SSC CGL Pre

Solution

General Intelligence and Reasoning

1. **Answer: (D)**
The relationship between the numbers is (319 + 233 = 552), (146 + 233 = 379).
To find the missing number, simply add 233 to the fifth number: (774 - 233 = 541).

2. **Answer: (A)**
Logic: 1st number × 3 – 9 = 2nd number; 2nd number + 7 = 3rd number
(36, 99, 106)
➟ 36 × 3 – 9 = 99; 99 + 7 = 106
(72, 207, 214)
➟ 72 × 3 – 9 = 207; 207 + 7 = 214
Similarly;
(24, 63, 70)
➟ 24 × 3 – 9 = 63; 63 + 7 = 70

3. **Answer: (C)**
Given:
215 # 43 # 65 # 13 # 3 =31
On replacing # with the mathematical operators:
Option a:
215 × 43 + 65 ÷13 - 3 =31
LHS: 215 × 43 + 5 - 3
= 9245 + 5 - 3
= 9250 - 3
= 9247
LHS ≠ RHS
Option b:
215 + 43 × 65 - 13 ÷3=31
LHS: 215 + 43 × 65 - 13 ÷3
= 215 + 43 × 65 - 4.33
= 215 + 2795 - 4.33
= 3010 - 4.33
= 3005.67
LHS ≠ RHS
Option c:
215 ÷ 43 + 65 - 13 × 3 =31
LHS:
= 5 + 65 - 13 × 3
= 5 + 65 - 39
= 70 - 39
= 31
LHS = RHS
Option d:
215 + 43 ÷ 65 - 13 × 3=31
LHS: 215 + 43 ÷ 65 - 13 × 3
= 215 + 0.66 - 13 × 3
= 215.66 - 39
= 176.66
LHS ≠ RHS

4. **Answer: (A)**
The logic followed here is:
The 2nd letter of the word is 4th preceding letter of the 1st letter, 3rd letter of the word is 3rd preceding letter of the 2nd letter and 4th letter of the word is 2nd preceding letter as per English alphabetical series.
In option 'a': 'PLJG',
P - 4 = L, L - 3 = I ≠ J, I - 2 = G
In option 'b': 'YURP',
Y - 4 = U, U - 3 = R, R - 2 = P
In option 'c': 'GCZX',
G - 4 = C, C - 3 = Z, Z - 2 = X
In option 'd': 'JFCA',
J - 4 = F, F - 3 = C, C - 2 = A
So, 'PLJG' is the odd word.

5. **Answer: (D)**
Given equation:
123 - 55 + 4 ÷ 78 × 13 = ?
Equation after changing the sign,
123 + 55 × 4 - 78 ÷ 13
On applying BODMAS rule, we get,
= 123 + 55 × 4 - 78 ÷ 13
= 123 + 220 - 6
= 343 - 6
= 337
So, '337' will come in place of '?'

**6.** **Answer: (D)**
Given:
The logic followed here is as follows:

N	I	K
+1	+2	+3
O	K	N
+1	+2	+3
P	M	Q
+1	+2	+3
Q	O	T
+1	+2	+3
R	Q	W
+1	+2	+3
S	**S**	**Z**

So, 'SSZ' will complete the given series.
The complete series is as follows,
NIK, OKN, PMQ, QOT, RQW, **SSZ**

7. **Answer: (C)**
In option 'a': P % R $ Q # S
P is the spouse of R, R is the mother of Q, Q is the brother of S.

$$P(+) \overset{\text{Married to}}{\rule{2cm}{0.4pt}} R(-)$$
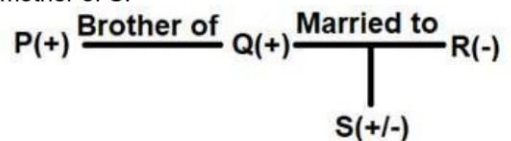$$Q(+) \overset{\text{Brother of}}{\rule{2cm}{0.4pt}} S(+/-)$$
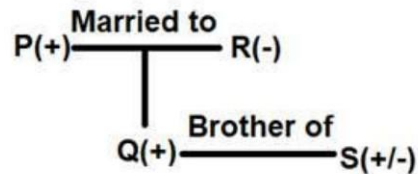
So, P is not the uncle of S as P is the father of S.
In option 'b': S $ R % Q # P
S is the mother of R, R is the spouse of Q, Q is the brother of P.

$$S(-)$$
$$R(-) \overset{\text{Married to}}{\rule{2cm}{0.4pt}} Q(+) \overset{\text{Brother of}}{\rule{2cm}{0.4pt}} P(+/-)$$
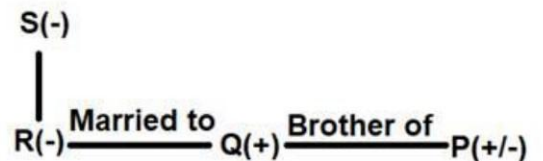
So, P is not the uncle of S as P is the sibling of S's son-in-law.
In option 'c': P # Q % R $ S
P is the brother of Q, Q is the spouse of R, R is the mother of S.

$$P(+) \overset{\text{Brother of}}{\rule{2cm}{0.4pt}} Q(+) \overset{\text{Married to}}{\rule{2cm}{0.4pt}} R(-)$$
$$S(+/-)$$

So, P is the uncle of S.
In option 'd': P # Q $ R $ S
P is the brother of Q, Q is the mother of R, R is the mother of S.

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● DILSUKHNAGAR HYDERABAD CELL:9398611586
● OPP TO CLOCK TOWER VRC CENTRE NELLORE CELL:6301414541

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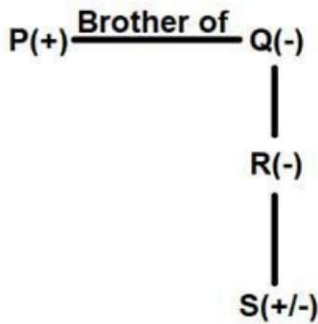
So, P is not the uncle of S as P is the grandfather of S.

8. **Answer: (A)**
The following Venn diagram can be drawn from the given statements:
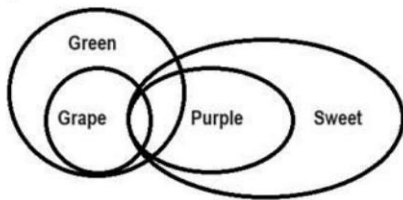
From the above Venn diagram, only conclusions I and II follow.

9. **Answer: (D)**
The pattern is:
W X **Y** / W W **X X** Y **Y** / W **W** W X X **X** Y **Y** Y

10. **Answer: (A)**
The logic followed here is as follows,
In each figure, except the figure in option 'A', the arrow divides the figure in two symmetrical parts.

11. **Answer: (C)**
All of the above countries are neighbouring countries of India except 'Singapore'.

12. **Answer: (A)**

13. **Answer: (D)**
The logic followed here is:
The difference between the numbers in the given series is consecutive multiple of '4' starting from '8'.
34 + 8 = 42
42 + 12 = **54**
54 + 16 = 70
70 + 20 = 90
90 + 24 = 114
So, '54' is the missing number from the given series.
The complete series is:
34, 42, **54**, 70, 90, 114

14. **Answer: (C)**
The logic followed here is as follows:
All the letters are written as per English alphabetical order and then replaced with their second succeeding letter as per English alphabetical series.
For DROPS,

D	R	O	P	S
D	O	P	R	S
+2	+2	+2	+2	+2
F	Q	R	T	U

So, 'DROPS' is coded as 'FQRTU'.
For NIGHT,

N	I	G	H	T
G	H	I	N	T

+2	+2	+2	+2	+2
I	J	K	P	V

So, 'NIGHT' is coded as 'IJKPV'.
For CRAMS,

C	R	A	M	S
A	C	M	R	S
+2	+2	+2	+2	+2
C	E	O	T	U

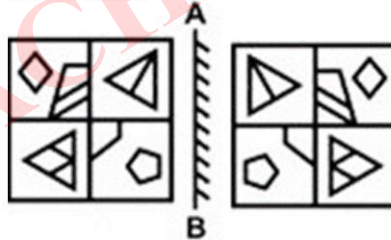So, 'CRAMS' is coded as 'CEOTU'.

15. **Answer: (D)**
The embedded figure is as follows:

16. **Answer: (C)**
In all the options except for option C, the number on the right side is double the left number plus 1.
a. 1324 × 2 + 1 = 2649
b. 3294 × 2 + 1 = 6589
c. 1286 × 2 + 1 ≠ 2578
d. 3184 × 2 + 1 = 6369

17. **Answer: (A)**

18. **Answer: (B)**
The logic followed here is as follows:
The words are coded as the sum of the positional value of the 3rd and 4th letters as per the English Alphabetical series.
For 'VERB',

V	E	R	B
		18	2

Code = 18 + 2 = 20
So, 'VERB' is coded as '20'
For 'KEEP',

K	E	E	P				
		5	16				

Code = 5 + 16 = 21
So 'KEEP' is coded as '21'.
For 'TURN',

T	U	R	N				
		18	14				

Code = 18 + 14 = 32
So, 'TURN' is coded as '32'.

19. **Answer: (B)**

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

The logic followed here is as follows:
All the consonants of the word are changed to their place value as per the English alphabetical series and

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all the vowels are changed to twice of their place value as per the English alphabetical series.
For 'CHAINSAW':

C	H	A	I	N	S	A	W
3	8	2	18	14	19	2	23

So, 'CHAINSAW' is coded as '382181419223'.
For 'MELODY':

M	E	L	O	D	Y
13	10	12	30	4	25

So, 'MELODY' is coded as '13101230425'.
Similarly, for 'CARPETS':

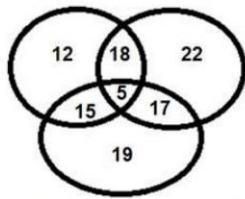| C	A	R	P	E	T	S
3	2	18	16	10	20	19

So, 'CARPETS' is coded as '321816102019'.

20. **Answer: (B)**
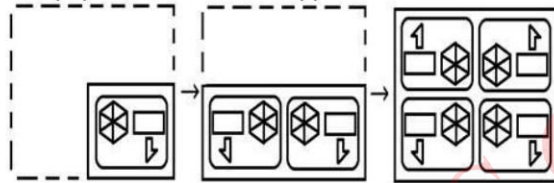Given:

Roses   Flowers, which are White

Flowers, which are Red

From the above Venn diagram, there are 15 roses, which are Red but not White.

21. **Answer: (D)**
The paper when unfolded appears as follows:

22. **Answer: (A)**
Number of odd days in normal year is 1 and number of odd days in leap year are 2.
There are 5 normal years (2022, 2023, 2025, 2026 and 2027) and one leap year i.e., 2024 between February 11, 2021 to February 11, 2028
So, number of odd days will be:
From February 11, 2021 to February 10, 2022: 1
From February 11, 2022 to February 10, 2023: 1
From February 11, 2023 to February 10, 2024: 1
From February 11, 2024 to February 10, 2025: 2
From February 11, 2025 to February 10, 2026: 1
From February 11, 2026 to February 10, 2027: 1
From February 11, 2027 to February 10, 2028: 1
Total number of odd days are 8
So, odd numbers of days are 8 ÷ 7 = 1 (As, there are 7 days in a week)
So, on February 11, 2028 it will be Friday (As, Thursday + 1 odd day = Friday)

23. **Answer: (D)**
The logic followed here is as follows:
The sum of the digits in each number is '15'.
In option 'A': 861
= 8 + 6 + 1
= 15
In option 'B': 537
= 5 + 3 + 7
= 15
In option 'C': 627
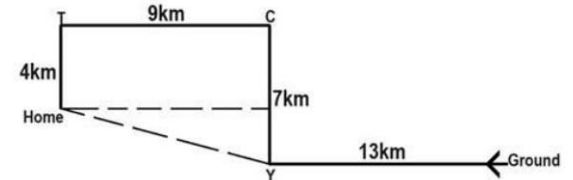= 6 + 2 + 7
= 15

In option 'D': 963
= 9 + 6 + 3
= 18
So, among the given options '963' is the odd number.

24. **Answer: (B)**
From the above information, we make the following diagram:

On applying Pythagoras theorem:
The shortest distance between Y and Home= $\sqrt{[(9)^2 + (3)^2]}$ km
= $\sqrt{(81 + 9)}$ km
= $\sqrt{90}$ km
= $3\sqrt{10}$ km
So, the shortest distance between his home and point Y is $3\sqrt{10}$ km.

25. **Answer: (C)**
'OUTSRAIN' can be formed using the letters of the word 'SUBTRACTION'.
'CONTRAST' can be formed using the letters of the word 'SUBTRACTION'.
'CONTOUR' cannot be formed using the letters of the word 'SUBTRACTION', as there is only one 'O' in 'SUBTRACTION'.
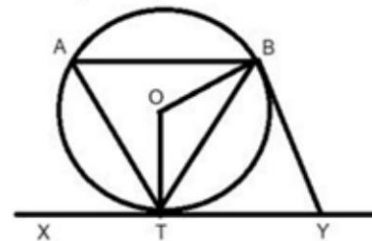'RATION' can be formed using the letters of the word 'SUBTRACTION'.

Quantitative Aptitude

26. **Answer: (C)**
In the given figure, draw OT and OB.

$\angle BTY = 75°$ (given)
$\angle OTY = 90°$ (angle formed by the tangent and radius at point of contact)
$\angle OTB + \angle BTY = \angle OTY$
Or, $\angle OTB + 75° = 90°$
So, $\angle OTB = 15°$
In triangle TOB
OT = OB (radius)
So, $\angle OTB = \angle TBO = 15°$ (angle opposite to equal sides of the triangle are equal)
On applying angle sum theorem of a triangle,
$\angle OTB + \angle TBO + \angle TOB = 180°$
Or, $15° + 15° + \angle TOB = 180°$
Or, $\angle TOB = 150°$
Angle subtended by a chord at the centre is twice of the angle subtended by the same chord at the circumference.
So, $\angle TAB = (1/2) × \angle TOB$
So, $\angle TAB = (1/2) × 150^0 = 75°$
TABY is a parallelogram, and the opposite angles of the parallelogram are equal.

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So, ∠TYB = ∠TAB = 75°
Alternate solution
∠BTY = ∠TAB = 75° (by alternate segment theorem)
TABY is a parallelogram, and the opposite angles of the parallelogram are equal.
So, ∠TYB = ∠TAB = 75°

27. **Answer: (B)**
We know that,
(a^n + b^n) is completely divisible by (a + b) , where n is odd.
So, 21^{15} + 84^{15} is divisible by (21 + 84) = 105
So, it must be divisible by 35, since 35 is a factor of 105.

28. **Answer: (D)**
Required percentage = (2800/2500) × 100 = 112%

29. **Answer: (B)**
Required value = (2816 ÷ 22) ÷ 32 × 17 - 26
= 128 ÷ 32 × 17 - 26
= 4 × 17 - 26
= 68 - 26
= 42

30. **Answer: (B)**
Let the length of each side of the square be 's' cm.
So, s × s = 484
So, s = 22 cm (Since, length cannot be negative therefore, we will take the positive root only)
So, perimeter of the square = 22 × 4 = 88 cm
So, length of the wire = Perimeter of the square = Perimeter of the circle = 88 cm
Also, 2 × (22/7) × r = 88
r = (88 × 7) ÷ 44 = 14 cm

31. **Answer: (B)**
Ratio of all three numbers = 2: 3: 5
Ratio of small & large number = 2: 5
Sum of large and small number = 9800
So, large number = 5/7 × 9800 = 7000
Small number = 2/7 × 9800 = 2800
Required difference = 7000 – 2800 = 4200

32. **Answer: (C)**
Interest received in 2nd year = 2016 - 1800 = ₹216 which is equal to interest earned on ₹1,800
Rate of interest = (216/1800) × 100 = 12%

33. **Answer: (B)**
We know,
$\sin^2\theta + \cos^2\theta = 1$
So,

$$\frac{(\sin A + \cos A)^2 - 1}{\cot A - \sin A\cos A}$$

$$= \frac{\sin^2 A + \cos^2 A + 2\sin A\cos A - 1}{\cot A - \sin A\cos A}$$

$$= \frac{1 + 2\sin A \cdot \cos A - 1}{\cot A - \sin A\cos A}$$

$$= \frac{2\sin A \cdot \cos A}{\frac{\cos A}{\sin A} - \sin A\cos A}$$

$$= \frac{2\sin A \cdot \cos A}{\frac{\cos A - \sin^2 A\cos A}{\sin A}}$$

$$= \frac{2\sin^2 A \cdot \cos A}{\cos A - \sin^2 A \cdot \cos A}$$

$$= \frac{2\sin^2 A \cdot \cos A}{\cos A(1 - \sin^2 A)}$$

$$= \frac{2\sin^2 A}{(1 - \sin^2 A)}$$

$$= \frac{2\sin^2 A}{\cos^2 A}$$
$$= 2\tan^2 A$$

34. **Answer: (A)**
$2x - \frac{1}{2x} = \frac{10}{3}$
Taking 2 common from the above equation, we get,
$2x - \frac{1}{2x} = \frac{10}{3}$
Or, $\left(x - \frac{1}{4x}\right) = \frac{5}{3}$
On squaring the above equation, we get,
$x^2 + \frac{1}{16x^2} - 2 \times x \times \frac{1}{4x} = \frac{25}{9}$
$x^2 + \frac{1}{16x^2} - \frac{1}{2} = \frac{25}{9}$
$x^2 + \frac{1}{16x^2} = \frac{25}{9} + \frac{1}{2}$
$x^2 + \frac{1}{16x^2} = \frac{59}{18}$

35. **Answer: (D)**
Speed of train 'B' = 54 × (5/18) = 15 m/s
Relative speed of train 'A' w.r.t that of train 'B' = 40 - 15
= 25 m/s
So, required time = (350 + 300) ÷ 25 = (650/25)
= 26 seconds

36. **Answer: (C)**
Total number of people who visited the cinema hall on Sunday = 100 + 400 + 300 = 800
So, required percentage = (80/800) × 100 = 10%

37. **Answer: (B)**
$(\sin\theta + \text{cosec}\theta)^2 + (\cos\theta + \sec\theta)^2$
$= \sin^2\theta + \text{cosec}^2\theta + 2\sin\theta\text{cosec}\theta + \cos^2\theta + \sec^2\theta + 2\cos\theta\sec\theta$
Using, cosecθ = (1/sinθ) and secθ = (1/cosθ)]
$= \sin^2\theta + \text{cosec}^2\theta + 2\sin\theta \times (1/\sin\theta) + \cos^2\theta + \sec^2\theta + 2\cos\theta \times (1/\cos\theta)$
$= \sin^2\theta + \text{cosec}^2\theta + 2 + \cos^2\theta + \sec^2\theta + 2$
$= 2 + 2 + \sin^2\theta + \text{cosec}^2\theta + \cos^2\theta + \sec^2\theta$
$= 2 + 2 + 1 + \text{cosec}^2\theta + \sec^2\theta$ [Since we know, $\sin^2\theta + \cos^2\theta = 1$]
$= 5 + \text{cosec}^2\theta + \sec^2\theta$

38. **Answer: (D)**
Let, the initial selling price of the item be ₹'100x'.
So, the initial selling price of the item = 1.25 × 100 = ₹'125x'
New selling price of the item = 0.75 × 125x = ₹'93.75x'
So, the required percentage = [(100x - 93.75) /100x] × 100 = 6.25%
Alternate solution
If a price of a product is first increased and then decreased by 'r'%,
The percentage of loss incurred = (r^2/100)
So, the percentage of loss incurred = (25^2/100)
= (625/100) = 6.25%

39. **Answer: (D)**
When 'A' and 'B' are working alternatively, with 'A' starting the work and the work is getting completed in 17 days, it means that number of days for which 'A' has worked = [(17 - 1) /2] + 1 = 9 days
So, 'B' has worked for = 17 - 9 = 8 days
Since, 'A' alone can complete a work in 18 days.
So, in 9 days, 'A' has completed 50% of the work.
The remaining 50% of the work is completed by 'B' in 8 days.
So, 'B' alone can complete the work in = 8 × 2= 16 days

40. **Answer: (C)**
Required ratio = (260 + 120 + 190):180 = 570:180
= 19:6

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41. **Answer: (B)**
Given that, $x^{53} + \frac{1}{x^{55}} = 2$
If $\{x^n + (1/x^m)\} = 2$, then x = 1
So, 'x' = 1
So, required value = $14x^3 - 15x^2 + 45x - 20$
= $14 \times 1^3 - 15 \times 1^2 + 45 \times 1 - 20$
= 14 - 15 + 45 - 20 = 24

42. **Answer: (A)**
Let the number of coins of 25 paise, 50 paise, ₹2 and ₹5 be '6x', '5x', '3x', and 'x'
ATQ:
$(6x \times 0.25) + (5x \times 0.5) + (3x \times 2) + (x \times 5) = 270$
Or, '1.5x' + '2.5x' + '6x' + '5x' = 270
Or, '15x' = 270
Or, 'x' = 18
So, required sum of number of coins = 6x + x = 7x = (7 × 18) = 126

43. **Answer: (D)**
Let the monthly salary of the man be ₹'100x'
Percentage of monthly salary saved = (100 - 12 - 20 - 18 - 32)% = 18%
So, 0.18 × 100x = 2304
ATQ,
18x = 2304
So, 'x' = (2304/18) = 128
So, amount spent on food = 100x × 0.2 = 100 × 128 × 0.2 = ₹2,560

44. **Answer: (C)**
Let the actual cost price of the article to Ram be ₹'100x'
So, selling price of the article = '100x' × 0.8 = ₹'80x'
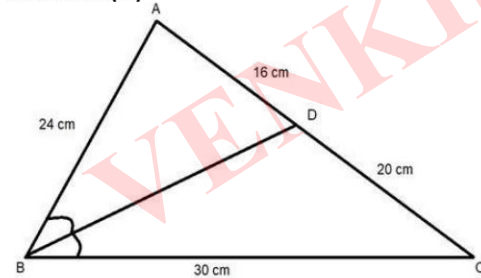ATQ:
'100x' × 0.7 × 1.1 = ('80x' - 36)
Or, '77x' = '80x' - 36
Or, '3x' = 36
Or, 'x' = 12
So, actual cost price of the article = 100x = 100 × 12 = ₹1,200

45. **Answer: (A)**

As we know, an angle bisector of an angle of a triangle divides the opposite side into two parts that are proportional to the other two sides of the triangle.
Angle bisector divide
So, AD:DC = AB:BC
So, AD:DC = 24:30 = 4:5
AD = 36 × (4/9) = 16 cm

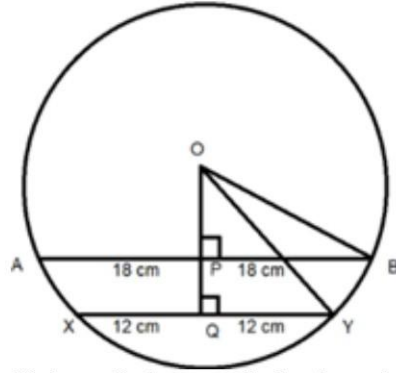**46.** **Answer: (C)**
Number of boys in the school = 150 × (2/5) = 60
Number of girls in the school = 150 - 60 = 90
Since we know, mean proportion of two numbers 'a' and 'b' = √ab
So, required mean proportional
$= \sqrt{60 \times 90} = \sqrt{5400} = 30\sqrt{6}$

47. **Answer: (A)**

We know that perpendicular drawn from centre of circle to chord which bisects the chord.
For chord AB, OP is the perpendicular drawn from centre and OB is the radius.
AP = PB = 36/2 = 18 cm
In right ΔPOB,
Using Pythagoras theorem,
$OB^2 = PB^2 + OP^2$
$OB^2 = 18^2 + OP^2$ ......(i)
Similarly, for chord XY.
QY = QY = 24/2 = 12 cm
In right ΔQOY,
$OY^2 = OQ^2 + QY^2$
$OY^2 = 12^2 + OQ^2$ ......(ii)
As, OA = OY = radius of the circle
So, $18^2 + OP^2 = 12^2 + OQ^2$
Or, $324 + OP^2 = 144 + (OP + PQ)^2$
Or, $324 + OP^2 = 144 + (OP + 6)^2$
Or, $180 + OP^2 = OP^2 + 36 + 12 \times OP$
Or, 12 × OP = 144
Or, OP = 12 cm
Putting the value of OP in equation (i) we get,
$OB^2 = 18^2 + 12^2$
Or, $OB^2 = 324 + 144$
Or, $OB^2 = 468$
Or, $OB = \sqrt{468}$
Or, $OB = 6\sqrt{13}$ cm {Since, radius cannot be negative}
So, radius of the circle = $6\sqrt{13}$ cm

48. **Answer: (B)**
8 years ago from now, let the age of father and age of son be '4x' years and 'x' years, respectively.
So, present age of mother = 4x + 8 - 3 = (4x + 5) years
ATQ,
(4x + 8) + (4x + 5) + (x + 8) = 111
Or, 9x = 111 - 21
Or, 9x = 90
So, 'x' = 10
So, required age of father = 4x + 8 + 2 = 4 × 10 + 10 = 40 + 10 = 50 years

49. **Answer: (A)**
Let the height of the cone be 'h' metres.
ATQ,
volume of the cube = 1728
Or, $edge^3 = 1728$
So, edge of the cube = 12 metres
radius of the cone (r) = edge of the cube = 12 metres
Since, $slant\ height^2 = height^2 + radius^2$
So, 'h' = $\sqrt{(37^2 - 12^2)}$
Or, 'h' = $\sqrt{1369 - 144}$
Or, 'h' = $\sqrt{1225}$
So, 'h' = 35
Required height = 35 metres

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50. **Answer: (A)**
et the salary of 'C' be ₹'16x'
So, tax paid by him = '16x' × 1/8 = ₹'2x'
Savings of 'C' = '16x' × 1/2 = ₹'8x'
So, his expenditure (excluding tax) = '16x' - '2x' - '8x' = ₹'6x'
Required ratio = 6x:8x = 3:4

General Awareness

51. **Answer: (D)**
In chlorophyll the central ion is **magnesium**, and the large organic molecule is porphyrin. The porphyrin contains four nitrogen atoms that form bonds to magnesium in a square planar arrangement. Chlorophyll is a biomolecule responsible for the green colour in plants. Chlorophyll or leaf green is a porphyrin derivative with magnesium (Mg) as the central atom and is hence a metal complex dye.

52. **Answer: (A)**
The Chola rulers were great builders and during their reign, the most magnificent temples were built in South India. The principal deity of the Chola temples is **Lord Shiva**.
· Vijayalaya Temple was built by Vijayalaya Choleshwar, the founder of Chola dynasty in the 9th century CE. This temple is a west-facing temple is situated within a square courtyard and dedicated to Lord Shiva.
· RajRaja I has constructed a Shiva temple at Polanuruva in Sri Lanka in the same pattern as Chola architecture.
· Brihdeshwar Temple of Tanjore built during the later phase of Chola architecture is dedicated to Lord Shiva, the temple complex is known as Raja Rajeshwaram and Peruvudaiyaar.

53. **Answer: (B)**
The Rajya Sabha has no power either to reject or to amend a Money Bill. According to Article 109 of the Indian Constitution, a Money Bill shall not be introduced in the Council of States.
The Rajya Sabha cannot vote on the Demands for Grants. According to Article 113(2) of the Indian Constitution estimates are submitted in the form of Demands for grants to the House of People and only the House of People has the power to assent or refuse to assent.
The Rajya Sabha can discuss the Annual Financial Statement but has no power to vote.

54. **Answer: (B)**
Tea-producing states are West Bengal, Assam, Tamil Nadu, Kerala and Karnataka. Kanan Devan, Nilgiri and Darjeeling are in Kerala, Tamil Nadu and West Bengal respectively. But Girnar is in Gujarat and does not have tea plantations.
Assam is the largest producer of tea in India. Assam produces almost half of the total tea made in India. The tea-producing region lies on either side of the Brahmaputra River.

55. **Answer: (C)**
PepsiCo Inc, the beverage company, has appointed Bollywood actor **Ranveer Singh** as its brand ambassador and launched a new campaign with the tagline **'Rise Up Baby'** aimed at younger consumers.
Other brands endorsed by Ranveer Singh are MakeMyTrip, Thums Up, Bingo, Maruti Suzuki, Kotak Mahindra Bank, Adidas Originals, Nivea, and Ferrero among others.

56. **Answer: (D)**
Among the given options **rainwater** is the purest form of water. It is the purest form of natural water. It is formed naturally by evaporation followed by condensation of water vapour. The water on the earth is mixed with alkaline and acidic materials that make the water impure. The pH value of pure water is 7. Pure water is neutral by nature.

57. **Answer: (C)**
Five-Year Plans (FYPs) are centralized and integrated national economic programs. Joseph Stalin implemented the first Five-Year Plan in the Soviet Union in 1928.
The **Third Five-year Plan** stressed agriculture and improvement in the production of wheat.
The **third Five-year Plan** was based on John Sandy and **Sukhamoy Chakraborty's** model.

58. **Answer: (B)**
Ananthagiri Hills is located in Vikarabad district, **Telangana**, India.
· The water flows from these hills to Osman Sagar, also known as Gandipet Lake, and Himayathsagar.
· It is one of the dense forests in Telangana.
· Ananthagiri Temple is located in this forested area. It is the birthplace of the **Musi River**, also called as Muchkunda River, which flows through Hyderabad, 5 km from Vikarabad.

59. **Answer: (D)**
Ctrl+ K is the shortcut key used to insert a new link where the cursor is positioned or edit a link when the cursor is on a link.

60. **Answer: (C)**
Panchsheel or the **Five Principles of Peaceful Co-existence**, were first formally enunciated in the Agreement on Trade and Intercourse between the **Tibet region of China** and **India** signed on **April 29, 1954**, which stated, in its preamble, that the two Governments "have resolved to enter the present Agreement based on the following principles:
· Mutual respect for each other's territorial integrity and sovereignty,
· Mutual non-aggression,
· Mutual non-interference,
· Equality and mutual benefit, and
· Peaceful co-existence.

61. **Answer: (D)**
Jhoti Chita, a captivating traditional art form, graces the walls and floors of rural **Odisha**. It is crafted using a semi-liquid paste made from rice.
Artisans either create patterns directly with their fingers or use a cloth attached to a twig as a brush. Sometimes, the surface is first smeared with Dhau (a red earthy color) to provide a striking contrast.
Jhoti Chita incorporates floral, geometric, animal, and religious motifs.

62. **Answer: (A)**
The correct answer is **Lysosomes and centrosomes**. These organelles are exclusively found in animal cells. Lysosomes are responsible for breaking down cellular waste and recycling materials, while centrosomes play a crucial role in cell division by organizing microtubules to form the spindle fibres. The other options, such as the nucleus, cell membrane, and Golgi apparatus, are present in both animal and plant cells.

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63. **Answer: (B)**
Thankamani Kutty, a celebrated Indian dancer, has made significant contributions to the world of classical dance. She is proficient in both **Bharatanatyam and Mohiniyattam**. Along with her late husband, Guru Govindan Kutty, she played a pivotal role in promoting South Indian dance, music, and theatre in West Bengal.

64. **Answer: (B)**
The first demonetization of high-denomination banknotes in India occurred in the year **1946**. Under the then Governor General of India, Field Marshal Archibald Wavell, the Reserve Bank of India demonetized notes of ₹500, ₹1000, and ₹10,000 to curb black market operations and tax evasions.

65. **Answer: (B)**
Indian musician **Pandit Shivnath Mishra**, a renowned exponent of the Benares Gharana school of Indian classical music, is an accomplished **sitarist**. His contributions to the world of music have been widely recognized.
He was awarded the prestigious **Padma Shri** in **2022.** He is the only sitar player from **Varanasi** to have received the Padma Shri Award after Pandit Ravi Shankar.
In 2004, he was honoured with the UP Sangeet Natak Academy Award.

66. **Answer: (C)**
The **Chauri Chaura Incident**, which occurred on February 4, 1922, played a pivotal role in the suspension of the Non-Cooperation Movement by Mahatma Gandhi on February 12, 1922.
During the Non-Cooperation Movement, a large group of protesters gathered in Chauri Chaura, United Provinces (now Uttar Pradesh) . The police fired upon the demonstrators, leading to the death of three civilians and 23 policemen.
In response, the enraged protesters attacked and set fire to the Chauri Chaura police station, resulting in the death of all its occupants.
Mahatma Gandhi, who staunchly advocated non-violence, halted the Non-Cooperation Movement nationally as a direct consequence of this tragic incident.
Nineteen arrested demonstrators were sentenced to death, and fourteen received life imprisonment under British colonial authorities.

67. **Answer: (A)**
Lymphatic Filariasis (LF) , commonly known as elephantiasis, is one of the Neglected Tropical Diseases (NTDs) . It occurs when filarial parasites are transmitted to humans through mosquitoes. The infection is usually acquired in childhood and causes hidden damage to the lymphatic system. It is caused by microscopic parasite nematodes (roundworms) of the family Filarioidea. It impairs the lymphatic system and can lead to the abnormal enlargement of body parts.

68. **Answer: (B)**
The Reserve Bank of India (RBI) serves as the custodian of foreign exchange reserves.
RBI maintains the foreign exchange reserve and has custody of all foreign currencies.
Foreign exchange reserves are assets that are held by a nation's central bank or monetary authority.
The forex reserves of India are the fourth largest in the world, according to the Reserve Bank of India.

69. **Answer: (A)**
Krishna Deva Raya was the contemporary of the Mughal Emperor **Babur**.
An emperor of the Vijayanagar empire, Krishna Dev Raya was the most illustrious ruler of Deccan and a contemporary of Babur. He was the Tuluva dynasty's third ruler.
Krishna Deva Raya was Vijayanagara Empire's medieval Indian emperor from **1509 to 1529**After the fall of the Delhi Sultanate, he ruled the largest empire in India. He defeated the sultans of Bijapur, Golconda, the Bahmani Sultanate, and the Gajapatis of Odisha to become the dominant ruler of the peninsula, and he was one of India's most powerful Hindu rulers.

70. **Answer: (B)**
Languages Included in the **Eighth Schedule** of the Indian Constitution are:

Assamese	Dogri	Kannada	Malayalam	Maithili	Santhali
Bengali	Gujarati	Kashmiri	Manipuri	Nepali	Sanskrit
Bodo	Hindi	Konkani	Marathi	Oriya	
Sindhi	Tamil	Telugu	Urdu	Punjabi	

71. **Answer: (A)**
Despotism is a state in which a **single individual** (the despot) wields all the power and authority embodying the state, and everyone else is a subsidiary person.
Despotism is a form of government by a single authority, either an individual or tightly knit group, which rules with absolute political power.
This form of despotism was common in the first forms of statehood and civilization; the Pharaoh of Egypt is exemplary of the classical despot.

72. **Answer: (C)**
The maintenance of Genetic Diversity, Wildlife Sanctuary and National Parks is done by **In-situ conservation**. It is the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings.

73. **Answer: (B)**
Since 2017, June 27 has been observed as Micro Small Medium Enterprise (MSME) Day, recognizing the sector's role in economic development and employment. MSMEs account for 90% of businesses, 60-70% of employment, and 50% of GDP globally. The United Nations General Assembly established MSME Day on April 6, 2017. The 2024 theme is "MSMEs and the SDG," focusing on achieving the Sustainable Development Goals by 2030.

74. **Answer: (A)**
India, the largest remittance recipient globally, is expected to receive $124 billion in inward remittances in 2024 and $129 billion in 2025. In 2023, India received $120 billion, marking a 7.5% growth rate, projected to be 3.7% in 2024. The World Bank's June 2024 Migration and Development Brief highlights these trends, noting India as the leading emigrant origin country with 18.7 million emigrants.

75. **Answer: (B)**
The President of India, Droupadi Murmu, has conferred the **Pradhan Mantri Rashtriya Bal Puraskar 2024**, instituted by the Ministry of Women and Child Development, Government of India, to **19 children** for their exceptional achievements.

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The Pradhan Mantri Rashtriya Bal Puraskar 2024 is given in **six categories**: one child each in the categories of Bravery, Science & Technology and Innovation, four in the category of Social Service, five in the category of Sports, and seven in the category of Art & Culture.

The awardees, comprising **9 boys and 10 girls**, hail from 18 States and Union Territories, including two aspirational districts.

Pradhan Mantri Rashtriya Bal Puraskar (PMRBP) :

The PMRBP awarded annually by the Ministry of Women and Child Development.

It honours children aged **5 - 18** for excellence in Bravery, Art & Culture, Environment, Innovation, Science & Technology, Social Service, and Sports that deserve national recognition.

The awards include a medal, certificate, and citation booklet, presented the week before Republic Day.

The awardees must receive the accolades personally, with posthumous exceptions for bravery in Bal Shakti Puraskar.

Eligibility: Limited to Indian citizens residing in India.

English Language

76. **Answer: (D)**
The correct one-word substitute for a person who walks in their sleep is "Somnambulist". Thus, D is the right answer.
Hypochondriac: A person who is abnormally anxious about their health.
Misogynist: A person who dislikes, despises, or is strongly prejudiced against women.
Egomaniac: A person who is obsessively self-centred or self-important.

77. **Answer: (B)**
The correct relative pronoun to use in this context is "that" instead of "which" as it joins an essential clause. Additionally, since the action of borrowing has already been completed, the past tense "I borrowed" is appropriate. Thus, B is the correct substitution.
The highlighted phrase is incorrect as WHICH is used to join non-essential clauses. A is incorrect as the past participle BORROWED should follow the helping verb HAVE. C is incorrect as AM BORROWED denotes the passive voice, while the sentence is in active voice. D is incorrect because WHOM is used for people, not objects.

78. **Answer: (A)**
We need an adjective to modify the noun BREEDING GROUNDS. FILTHY (dirty) will fit here contextually as the sentence talks about how the lakes in Bangalore were considered to be dirty breeding grounds for malaria. Thus, A is the right answer.
Daring - bold. Tiresome - exhausting; annoying. Imbecile - foolish.

79. **Answer: (C)**
We need a noun to form the object of the verb PAYING. HOMAGE (honour; respect) will fit here as the sentence tells us how the rituals aimed to honour the lake goddess. Thus, C is the right answer.
The remaining options are contextually incorrect.
Dread - intense fear. Orthodoxy - authorised or generally accepted theory, doctrine, or practice. Plenitude - abundance.

80. **Answer: (C)**
The correctly spelled word is OVERSEAS (abroad). Thus, C is the right answer.
The correct spellings of the other words are:
ACCOMPLISH - achieve. GLORIOUS - wonderful. INVESTIGATE - examine.

81. **Answer: (A)**
The correct spelling of the word is PREDICAMENT (a difficult, unpleasant, or embarrassing situation). Thus, A is the right answer.

82. **Answer: (B)**
In B, replace the object pronoun WHOM with the subject pronoun WHO as it forms the subject of the verb JOINS. Thus, B is the right answer.

83. **Answer: (C)**
The error is in part C of the sentence. The base verb NEED should be replaced with its past participle form NEEDED, as the passive voice structure IS + VERB takes the past participle form of the verb.
Thus, C is the right answer.

84. **Answer: (D)**
Some who flatters those in power is known as a sycophant. Thus, D is the right answer.
Melophile - one who loves music. Eloquent - expressive in the use of words. Miscreant - one who creates trouble.

85. **Answer: (C)**
The idiom CALL THE SHOTS means to make important decisions. Thus, C is the right answer.

86. **Answer: (A)**
We need an adjective to describe the care and attention involved in grape cultivation. METICULOUS (showing great attention to detail) will fit here contextually. Thus, A is the right answer.
Casual - not planned or regular. Negligent - failing to take proper care. Hasty - done quickly.

87. **Answer: (C)**
We need a noun related to climate to complete the sentence. LATITUDE (distance from the equator) will fit here contextually. Thus, C is the right answer.
Command - order. Concept - idea. Attitude - a position or way of thinking.

88. **Answer: (D)**
We need an adjective to describe the harvests in regions with warm climates. ABUNDANT (existing in large quantities) will fit here contextually. Thus, D is the right answer.
Bitter - resentful. Meager - lacking in quantity. Sparse - thinly dispersed.

89. **Answer: (C)**
We need an adjective to describe the use of pesticides and preventive measures. JUDICIOUS (having, showing, or done with good judgment or sense) will fit here contextually. Thus, C is the right answer.
Linked - joined. Sincere - genuine. Vast - extensive.

90. **Answer: (B)**
We need a noun to describe the perfect balance between sweetness and acidity. EQUILIBRIUM (a state in which opposing forces or influences are balanced) will fit here contextually. Thus, B is the right answer.
Discovery - finding. Disparity - a great difference. Imbalance - lack of balance or proportion.

91. **Answer: (B)**
Option B is the right answer.
The sentence is in direct speech and in simple present tense. To convert this sentence to the

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indirect speech, follow these rules:

I. Remove the comma and the inverted commas.

II. In the quoted part of the speech, change the first person subjective pronoun I and the second person pronoun YOU to the third person subjective pronoun HE and third person objective pronoun HER respectively.

III. Put THAT between the reporting and reported speeches.

IV. Change the reporting verb SAID to TOLD and begin the indirect speech sentence with the reporting speech clause HE TOLD HIS MOTHER.

V. Change the simple present tense of the verb DO to the simple past DID. The main verb HAVE will remain unchanged.

92.   Answer: (B)

Option B is the right answer. The sentence is in direct speech and in the indicative mood. To convert this sentence to the indirect speech, follow these rules:

I. Remove the comma, exclamation mark and the inverted commas.

II. Begin the indirect speech sentence with the reporting speech clause SHE EXCLAIMED IN EXCITEMENT.

III. Put THAT between the reporting and reported speeches.

IV. Change the present continuous tense IS STARTING to the past continuous tense WAS STARTING.

V. NOW will change to THEN.

93.   Answer: (A)

(a) is the correct answer. The sentence is in the passive voice. The rules to change the passive voice to active voice are as follows:

I. The subject clause will become the object clause. Here, the subject THE NOVEL will become the object, and the object MANY STUDENTS IN THE LITERATURE CLASS will become the subject and begin the sentence.

II. Replace HAS BEEN READ with HAVE READ to agree with the past perfect tense of the original sentence.

III. Remove the conjunction BY before MANY STUDENTS IN THE LITERATURE CLASS.

94.   Answer: (A)

BARREN(adjective) means too poor to produce much or any vegetation; bleak and lifeless. Example: The barren desert stretched for miles without a single plant in sight. FERTILE (fruitful) is its antonym. Thus, A is the right answer.

Abundant - plentiful. Populated - inhabited. Arid - dry.

95.   Answer: (B)

PRECARIOUS means not securely held or in position. PERILOUS (full of danger or risk) will be its synonym. Thus, B is the right answer.

Stable - firmly established; not likely to change. Jubilant - joyful. Deceitful - manipulative.

96.   Answer: (B)

DUBIOUS means hesitating or doubting. DOUBTFUL is its synonym. Thus, B is the right answer.

Legible - that which is clear to read or understand. Feasible - practical. Ample - abundant.

97.   Answer: (A)

"Crying wolf" means to raise a false alarm or to exaggerate a situation. Therefore, the meaning of the idiom is "Exaggerating or falsely alarming" (Option A) .

98.   Answer: (C)

RPSQ is the correct order of the sentences. RP is a mandatory pair. R begins the paragraph by telling us how economic growth brought with it the development of roads and infrastructure and P follows and talks about how this was achieved by felling trees. SQ is another mandatory pair and it follows P. S tells us that these changes led to more pollution and higher temperatures in the city and Q follows and concludes the paragraph by telling us that citizens soon realised how this had happened. Thus, C is the right answer.

99.   Answer: (C)

The idiom AHEAD OF THE CURVE means very creative or offering ideas that no one else has. Thus, C is the right answer.

None of the other options correctly conveys the meaning of the idiom.

100.   Answer: (A)

ABUNDANT means plentiful or in large quantities. SCARCE (insufficient or deficient in quantity or number) has the opposite meaning of the given word. Thus, A is the right answer.

Frugal - economical; not wasteful.

Thrifty - using money and other resources carefully and not wastefully.

Generous - willing to give money, help, etc. freely

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