Print

Question Paper Preview

Quantitative Aptitude

Maximum Instruction Time : 0

Question Number : 1

The average of six consecutive even numbers is 175. What is the smallest of these numbers?

Options :

1. 172
2. 170
3. 168
4. 166

Question Number : 2

At what rate per annum will a sum of money become five times itself in 4 years under simple interest?

Options :

1. 100%
2. 200%
3. 98%
4. 102%

Question Number : 3

$Find\ the\ value\ of\ y, satisfying\ 19 \times 7 \times 630 \div \sqrt{2025} = y + 517$

Options :

1. 1345
2. 1340
3. 1335
4. 1348

Question Number : 4

The monthly incomes of two friends Vipul and Vijay, are in the ratio 6 : 7 respectively and each of them saves ₹66,000 every month. If the ratio of their monthly expenditure is 1 : 3, find the monthly income of Vipul (in ₹).

Options :

1. 72,000
2. 73,000
3. 71,000
4. 1,00,800

Question Number : 5

A shopkeeper purchased 21 dozens of articles at the rate of ₹150 per dozen. He sold each one of them at the rate of ₹78. What percentage profit did he make?

Options :

1. 524%
2. 526%
3. 525%
4. 523%

Question Number : 6

Three friends X, Y and Z started a business by investing a sum of money in the ratio of 9 : 5 : 2. After 6 months, X withdraws half of his capital. If the sum invested by Z is ₹83,000, then out of a total annual profit of ₹88,000, what is the difference between X's and Y's profit?

Options :

1. ₹11,200
2. ₹10,550
3. ₹10,945
4. ₹12,710

Question Number : 7

A and B complete a work in 22 days. If A alone can do it in 44 days, then B alone can do three-fourth of the same work in _____days.

Options :

1. 33
2. 66
3. 99
4. 132

Question Number : 8

Mr. X travelled 810 km, 492 km and 988 km at a speed of 30 km/hr, 12 km/hr and 38 km/hr, respectively. Find his average speed in km/hr.

Options :

1. $24\frac{17}{47}$
2. $24\frac{16}{47}$
3. $25\frac{20}{47}$
4. $24\frac{18}{47}$

Question Number : 9

Each of X, Y, Z, A, B, C and D has an interview on a different day of the week starting on Monday and ending on Sunday of the same week. C has an interview on the last day of the week. Y has an interview on the first day of the week. Only three people have an interview between Y and D. Only one person has an interview between D and Z. X has an interview on one of the days after B but on one of the days before A. Who has an interview on Thursday?

Options :

1. B
2. A

3. X
4. D

Question Number : 10

Refer to the following number and symbol series and answer the question that follows. All numbers are single-digit numbers only.

(Left) 7 8 @ 1 # 4 $ 5 % + ? 8 & 6 % 4 8 9 % (Right)

If all the symbols are dropped from the series, which of the following will be seventh from the right?

Options :

1. 9
2. 6
3. 4
4. 8

Question Number : 11

C is the son of F. F is the sister of E. E is the son of G. G is the husband of H. How is C related to H?

Options :

1. Daughter's son
2. Daughter's husband
3. Son's son
4. Son's wife's brother

Question Number : 12

In a certain code language, ‘ALIT’ is coded as ‘2159’ and ‘HILT’ is coded as ‘6912’. What is the code for ‘H’ in the given code language?

Options :

1. 6
2. 9
3. 1
4. 2

Question Number : 13

Which of the given letter-number clusters will replace the question mark (?) in the following series to make it logically complete?

MPW 30 HKR 25 CFM 20 XAH 15 ?

Options :

1. DLV 12
2. SVC 10
3. BYM 13
4. ZKE 12

Question Number : 14

Each of the digits in the number 9237561 is arranged in ascending order from left to right. The position of how many digits will remain unchanged as compared to that in the original number?

Options :

1. One
2. Two
3. Three
4. Four

Question Number : 15
What should come in place of '?' in the given series?

21 22 26 35 51 ?

Options :
1. 76
2. 78
3. 79
4. 74

English Language Proficiency

Maximum Instruction Time : 0

Question Number : 16
Choose the most appropriate set of adjectives to complete the sentence.

The new smartphone model is _____ than the previous one, but among all the brands, it is still the _____ in terms of battery life.

Options :
1. more advanced / reliable
2. more advanced / most reliable
3. advanced / more reliable
4. most advanced / reliable

Question Number : 17
Choose the best option to complete the senetence.
The series of lectures on climate change _____ scheduled to conclude next week.

Options :
1. are
2. have been
3. were
4. is

Question Number : 18
Rearrange the following sentences to a form a coherent and meaningful paragraph.

A: Yet most of the countries have adopted democratic systems and have granted franchise rights to their respective citizens.
B: With the spread of democracy, the franchise, that is, right to vote, has been given to all citizens who have attained adulthood.
C: Though the age of adulthood is not uniform in all countries.

D: Universal adult franchise means right to vote for every adult (attaining a minimum age of 18 years in India) irrespective of any distinction in caste, colour, sex, race, religion etc.

Options :

1. DBCA
2. ABCD
3. BCDA
4. CABD

Question Number : 19

Select the option from the given alternatives that can be used as a one-word substitute for the highlighted phrase in the given sentence.

Due to his **fear of the confined spaces**, he felt anxious and uncomfortable whenever he had to travel in a crowded elevator or sit in a small, enclosed room.

Options :

1. Agoraphobia
2. Claustrophobia
3. Xenophobia
4. Acrophobia

Question Number : 20

Select the option that can be used as a one-word substitute for the underlined group of words.
The minister relied on a/an *person who secretly wrote all his speeches and articles* for him to prepare his address for the event.

Options :

1. Auditor
2. Critic
3. Dramatist
4. Ghostwriter

Question Number : 21

Read the sentence carefully and select the antonym of the underlined word from the given alternatives.

Their discussion proved fruitful and led to several innovative ideas.

Options :

1. Profitable
2. Futile
3. Stale
4. Unknown

Question Number : 22

In the following question, a statement has been given with underlined text. You are required to replace the text with correct Idiom given in the options.
He agreed to help me **without thinking twice.**

Options :

1. at the drop of a hat
2. at a loss for words
3. at the eleventh hour

4. at the end of the day

Question Number : 23

Choose the sentence that is grammatically correct and properly structured.

Options :

1. She spoke as if she knew the answer all along.
2. she spoke as if she has known the answer all along.
3. She spoke as if she had known the answer all along.
4. She spoke as if she was knowing the answer all along

Question Number : 24

Convert the following sentence from Active to Passive Voice.
"They will have completed the project by Monday."

Options :

1. The project is completed by them by Monday.
2. The project was completed by them by Monday.
3. The project will be completed by them by Monday.
4. The project will have been completed by them by Monday.

Question Number : 25

The following sentence is in indirect speech. Complete the sentence in direct speech.
Indirect: The professor informed the researchers that they had been given an extension but they must submit the revised report by the following Monday.
Direct: The professor informed the researchers, "_____."

Options :

1. They have been given an extension but they must submit the revised report by the following Monday.
2. You had been given an extension but you will have to submit the revised report the next Monday.
3. The researchers have been given an extension but they must submit the revised report next Monday.
4. You have been given an extension but you must submit the revised report by next Monday.

Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (26 to 30)

Read the passage and answer the following questions.

During any outbreak of an infectious disease, the population's psychological reactions play a critical role in shaping both spread of the disease and the occurrence of emotional distress and social disorder during and after the outbreak. Despite this fact, sufficient resources are typically not provided to manage or attenuate pandemics' effects on mental health and wellbeing. While this might be understandable in the acute phase of an outbreak, when health systems prioritize testing, reducing transmission and critical patient care, psychological and psychiatric needs should not be overlooked during any phase of pandemic management.
There are many reasons for this. It is known that psychological factors play an important role in adherence to public health measures (such as vaccination) and in how people cope with the threat of infection and consequent losses. These are clearly crucial issues to consider in the management of any infectious disease, including COVID-19. Psychological reactions to pandemics include maladaptive behaviours, emotional distress and defensive responses. People who are prone to psychological problems are especially vulnerable. Even in the normal course of events, people with established mental illness have a lower life expectancy and poorer physical health outcomes than the general population.

Sub questions

Question Number : 26

The passage is mainly based upon:

Options :

1. medical procedures during health emergencies
2. vaccination policies and preventive strategies
3. psychological reactions and mental health concerns
4. economic planning during disease outbreaks

Question Number : 27

Select the option that suggests a reasonable inference from the passage.

Options :

1. Neglecting mental health can weaken pandemic control.
2. Mental health care is less essential than physical care.
3. Psychological distress resolves without intervention.
4. Pandemics affect all individuals in equal ways.

Question Number : 28

The author’s tone reflects which of the following?

Options :

1. Indifference toward psychological wellbeing
2. Exaggeration of mental health challenges
3. Personal frustration with healthcare systems
4. Reasoned concern about neglected mental health needs

Question Number : 29

The most appropriate real-life connection to the passage is:

Options :

1. improved international coordination in healthcare
2. expansion of hospital facilities during emergencies
3. rapid development of vaccines and medicines
4. increased anxiety and stress during pandemic lockdowns

Question Number : 30

Select the antonym of the word "crucial" as used in the passage.

Options :

1. Essential
2. Decisive
3. Trivial
4. Significant

Mathematics

Maximum Instruction Time : 0

Question Number : 31

Which of the following is an empty set?
A) R = {x : x denotes a whole number that is not a natural number, given $x \neq 0$}
B) P = {y : $3 < y < 5$, y is a natural number}

Options :

1. Only A
2. Only B
3. Both A and B
4. Neither A nor B

Question Number : 32

Which of the following collections is not a well-defined set?

Options :

1. The set of all prime numbers less than 20
2. The set of all vowels in the English alphabet
3. The set of all good students in Class 12
4. The set of natural numbers divisible by 5

Question Number : 33

A binary operation * on $\mathbb{Q}\backslash\{0\}$ is defined by $a*b = \frac{ab}{5}$. Find the identity element.

Options :

1. 1
2. 5
3. $\frac{1}{5}$
4. It does not exist

Question Number : 34

If A = {x : $x^2 + 6x - 7 = 0$ } and B = {x : $x^2 + 9x + 14 = 0$} , then A - B is equal to:

Options :

1. {1, - 7}
2. {1}
3. {- 7}
4. {1, 2, - 7}

Question Number : 35

If A = {1, 2} and B = {3, 4, 5}, how many ordered pairs are there in B × A?

Options :

1. 2
2. 3
3. 5
4. 6

Question Number : 36

Let $\overrightarrow{OA}$ be the initial line and $\overrightarrow{OB}$ makes an angle of 585° with $\overrightarrow{OA}$. If $m\angle AOC$ = _____, then $\overrightarrow{OB} = \overrightarrow{OC}$.

Options :

1. -225°
2. -45°
3. -135°
4. -315°

Question Number : 37

Which of the following angles is equivalent to 120° in radians?

Options :

1. 2π/3
2. 2π/5
3. 3π/2
4. 2π/7

Question Number : 38

The value of the fraction $\frac{100!}{99!}$ is

Options :

1. 100
2. 100!
3. 99!
4. 1

Question Number : 39

If $C_8^n = C_6^n$, then find C_2^n.

Options :

1. 182
2. 91
3. 98
4. 81

Question Number : 40

The expansion of $(1+x)^4$ is:

Options :

1. $1+4x+6x^2+4x^3+x^4$
2. $1+x+x^2+x^3+x^4$
3. $1-x+x^2-x^3+x^4$
4. $1-4x+6x^2-4x^3+x^4$

Question Number : 41

Solve the inequality:

$$\frac{3x-2}{4} > \frac{2x+1}{3}$$

Options :

1. $x > 10$
2. $x \geq 10$
3. $x < 10$
4. $x \leq 10$

Question Number : 42

If z= a+ib and $\bar{z}$= a−ib then |z|=|$\bar{z}$| is____

Options :

1. Always true
2. Always false
3. True only if b=0
4. True only if a=0

Question Number : 43

The sum of the first n terms of a sequence is given by $S_n = 5n^2 - 2n$. What is the 10th term of the sequence?

Options :

1. 90
2. 91
3. 93
4. 95

Question Number : 44

The arithmetic mean of $0, 1, 2, -1, -2, 2$ is

Options :

1. $\frac{1}{3}$
2. $\frac{2}{5}$
3. 2
4. 0

Question Number : 45

In a geometric progression, the 3rd term is 24 and the 6-th term is 192. Find the 10-th term.

Options :

1. 3072
2. 1536
3. 768
4. 4608

Question Number : 46

The minor of a matrix is _____.

Options :

1. matrix
2. determinant
3. 0
4. 1

Question Number : 47

If $A = \begin{vmatrix} 1 & 3 \\ 2 & 5 \end{vmatrix}$, then det(2A) = _____.

Options :

1. −1
2. 2
3. −4
4. 3

Question Number : 48

If $A = \begin{pmatrix} -1 & 2 \\ 3 & -5 \end{pmatrix}$, then its inverse is

Options :

1. $\begin{pmatrix} -5 & -2 \\ -3 & -1 \end{pmatrix}$
2. $\begin{pmatrix} 5 & 2 \\ 3 & 1 \end{pmatrix}$
3. $\begin{pmatrix} -5 & 2 \\ 3 & -1 \end{pmatrix}$
4. $\begin{pmatrix} 5 & 3 \\ 2 & 1 \end{pmatrix}$

Question Number : 49

Eqaution of line $x-2y+3 = 0$ after shifting the origin at $(0, -1)$ becomes _____.

Options :

1. $x-2y+5=0$
2. $x-2y+1=0$
3. $x+2y-1=0$
4. $x+2y-5=0$

Question Number : 50

Find the equation of a straight line that passes through the points (1, 3) and (- 2, 4).

Options :

1. x + y = 10
2. x - y = 10

3. x + 3y = 10
4. x - 3y = 10

Question Number : 51
What is the angle between the lines
$L_1: r = (i + j + k) + \lambda(2i - j + k)$ and
$L_2: r = (2i + j + k) + \mu(i + j + 2k)$?
Options :
1. 30°
2. 45°
3. 60°
4. 90°

Question Number : 52
The midpoint of the segment joining A(2,3,5) and B(4,7,9) is _____.
Options :
1. (3, 4, 7)
2. (3, 5, 7)
3. (3, 4, 6)
4. (3, 5, 8)

Question Number : 53
Find the angle between the vectors a = 2i + 2j - k and b = 3i + 4k
Options :
1. $\cos^{-1}\left(\frac{1}{15}\right)$
2. $\cos^{-1}\left(\frac{2}{15}\right)$
3. $\cos^{-1}\left(\frac{4}{15}\right)$
4. $\cos^{-1}\left(\frac{7}{15}\right)$

Question Number : 54
For the data set {4, 9, 11, 2, 7}, what is the range?
Options :
1. 7
2. 8
3. 9
4. 10

Question Number : 55
If the probability of the occurrence of an event is 0.25, then the probability of non-occurrence of the event is:

Options :

1. 0
2. 1
3. 0.25
4. 0.75

Question Number : 56

$$\int_0^{\pi/2} \frac{\cos x}{1 + \sin^2 x}\, dx = \_\_\_\_\_$$

Options :

1. $\frac{\pi}{2}$
2. $\frac{\pi}{4}$
3. π
4. 2π

Question Number : 57

If $y = x^3$, then the second order derivative d^2y/dx^2 is _____.

Options :

1. 6x
2. 2x
3. 6
4. 4x

Question Number : 58

Evaluate the integral: $\int (1 / (1 + x^2))\, dx$

Options :

1. $\log|1 + x^2| + C$
2. $\arctan(x) + C$
3. $\frac{-1}{(1 + x^2)} + C$
4. $\tan(x) + C$

Question Number : 59

Evaluate $\int_0^1 x^2 dx$.

Options :

1. 1
2. 1/2
3. 1/3
4. 1/4

Question Number : 60

Which of the following can be a valid objective function for an LPP?

Options :

1. $Z = 2x + 5y$
2. $Z = x^2 + y^2$
3. $Z = 3x + 4yz$
4. $Z = \frac{x}{y}$