (3) is correct.

Explanation:

We are adding 1008 to previous term to get next term

Since, $5840 - 1008 = 4832$

$6848 - 1008 = 5840$

$\therefore ? - 1008 = 6848$

$\Rightarrow ? = 6848 + 1008 = 7856$

13. In the following question, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series.
 2, 15, 41, 80, ?

(1) 111 (2) 120

(3) 121 (4) 132

Ans. Option (4) is correct.

Explanation:

Since, $15 - 2 = 13 \times 1$

$41 - 15 = 26 = 13 \times 2$

$80 - 41 = 39 = 13 \times 3$

$\therefore ? - 80 = 52 = 13 \times 4$

$\Rightarrow ? = 80 + 52 = 132$

14. In the following question, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series.
 4, 6, 9, 13.5, ?

(1) 17.5 (2) 19.0

(3) 20.25 (4) 22.75

Ans. Option (3) is correct.

Explanation:

As we can analyse from the given numbers that they are forming a G.P.

Since, $\frac{6}{4} = 1.5, \frac{9}{6} = 1.5, \frac{13.5}{9} = 1.5$

$\therefore \frac{?}{13.5} = 1.5 \Rightarrow ? = 1.5 \times 13.5 = 20.25$

15. If in the English alphabet, every even letter beginning from B is replaced by odd number beginning with 3, which letter/number will be the third to the right of the tenth number/letter counting from your right?

(1) M (2) S

(3) 11 (4) None of these

Ans. Option (4) is correct.

Explanation:

According to question, the new sequence is
 A 3 C 5 E 7 G 9 I 11 K 13 M 15 O 17 Q 19 S 21 U
 23 W 25 Y 27

Counting from the right the tenth character is Q and the third character to the right of Q is 21.

So, no option is matching with 21. Correct option will be "none of these".

16. If the positions corresponding to the multiples of 5 in the English alphabet are replaced by symbols and that of multiples of 7 by digits, how many letters will be left?

- (1) 15 (2) 17
(3) 18 (4) 21

Ans. Option (3) is correct.

Explanation:

Multiple of 5 are 5, 10, 15 and 25 (less than 26). So, total five letters will be replaced by symbols.

Multiple of 7 are 7, 14 and 21 (less than 26). So, total 3 letters will be replaced by numbers.

Total $5 + 3 = 8$ will be replaced by either symbols or numbers.

Total number of letters left = $26 - 8 = 18$

17. A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series:
36, 34, 30, 28, 24, _____

- (1) 20 (2) 23
(3) 22 (4) 26

Ans. Option (3) is correct.

Explanation:

As we can see,

$$36 - 2 = 34$$

$$34 - 4 = 30$$

$$30 - 2 = 28$$

$$28 - 4 = 24$$

We are subtracting 2 and 4 alternatively from previous terms to get the next term.

$\therefore 24 - 2 = 22$ which will be the next term.

18. A series is given with two terms missing. Choose the correct alternatives from the given ones that will complete the series:

- 3, 5, 35, 10, 12, 35, _____, _____
(1) 19, 35 (2) 17, 19
(3) 19, 24 (4) 22, 35

Ans. Option (2) is correct.

Explanation:

This is an alternating addition series, with a arbitrary number 35, fixed as every third number. The pattern of addition is

$$3(1^{\text{st}} \text{ number}) + 7 = 10(4^{\text{th}} \text{ number})$$

$$5(2^{\text{nd}} \text{ number}) + 7 = 12(5^{\text{th}} \text{ number})$$

$$\therefore 10(4^{\text{th}} \text{ number}) + 7 = 17(7^{\text{th}} \text{ number})$$

$$12(4^{\text{th}} \text{ number}) + 7 = 19(8^{\text{th}} \text{ number})$$

So, the required numbers are 17 and 19.

19. Select the related number form the given alternatives that will complete the series:

$$Y^2 : 4 :: V^2 : ?$$

- (1) 49 (2) 25
(3) 16 (4) 9

Ans. Option (2) is correct.

Explanation:

When we count English alphabets in the reverse order.

Z	Y	X	W	V	U	T	S
1	2	3	4	5	6	7	8
R	Q	P	O	N	M	L	K
9	10	11	12	13	14	15	16
J	I	H	G	F	E	D	C
17	18	19	20	21	22	23	24
B	A						
25	26						

Y is coded as 2 and $2^2 = 4$.

V is coded as 5 and $5^2 = 25$.

$$Y^2 : 4 :: V^2 : 25$$

20. A series is given with some letters missing. Choose the correct alternatives from the given ones that will complete the series:

BR _ NB _ O _ NB

- (1) WNWÑ (2) OWRW
(3) OWOW (4) RORO

Ans. Option (2) is correct.

Explanation:

We will put options in blank one by one. On putting the 2nd option, we get BROWN/BROWN. So OWRW is the correct form.

21. A series is given with some letters missing. Choose the set of letters which when sequentially placed shall complete it:

a _ _ dba _ _ bcad _ _ da _ _ cd

- (1) cbcddcba (2) bccdbcab
(3) aabbccdd (4) abcddcba

Ans. Option (2) is correct.

Explanation:

The given sequence is

a _ _ dba _ _ bcda _ _ da _ _ cd

It has 20 alphabets in it that can be grouped in 4 letters or 5 letters (multiple of 20). We will group them and put options to get a pattern.

Group of 4 alphabets

a b c d/b a c d/b c d a /b c d a/a b c d.

So, the missing letters are bccdbcab.

22. A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series:

4, 6, 10, 16, 24, ?

- (1) 40 (2) 34
(3) 30 (4) 28

Ans. Option (2) is correct.

Explanation:

The given numbers are in the following pattern:

$$4 + 2 = 6$$

$$6 + 4 = 10$$

$$10 + 6 = 16$$

$$16 + 8 = 24$$

$$24 + 10 = 34$$

So, the required number is 34.

23. Select the related word(s) from the given alternatives
Kidneys : Nephron :: Central Nervous System
- (1) Cerebrum (2) Brain
(3) Neurons (4) Spinal cord

Ans. Option (3) is correct.

Explanation:

Nephron is the functioning unit of the kidney, and Neuron is the working unit of the Central Nervous System.

24. Select the related letter from the given alternatives:
JOKE : GLHB :: RISK : ?
- (1) QHRJ (2) SJTL
(3) ULVN (4) OFPH

Ans. Option (4) is correct.

Explanation:

As we can observe, each letter in the second term is three letters behind the letters in the first term.



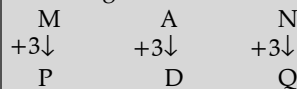
So, the correct option is OFPH i.e. 4th option.

25. Select the related letters from the given alternatives:
MAN : PDQ :: WAN : ?
- (1) NAW (2) ZDQ
(3) YDQ (4) YQD

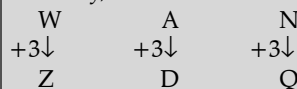
Ans. Option (2) is correct.

Explanation:

The given alphabets are following pattern which is given below:



Similarly,



So, correct option is ZDQ.

26. Select the related word from the given alternatives:
Pride of Lions :: ? of Cats
- (1) Clowder (2) Herd
(3) School (4) Bunch

Ans. Option (1) is correct.

Explanation:

Groups, of Lions is called Pride, Similarly, Group of cats are called Clowder.

27. Select the related number from the given alternatives:
F : 216 :: L : ?
- (1) 1728 (2) 1700
(3) 1600 (4) 1723

Ans. Option (1) is correct.

Explanation:

F is the 6th letter and $6^3 = 216$
L is the 12th letter and $12^3 = 1728$.
So correct option is 1728.

28. Find the alternatives which will replace the question mark:

Anatomy : Zoology :: Paediatrics : ?

- (1) Chemistry (2) Medicine
(3) Palaeontology (4) Mechanics

Ans. Option (2) is correct.

Explanation:

Anatomy is a sub-discipline of Zoology. Paediatrics, too, is a medicine speciality. Therefore, medicine is our correct answer.

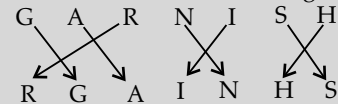
29. In a certain code, GARNISH is written as RGAINHS. How will GENIOUS be written in that code?

- (1) ENGOIUS (2) NEGIOUS
(3) NGEOISU (4) GENOISU

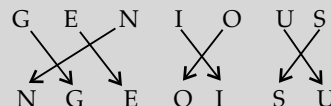
Ans. Option (3) is correct.

Explanation:

The GARNISH is coded as following way:



Similarly,



So, the correct code is NGEOISU.

30. Six members of a family namely A, B, C, D, E and F are travelling together. B is the son of C but C is not the mother of B. A and C are married couple. E is the brother of C, D is the daughter of A. F is the brother of B. How many male members are there in the family?

- (1) 2 (2) 3
(3) 4 (4) 1

Ans. Option (3) is correct.

Explanation:

B is C's son, but C is not B's mother, implying that C is B's father. A is the mother of B because she is married to C. Because F is B's brother, he is also the son of A and C. Because D is A's daughter, she is both A's and C's daughter. A is the mother and hence female. B is the son and hence male. C is the husband and hence male. D is the daughter and hence female. E is the brother and hence male. F is the son and hence male. So, there are four males.

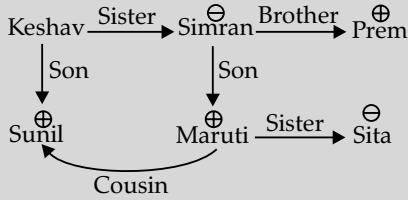
31. Sunil is the son of Kesav. Simran, Kesav's sister, has a son Maruti and daughter Sita. Prem is the maternal uncle of Maruti. How is Sunil related to Maruti?

- (1) Cousin (2) Maternal uncle
(3) Brother (4) Nephew

Ans. Option (1) is correct.

Explanation:

We can draw the family diagram on the basis of given information.



+ sign stands for Male and - sign stands for female.

Now, we can clearly see that Sunil is cousin of Maruti.

32. In the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Choose the correct alternative.
_ a _ b _ abaa _ bab _ abb
- (1) aaabb (2) ababb
(3) babab (4) babba

Ans. Option (4) is correct.

Explanation:

To complete the given pattern, we will put given options to fill the gaps and find the suitable pattern.

By using option 4, we get
baabba/baabba/baabba

Thus, missing terms are 'babba'.

33. In the following question, a letter-number series is given with one term missing as shown by question mark (?). Choose the missing term out of the given alternatives.
W-144, ?, S-100, Q-81, O-64
- (1) U-121 (2) U-122
(3) V-121 (4) V-128

Ans. Option (1) is correct.

Explanation:

The given sequence is following two patterns, one for alphabets other for numbers.

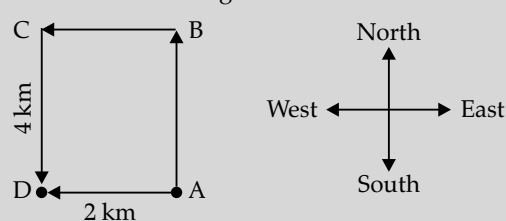
W - 2 = U, U - 2 = S, S - 2 = Q, Q - 2 = O
144 = 12², 121 = 11², 100 = 10², 81 = 9², 64 = 8²
So, the missing term is U - 121.

34. Sunita rode her scooty northwards, then turned left and then again rode to her left 4 km. She found herself exactly 2 km west of her starting point. How far did she ride northwards initially?
- (1) 2 km (2) 4 km
(3) 6 km (4) 5 km

Ans. Option (2) is correct.

Explanation:

According to the given information, we will draw a direction diagram.



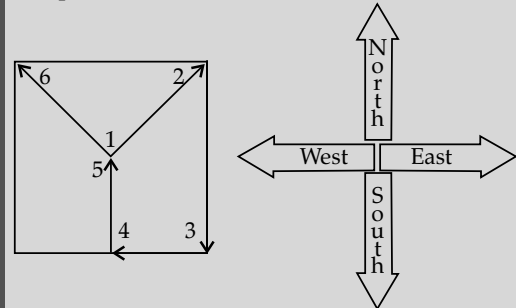
We can clearly see that, she drove northward
distance = AB = CD = 4 km.

35. Raj is standing in the middle of a square field. He starts walking diagonally to North-East. Then, he turns right and reaches the far end of the field. Then, he turns right and starts walking. In the midway, he again turns right and starts walking. In the halfway, he again turns right and starts walking. In the halfway, he turns to his left and reaches a new far end. In what direction is Raj now?
- (1) North (2) South
(3) North-West (4) South-West

Ans. Option (3) is correct.

Explanation:

We will draw a direction diagram and then move according to the given instruction as per the question.



He starts from 1 then move to 2, 2 to 3, 3 to 4. 4 to 5 and finally 5 to 6. It is clear from the diagram that Raj is in the North-West direction.

36. A and B are brothers. C and D are sisters. A's son is D's brother. How is B related to C?
- (1) Father (2) Brother
(3) Grandfather (4) Uncle

Ans. Option (4) is correct.

Explanation:

After carefully examining the statements, it was discovered that B is A's brother, and A's son is D's brother, implying that D is A's daughter. Because C and D are sisters, C is also A's daughter. As a result, B is C's uncle.

37. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?
- (1) Grandmother (2) Grandfather
(3) Daughter (4) Grand daughter

Ans. Option (4) is correct.

Explanation:

A is B's sister, and C is their mother, based on the information provided. Their grandfather is D, and their great-grandmother is E. As a result, A is D's granddaughter.

38. Choose the odd pair of words.
- (1) Blacksmith : Anvil (2) Carpenter : Saw
(3) Barber : Scissor (4) Goldsmith : Ornaments

Ans. Option (4) is correct.

Explanation:

According to given information, first is profession and second is tool used by them. But Goldsmith does not use ornaments but it makes ornaments. So, this is incorrect match.

39. Choose the odd pair of words.
 (1) Volume : Litre (2) Time : Second
 (3) Resistance : Ohm (4) Pressure : Barometer

Ans. Option (4) is correct.

Explanation:

According to given information, first entity is measured in the units given as second word. For example, volume is measured in litre, time is measured in second and resistance is measured in ohm. But pressure is measured by the device barometer which is not a unit.

40. Arrange the following words as per the order in the dictionary:
 A. Consume B. Consciousness
 C. Conscience D. Conservation
 E. Consequence
 (1) C, B, A, E, D (2) C, A, B, E, D
 (3) C, E, B, D, A (4) C, B, E, D, A

Ans. Option (4) is correct.

Explanation:

To solve this question, we will start to compare first letter of the given words, if they are same then move to second letter and decide on the basis of it. If second is also same then move to the third one and so on.

So, the correct order as per the dictionary:

(C) Conscience → (B) Consciousness →
 (E) Consequence → (D) Conservation →
 (A) Consume

41. Select the missing number from the given responses:

1	216	343
8	125	512
27	64	?
35	401	1575

- (1) 615 (2) 729
 (3) 575 (4) 340

Ans. Option (2) is correct.

Explanation:

First column:

$$1 + 8 + 27 = 36 \Rightarrow 36 - 1^2 = 35$$

Second column:

$$216 + 125 + 64 = 405 \Rightarrow 405 - 2^2 = 401$$

Third column

$$343 + 512 + ? - 3^2 = 1575$$

$$\Rightarrow 343 + 512 + ? = 1575 + 3^2$$

$$\Rightarrow 855 + ? = 1584$$

$$\Rightarrow ? = 1584 - 855 = 729$$

42. Choose a similar word:
 Sitar : Guitar :: Tanpura : ?

- (1) Trumpet (2) Violin
 (3) Hornionium (4) Mridanga

Ans. Option (2) is correct.

Explanation:

Sitar, Guitar and Tanpura are all string instruments. **Violin** is also a string instrument.

43. Choose a similar word:
 Jute : Cotton :: Wool : ?

- (1) Terytene (2) Silk
 (3) Rayon (4) Nylon

Ans. Option (2) is correct.

Explanation:

All Jute, Cotton, Wool and **Silk** are natural fibres. Hence, **Silk** is the correct answer.

44. Choose a similar word:
 Marble : Slate :: Gneiss : ?

- (1) Quartzite (2) Limestone
 (3) Coal (4) Sandstone

Ans. Option (1) is correct.

Explanation:

All marble, slate, gneiss and **quartzite** are metamorphic rocks.

45. In this question, three statements followed by two conclusions numbered I and II have been given. You have to take the given statements to be true even if they seem to be at variance from the commonly facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Statements: Some flats are apartments.

No apartment is a hall.

Some halls are rooms.

Conclusions: I. At least some rooms are flats.

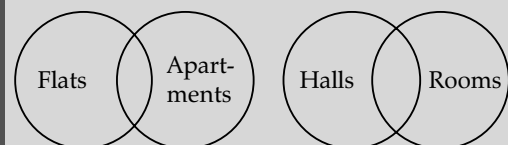
II. No apartment is a room.

- (1) Only Conclusion I is true.
 (2) Only Conclusion II is true.
 (3) Both Conclusion I and II are true.
 (4) Neither Conclusion I nor II is true.

Ans. Option (4) is correct.

Explanation:

According to given information, we will draw Venn-diagram and answer the question.



1. We cannot conclude that some rooms are flats as no relationship is given between them.
 2. We also cannot conclude that no apartment is room as we have no information about them.
 So, neither conclusion I nor II is true.

46. There are deers and peacocks in a zoo. By counting heads they are 80. The number of their legs is 200. How many peacocks are there?
- (1) 10 (2) 30
(3) 50 (4) 60

Ans. Option (4) is correct.

Explanation:

Let x and y be the numbers of deers and peacocks, respectively.

According to the question,

$$x + y = 80 \quad \dots(i)$$

and $4x + 2y = 200 \quad \dots(ii)$

Solving equations (i) and (ii),

We get, $y = 60$.

Hence, there are 60 peacocks..

47. A certain number of horses and an equal number of men are going somewhere. Half of the owners are on their horses' back while the remaining ones are walking along leading their horses. If the number of legs walking on the ground is 70, how many horses are there?
- (1) 10 (2) 12
(3) 14 (4) 16

Ans. Option (3) is correct.

Explanation:

Let the number of horses be x .

Given: No. of Horses = No. of Men

Then number of legs on the ground

$$= 4x + 2 \times \frac{x}{2} = 70$$

$$\Rightarrow 5x = 70$$

$$\Rightarrow x = 14$$

Hence, there are 14 horses.

48. A, B, C, D and E play a game of cards. A says to B, "If you give me three cards, you will have as many as E has and if I give you three cards, you will have as many as D has". A and B together have 10 cards more than what D and E together have. It B has two cards more than what C has and the total number of cards be 133, how many cards does B have?
- (1) 22 (2) 23
(3) 25 (4) 35

Ans. Option (3) is correct.

Explanation:

According to the question,

$$B - 3 = E \quad \dots(i)$$

$$B + 3 = D \quad \dots(ii)$$

$$A + B = D + E + 10 \quad \dots(iii)$$

$$B = C + 2 \quad \dots(iv)$$

$$A + B + C + D + E = 133 \quad \dots(v)$$

From (i) and (ii),

$$B - E = D - B$$

$$\Rightarrow 2B = D + E \quad \dots(vi)$$

From (iii) and (vi)

$$A + B = 2B + 10$$

$$\Rightarrow B = A - 10$$

$$\Rightarrow A = B + 10 \quad \dots(vii)$$

From (iv),(v),(vi) and (vii)

$$B + 10 + B + B - 2 + 2B = 133$$

$$\therefore B = 25$$

49. A player holds 13 cards of four suits, of which seven are black and six are red. There are twice as many diamonds as spades and twice as many hearts as diamonds. How many clubs does he hold?
- (1) 4 (2) 5
(3) 6 (4) 7

Ans. Option (3) is correct.

Explanation:

The black cards are clearly clubs or spades, whereas the red cards are diamonds or hearts.

Let the number of spades be x .

Then, the number of clubs = $7 - x$.

Number of diamonds
= $2 \times$ number of spades = $2x$

Number of hearts
= $2 \times$ number of diamonds = $4x$.

Total number of cards
= $x + 2x + 4x + 7 - x = 6x + 7$.

Therefore, $6x + 7 = 13$

$$\Rightarrow 6x = 6$$

$$\Rightarrow x = 1.$$

$$\text{Number of clubs} = 7 - x = 6.$$

Hence, the number of clubs is 6.

50. The first Education Policy in India was announced in the year:
- (1) 1945 (2) 1968
(3) 1986 (4) 1992

Ans. Option (2) is correct.

Explanation:

- The first Education Policy in India was announced in the year 1968.
- The Kothari Commission (1964–1966) was set up to formulate a coherent education policy for India.
- On the report and recommendations of the Kothari Commission, the government of Prime Minister Indira Gandhi announced the first National Policy on Education in 1968.
- It called for a "radical restructuring" and proposed equal educational opportunities.
- In 1986, Rajiv Gandhi announced a new education policy, the National Policy on Education (NPE).
- This policy was intended to prepare India for the 21st century.
- The new National Education Policy 2020 has come with an aim to introduce several changes in the Indian education system – from the school to the college level.

51. The features that distinguish the Harappen Civilization from other contemporary Broze Age Civilization of the word are:

- A. civic amenities
 - B. grand religious shrines
 - C. magnificent buildings
 - D. funerary complexes for kings
- (1) A only (2) B only
(3) B and D (4) A and C

Ans. Option (1) is correct.

Explanation:

- The Harappan culture was distinguished by its system of town planning and civic amenities.
- The drainage system of Mohenjodaro was very impressive.
- The street drains were equipped with manholes.
- No other Bronze Age civilization gave so much attention to health and cleanliness.
- The Indus Valley Civilization was established around 3300 BC.
- This is also called Harappan Civilization after the first city to be excavated, Harappa (Punjab, Pakistan).
- The first extensive excavations at Harappa were started by Rai Bahadur Daya Ram Sahni in 1920.

52. Violence in the Deccan riots was directed towards the:
- (1) courts (2) hospitals
(3) houses of sahumars (4) debt bonds

Ans. Option (3) is correct.

Explanation:

- The Deccan peasants uprising of 1875 was directed mainly against the excesses of the Marwari and Gujarati money lenders.
- The uprising began at Supa village in the district of Poona.
 - Farmers attacked a market place where many moneylenders lived.
 - They burnt account books, looted grain shops, and torched the houses of Sahukars (people who were both traders and moneylenders).
 - The Deccan Riots Commission was set up to look into the matter which presented a report to the British Parliament in 1878.
 - In 1879, the Agriculturists Relief Act was passed which ensured that the farmers could not be arrested and imprisoned if they were unable to pay their debts.

53. The hottest planet in the solar system is:
- (1) Earth (2) Mars
(3) Venus (4) Jupiter

Ans. Option (3) is correct.

Explanation:

- Venus is the hottest planet in our solar system.
- Its atmosphere is full of the greenhouse gas carbon dioxide, and it has clouds of sulfuric acid.
- The atmosphere traps heat, making it feel like a furnace on the surface.
- One of the nicknames of Venus is "the Morning Star".
- It's also known as the Evening Star.
- Mercury is the closest planet to the sun.
- Earth is the third planet from the Sun and the fifth largest planet in the solar system in terms of size and mass.
- Jupiter is the fifth planet from the Sun and the largest planet in the Solar System.

54. COVID-19 is caused by the virus:
- (1) SARS-CoV-2 (2) SARS-CoV
(3) SARS-CoV-3 (4) SARS

Ans. Option (a) is correct.

Explanation:

- COVID- 19 is caused by the virus (SARS-CoV-2).
- It is also known as Severe Acute Respiratory Syndrome Coronavirus 2.
- It is called coronavirus disease 2019 (COVID-19).
- A virus is an infectious agent of small size and simple composition that can multiply only in living cells of animals, plants, or bacteria.
- Antibiotics do not work against viruses.
- The first known infection from SARS-CoV-2 was discovered in Wuhan, China.

55. Subhas Chandra Bose was unhappy with Congress resolution at Ramgarh in March 1940, because:
- A. Gandhi agreed to give support to the British war effort
 - B. Gandhi did not give a call for an immediate struggle
 - C. Subhas Chandra Bose did not want to compromise with imperialism and wanted the people to be ready for action
- Select the code(s) for correct statement.
- (1) A only (2) B only
(3) A and C only (4) A, B and C

Ans. Option (4) is correct.

Explanation:

- Subhash Chandra Bose was unhappy with the Congress resolution at Ramgarh in March 1940 and said, "As soon as the war began, Mahatma Gandhi proceeded to Shimla without caring to consult the Congress Working Committee and informed HE the Viceroy that he was in favor of rendering unconditional help to Great Britain in the prosecution of war."
- **There were some reasons of his anger as follows:**
 1. Mahatma Gandhi promised to support British in war effort.
 2. Mahatma Gandhi did not call for an immediate struggle even it was the great time to oppose and fight British because they were engaged in the World War II.
 3. SC Bose did not want to compromise with imperialism and wanted the people ready for action.

56. The British Cabinet Mission which came to India in March 1946 did not have as its member:

- (1) Lord Pethick-Lawrence
- (2) Sir Stafford Cripps
- (3) A.V. Alexander
- (4) Campbell H. Johnson

Ans. Option (4) is correct.

Explanation:

- Cabinet Mission was sent in February 1946 to India by the Atlee Government (British Prime Minister).
- It had three British cabinet members – Pethick Lawrence, Stafford Cripps, & and A.V. Alexander.
- Its aim was to discuss the transfer of power from British to Indian leadership.
- Another person, Lord Wavell was not a member of the Cabinet Mission but was involved in it.
- Its main objectives were to formulate a constitution-making body, to establish an Executive Council, and to make an agreement with the Indian leaders for framing of a constitution for India.

57. What was the main agenda of the Swaraj Party?

- A. Council entry
 - B. Politics of obstruction from within
 - C. Constructive rural work
- (1) A only
 - (2) C only
 - (3) A and B only
 - (4) A, B and C

Ans. Option (3) is correct.

Explanation:

- The Swaraj Party or the Congress-Khilafat Swarajya Party was formed by C R Das and Motilal Nehru on 1st January 1923.
- Mahatma Gandhi withdrew the Non-Cooperation Movement (because of the Chauri Chaura incident) in 1922.
- It created a lot of disagreements among leaders of the Congress Party.
- Some wanted to continue non-cooperation, others wanted to end the legislature boycott and contest elections.
- The former were called no-changers and such leaders included Rajendra Prasad, Sardar Vallabhai Patel, C Rajagopalachari, etc.
- The others who wanted to enter the legislative council and obstruct the British government from within were called the pro-changers. These leaders included C R Das, Motilal Nehru, Srinivasa Iyengar, etc.

58. Who is regarded as India's first labour leader much before the beginning of Trade Union Movement?

- (1) Sorabjee Shapoorjee Bengalee
- (2) Naryana Meghaji Lokhande
- (3) Lala Lajpat Rai
- (4) B.P. Wadia

Ans. Option (2) is correct.

Explanation:

- Narayan Meghaji Lokhande was the first leader to organize labour movement in India.
- He is considered the father of trade union movement in India.
- The trade union movement in India started with the forming of Bombay Mill Hands Association in 1890 by N.K. Lokhands.
- The first clearly registered trade-union is considered to be the Madras Labour Union founded by B.P. Wadia in 1918.
- Lala Lajpat Rai was an freedom fighter, and politician; and was popularly known as Punjab Kesari.
- In 1878, Sorabjee Shapoorji Bengalee drafted a bill for providing better working conditions to the labourers and tried to pass in the Bombay Legislative Council.

59. UNESCO is:

- (1) an Indian company
- (2) a union of scientific organization
- (3) an international organization associated with UNO
- (4) a body of cultural societies

Ans. Option (3) is correct.

Explanation:

- UNESCO (United Nations Educational, Scientific and Cultural Organization) is an international organization associated with UNO (United Nations Organization).
- It seeks to build peace through international cooperation in Education, the Sciences and Culture.
- UNESCO was founded on 16 November 1945.
- UNESCO's Headquarters are located in Paris.
- It has 193 Members and 11 Associate Members.
- It is also a member of the United Nations Sustainable Development Group (UNSDG).
- The United Nations (UN) is an international organization founded in 1945.
- It is currently has 193 Member States.

60. Reducing infant mortality helps control the growth of population by:

- (1) controlling repeated childbirth to compensate for the mortality
- (2) protecting the health of the mother
- (3) increasing the gap between two births
- (4) preventing the tendency to chose the sex of the prenatal child

Ans. Option (1) is correct.

Explanation:

- Reducing infant mortality helps control the growth of population by controlling repeated childbirth to compensate for the mortality.
- The demographic transition theory describes that the reduction of the mortality of children less than five years of age is followed by the reduction of fertility with delay.
- The child survival hypothesis states that if child mortality is reduced, then eventually fertility reduction follows, with the net effect of lower growth of population.
- Bangladesh data have demonstrated that if not a single child died in a family then the average total fertility rate (TFR) was 2.6 children; when 1 child died the number was 4.7 children; 2 child deaths meant 6.2 children; and more than 3 child deaths boosted the TFR to 8.3 children.

61. It is often argued that population growth is not merely a question of numbers but that of the age composition of population. This is because:

- (1) more numbers will inevitably mean more production
- (2) more people in the productive age group means

net addition to wealth

- (3) the nature of public expenditure on services is determined by the composition of the population
- (4) None these

Ans. Option (2) is correct.

Explanation:

- It is often argued that population growth is not merely a question of numbers but that of the age composition of population. This is because more people in the productive age group means net addition to wealth.
- Rapid population growth leads to a country with a young average age.
- Young populations require creation of new infrastructure including shelter, health care, and schools.
- If the country has the resources to employ their new labor, the population increase can lead to rapid economic growth.
- Low birth rates can lead to a population with a relatively high average age.
- Many industrial countries with slow population growth are also concerned about the burden placed on young workers because they are in need to care for an aging population.

62. Chocolates can be bad for health because of a high content of:

- (1) cobalt
- (2) nickle
- (3) zinc
- (4) lead

Ans. Option (2) is correct.

Explanation:

- Chocolates can be bad for health because of a high content of Nickel.
- Chocolate contains cocoa, especially that of raw cocoa.
- Raw cocoa contains heavy metals like cadmium (Cd), lead (Pb), and nickel (Ni).
- Nickel (Ni) is the most abundant toxic metal and creates a serious risk to children's health.
- Cocoa-based candies have higher metal content than milk or sugar-based candies.

63. What are the main causes of malnutrition in India?

- A. Socio-cultural factors such as access to clean drinking water, sanitation, etc.
 - B. Lack of balanced diet
 - C. Lack of awareness about nutrition requirements
- (1) A and B only
 - (2) B and C only
 - (3) A and C only
 - (4) A, B and C

Ans. Option (4) is correct.

68. Most abundant blood cells in the human body are:

- (1) WBCs
- (2) RBCs
- (3) platelets
- (4) plasma cells

Ans. Option (2) is correct.

Explanation:

- The most abundant blood cells in the human body are RBCs (Red Blood Corpuscles).
- Red blood cells (erythrocytes) are an important element of blood.
- Their job is to transport oxygen to the body's tissues in exchange for carbon dioxide, which they carry to the lungs to be expelled.
- White blood cells help the body fight infection and other diseases.
- Platelets play a major role in blood clotting.

White Blood Cell (WBC)	5,000 – 10,000/mL
Red Blood Cell (RBC)	4.5 – 5.5 × 10 ⁶ /mL
Platelet	1.4 – 4.0 × 10 ⁵ /mL

69. Overall increase in blood pressure, both in men and women, is due to:

- (1) Bad dietary habits
- (2) escalating sedentary behavior
- (3) increasing salt intake
- (4) excessive consumption of sugar, salt and fats

Ans. Option (4) is correct.

Explanation:

- Overall increase in blood pressure, both in man and woman, is due to excessive consumption of sugar, salt and fats.
- It can happen because of unhealthy lifestyle choices, such as not getting enough regular physical activity.
- Blood pressure is the pressure of circulating blood against the walls of blood vessels.
- High blood pressure, also called hypertension, is blood pressure that is higher than normal.
- A normal blood pressure level is less than 120/80 mmHg.

70. Indigo is used in the:

- (1) perfumery industry
- (2) pharmaceutical industry
- (3) dyeing industry
- (4) food industry

Ans. Option (3) is correct.

Explanation:

- Indigo dye is the oldest to be used in textile dyeing and printing.

- India is the oldest centre for indigo dyeing in the whole world.
- Indigofera tinctoria, also called true indigo, is a species of plant that was one of the original sources of indigo dye.
- The chemical formula of indigo is C₁₆H₁₀N₂O₂.
- It is insoluble in water, alcohol, or ether, but soluble in DMSO (dimethyl sulfoxide), chloroform, nitrobenzene, and concentrated sulfuric acid.

71. The gas evolved during the fermentation of a sugar solution is:

- (1) oxygen
- (2) carbon monoxide
- (3) carbon dioxide
- (4) methane

Ans. Option (3) is correct.

Explanation:

- The gas evolved during the fermentation of a sugar solution is carbon dioxide.
- Yeast ferments the sugar into alcohol.
- Fermentation is the process in which a substance breaks down into a simpler substance.
- Microorganisms like yeast and bacteria usually play a role in the fermentation process.
- Fermentation process is used in making of beer, wine, bread, kimchi, yogurt and other foods.

72. The Rajya Sabha has equal powers with the Lok Sabha in:

- (1) the matter of creating new All India services
- (2) amending the Constitution
- (3) the removal of the government
- (4) making cut motions

Ans. Option (2) is correct.

Explanation:

- The Rajya Sabha (Upper House) has equal powers with the Lok Sabha (Lower House) in the matter of amending the constitution.
- The Rajya Sabha enjoys equal powers with Lok Sabha in other matters like the impeachment of the President, removal of the vice-president, and removal of the judges of the Supreme Court and the High Courts.
- Article 312 in the Constitution of India deals with the creation of new All India Services.
- In matter of creating All India Services, the Rajya sabha enjoys special powers.
- If the Rajya Sabha passes a resolution by a majority of not less than two-thirds of the members present and voting declaring that it is necessary or expedient in the national interest to create one or more All India Services.

- A cut motion is a special power vested in members of the Lok Sabha to oppose a demand being discussed for specific allocation by the government in the Finance Bill as part of the Demand for Grants.

73. Javelin throw competition at Tokyo 2000 Olympics was won by:

- (1) Sakshi Malik (2) Yogeshwar Dutt
(3) Dutee (4) Neeraj Chopra

Ans. Option (4) is correct.

Explanation: Javelin throw competition at Tokyo 2020 Olympics was won by Neeraj Chopra.

- The men's javelin throw event at the 2020 Summer Olympics took place on 4 and 7 August 2021 at the Japan National Stadium.
- Subedar Neeraj Chopra is the first track and field athlete to win a gold medal for India at the Olympics.
- Neeraj Chopra, who has a personal best of 88.07 metres, clinched the historic gold with a throw of 87.58m in his second attempt at Tokyo Games.

74. Among the following tiger reserves, which one has largest area under 'Critical Tiger Habitat'?

- (1) Corbett (2) Ranthambore
(3) Nagarjunsagar (4) Sunderbans

Ans. Option (3) is correct.

Explanation:

- Among the following tiger reserves, Nagarjunsagar-Srisailam has the largest area under critical tiger habitat.
- The total area of the tiger reserve is 3,728 km² (1,439 sq mi).
- Nagarjunsagar-Srisailam Tiger Reserve is the largest tiger reserve in India which is located in Andhra Pradesh.
- Critical Tiger habitats are wildlife habitat means created in areas of National Parks and Sanctuaries which are required to be kept as inviolate for the purposes of wildlife conservation.

Jim Corbett National Park	Uttarakhand
Ranthambore National Park	Rajasthan
The Sunderbans National Park	West Bengal

75. Which of the following pairs is/are correctly matched?

- A. Angami-Assam
B. Toda-Tamil Nadu
C. Moptah-Lakshadweep
D. Birhor-Arunachal Pradesh

- (1) A and D only (2) B only
(3) C only (4) All of these

Ans. Option (2) is correct.

Explanation:

- The Angamis are a major Naga ethnic group native to the state of Nagaland in North-East India.
- Toda people are a Dravidian ethnic group who live in the Nilgiri Mountains of the Indian state of Tamil Nadu.
- Mappila, also known as as Moplah, found in Kerala.
- Birhor people (Birhul) are a tribal/Adivasi forest people living primarily in the Indian state of Jharkhand.
- Diverse tribes like Bodo, Kachari, Karbi, Miri, Mishimi, Rabha, etc co-exist in Assam.
- The major tribal communities that dwell in Lakshadweep comprise Aminidivi, Koyas, Malmis and Melacheris.
- The Nyishi are the largest ethnic group in Arunachal Pradesh in north-eastern India.

76. The percentage of literates in India is:

- (1) lower among males than females
(2) lower in urban are as than in rural areas
(3) higher among males
(4) almost equal among males and females

Ans. Option (3) is correct.

Explanation:

- The percentage of literates in India is higher among males.
- The 15th official census in India was calculated in the year 2011.
- The year 1872 has been popularly labeled as the first population census of India However, the first synchronous census in India was held in 1881
- The Census of 1881 which was undertaken on 17th February, 1881 by W.C. Plowden, Census Commissioner of India was the first census of India.
- The literacy rate in the country is 74.04 per cent, 82.14% for males and 65.46% for females.
- According to Census 2011, Kerala has the highest total literacy rate (93.91%) and female literacy rate (91.98%) whereas Lakshadweep had the highest male literacy rate (96.11%).
- Bihar has the lowest literacy rate in India.

77. Which of the following indices are released by NITI Aayog?

- A. State Energy Index
B. District Hospital Index
C. State Health Index
D. Composite Water Management Index
E. SDG India Index

- (1) C, D and E only (2) A, C, D and E only
(3) A, B and E only (4) A, B, C, D and E

Ans. Option (4) is correct.

Explanation:

- The coast of Orissa in India is the largest mass nesting site for the Olive-ridley, followed by the coasts of Mexico and Costa Rica.
- The Olive Ridley turtles are the smallest and most abundant of all sea turtles found in the world.
- These turtles got their name from their olive-colored carapace, and they are carnivores in nature.
- They are found in warm waters of the Pacific, Atlantic and Indian oceans.
- The Gahirmatha Marine Sanctuary located in Odisha is known as the world's largest breeding colony (rookery) of sea turtles.
- Protection Status:
 1. Wildlife Protection Act, 1972: Scheduled 1
 2. IUCN Red List: Vulnerable
 3. CITES: Appendix I

82. 'Cattle rustling' refers to:

- (1) infertile cattle of no use to man
- (2) poaching
- (3) theft of cattle
- (4) stray cattle

Ans. Option (3) is correct.

Explanation:

- Cattle rustling' refers to theft of cattle.
- Cattle rustling occur when 'a group of individuals plan, organise and steal livestock forcefully from another person or from the grazing field.
- A cattle raiding is the act of stealing cattle.
- In Australia, such stealing is often referred to as duffing, and the perpetrator as a duffer.
- In North America, especially in the Wild West cowboy culture, cattle theft is dubbed rustling, while perpetrator as a rustler.
- Cattle rustling or raiding is no longer a cultural practice, but a form of organised crime committed by international criminal networks.

83. The overfishing and destruction of the Grand Banks; the destruction of salmon runs on the rivers having been dammed; and the devastation of sturgeon fishery on the Columbia river in the Northwest United States exemplify.

- (1) resource depletion
- (2) overfishing and over population
- (3) overpopulation in companion animals
- (4) tragedy of the commons

Ans. Option (4) is correct.

Explanation:

- The tragedy of the commons refers to a situation in which individuals with access to a shared resource (also called a common) act in their own interest and, in doing so, ultimately deplete the resource.
- This economic theory was first conceptualized in 1833 by British writer William Forster Lloyd.
- Situations exemplifying the "tragedy of the commons" include the overfishing and destruction of the Grand Banks of Newfoundland, the destruction of salmon runs on rivers that have been dammed, the devastation of the sturgeon fishery, etc.
- Solutions to the tragedy of the commons include the imposition of private property rights, government regulation, or the development of a collective action arrangement.

84. The greatest threat to organisms and biodiversity is:

- (1) process of habitat loss
- (2) species extinction all over the world
- (3) reduced carrying capacity of the habitat
- (4) biodiversity hot spots

Ans. Option (1) is correct.

Explanation:

- The greatest threat to organisms and biodiversity is the process of habitat loss.
- Habitat loss is the loss and degradation of the natural habitat of the species and ecological communities that naturally occur there.
- It reduces or eliminates the food resources and living space for most species.
- It often results in the extinction of species and, as a result, the loss of biodiversity.
- Habitat loss is the single greatest threat to biodiversity on Earth today and in fact, it is the second-largest threat to our existence on this planet next to Climate Change.

85. Hazardous effects of a substance can be reduced by:

- (1) increasing its bioavailability
- (2) minimizing its biodiversity
- (3) using protecting groups
- (4) using solvents

Ans. Option (3) is correct.

Explanation:

- Protecting groups are used in synthesis to temporarily mask the characteristic chemistry of a functional group because it interferes with another reaction.

- Protecting groups can be used to reduce the hazardousness of any substance.
- A good protecting group should be easy to put on, easy to remove and in high yielding reactions, and inert to the conditions of the reaction required.
- It plays an important role in multistep organic synthesis.

86. Which of the following is the major soil pollutant?
- (1) Radioactive waste
 - (2) Pesticides
 - (3) Nitrates
 - (4) Dioxins

Ans. Option (1) is correct.

Explanation:

- Radioactive waste is the major soil pollutant.
- Radioactive substances such as Radium, Thorium, Uranium, Nitrogen, etc. can infiltrate the soil and create toxic effects.
- The soil of the crops is polluted to a large extent with pesticides, fertilizers, herbicides, slurry, debris, and manure.
- These chemicals penetrate into soil and damage the soil.
- Soil pollution is defined as the presence of toxic chemicals in soil, in high enough concentrations to pose a risk to the ecosystem.

87. The contaminant not present in leaking gasoline is:
- (1) benzene
 - (2) ethanol
 - (3) toluene
 - (4) methyl tertiary butyl ether

Ans. Option (2) is correct.

Explanation: Ethanol is not a contaminant present in leaking gasoline.

- Ethanol is a renewable fuel made from various plant materials collectively known as "biomass."
- Ethanol is an important industrial chemical; it is used as a solvent, in the synthesis of other organic chemicals, and as an additive to automotive gasoline.
- Spills, leaks, or improper disposal of gasoline can cause contamination of soil, groundwater, surface water, and air.
- Benzene, toluene, ethylbenzene, and xylenes (together referred to as the BTEX compounds) constituents of gasoline are the typical contaminants of concern.
- Benzene is the most hazardous of these compounds.

88. Which of the following is the most toxic air pollutant?

- (1) Arsenic
- (2) Asbestos
- (3) Benzene
- (4) Potassium chloride

Ans. Option (3) is correct.

Explanation:

- Hazardous air pollutants, also known as toxic air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects.
- Benzene is the most toxic air pollutant among the given options.
- Examples of toxic air pollutants include:
 1. benzene, found in gasoline;
 2. perchloroethylene, emitted from some dry cleaning facilities; and
 3. methylene chloride, used as a solvent and paint stripper by a number of industries.
- Other air toxics include dioxin, asbestos, toluene, and metals such as cadmium, mercury, chromium, and lead compounds.

89. The air pollutant not obtained by combustion is:

- (1) carbon dioxide
- (2) nitrogen dioxide
- (3) ammonia
- (4) sulphur dioxide

Ans. Option (3) is correct.

Explanation:

- The air pollutant not obtained by combustion is ammonia (NH₃).
- The production of ammonia from natural gas is conducted by reacting methane (natural gas) with steam and air, coupled with the subsequent removal of water and CO₂.
- In the environment, ammonia is part of the nitrogen cycle and is produced in soil from bacterial processes.
- Ammonia is also produced naturally from decomposition of organic matter, including plants, animals and animal wastes.
- It is a colourless gas with a distinct pungent smell.



WRITING YOUR NOTES

**Just in case you have forgotten today, takedown your notes!
But why is it so important?**

Tools for the hands are tools for the brain writes Hetty Roessingh.
Handwritten notes are a powerful tool for encrypting embodied cognition and in turn supporting the brain's capacity for recuperation of information. If that sounds so scientific then in simple words:
Writing notes by hand help you in:

- ◆ Increasing your comprehension
- ◆ Strengthening your memory
- ◆ Igniting your creativity
- ◆ Engaging your mind
- ◆ Increasing your attention span

Are these reasons enough to get you started?

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