SSC CGL Pre

Solution

SCP-908574065-E

General Intelligence and Reasoning

1. **Answer: (A)**
The logic followed here is as follows:
First number × (First number - 1) = Second number
In '18: 306':
18 × (18 - 1)
= 18 × 17
= 306
Similarly, Third number × (Third number - 1) = Fourth number
In '15:?':
15 × (15 - 1)
= 15 × 14
= 210
'210' is related to the third number in the same way as the second number is related to the first number.

2. **Answer: (C)**
The logic followed here is:
Third number = (First number + Second number) ÷ 2
In (123, 89, 106):
106 = (123 + 89) ÷ 2
106 = 212 ÷ 2
106 = 106
In (76, 66, 71):
71 = (76 + 66) ÷ 2
71 = 142 ÷ 2
71 = 71
In option 'a': (34, 58, 46),
46 = (34 + 58) ÷ 2
46 = 92 ÷ 2
46 = 46
In option 'b': (22, 48, 35),
35 = (22 + 48) ÷ 2
35 = 70 ÷ 2
35 = 35
In option 'c': (69, 75, 71),
71 = (69 + 75) ÷ 2
71 = 144 ÷ 2
71 ≠ 72
In option 'd': (100, 116, 108),
108 = (100 + 116) ÷ 2
108 = 216 ÷ 2
108 = 108

3. **Answer: (B)**
Given expression:
17 $ 36 @ [(234 # 48 @ 354) % (97 # 13 $ 7)] $ 5
After replacing symbols with mathematical signs, we get:
17 × 36 + [(234 - 48 + 354) ÷ (97 - 13 × 7)] × 5
By using the BODMAS rule, we get:
= 17 × 36 + [(588 - 48) ÷ (97 - 91)] × 5
= 17 × 36 + [540 ÷ 6] × 5
= 17 × 36 + 90 × 5
= 612 + 450
= 1062
The value of the given expression is '1062'.

4. **Answer: (B)**
The pattern followed here is:
The 2nd letter is the 4th preceding letter of the 1st letter and the 3rd letter is the 2nd preceding letter of the 2nd letter as per the English Alphabetical series.
In option 'a', 1st letter = D, 2nd letter = D - 4 = Z, 3rd letter = Z - 2 = X
In option 'b', 1st letter = Y, 2nd letter = Y - 4 = U, 3rd letter = U - 2 = S ≠ Q

In option 'c', 1st letter = N, 2nd letter = N - 4 = J, 3rd letter = J - 2 = H
In option 'd', 1st letter = T, 2nd letter = T - 4 = P, 3rd letter = P - 2 = N
So, 'YUQ' is different.

5. **Answer: (C)**
After interchanging according to options:
a. 8 and 6 ➡ 6 × 8 + 12 ÷ 2 - 4 ≠ 14
b. 2 and 4 ➡ 8 × 6 + 12 ÷ 4 - 2 ≠ 14
c. 2 and 6 ➡ 8 × 2 + 12 ÷ 6 - 4 = 14
d. 12 and 14 ➡ 8 × 6 + 14 ÷ 2 - 4 ≠ 12

6. **Answer: (B)**
Given:
_ _ O P S D R O _ S D R _ P S D R O _ _
The pattern followed here is as follows,
D R O P S/ D R O P S/ D R O P S/ D R O P S
So, 'D, R, P, O, P, S' is the combination of letters which will complete the series.
The complete series is as follows:
D R O P S D R O P S D R O P S D R O P S

7. **Answer: (D)**
Clues:
1) C is the child of A. C is married to D.
2) D is the son-in-law of B.
3) B is the daughter of E.
4) E is the grandmother of F. F is not married.
5) G is the sister-in-law of C.
Inferences:
From clue 1 and clue 2, D is the husband of C, who is the daughter of A. A is married to B.
From clue 3, B is the daughter of E and thus A is male.
From clue 4, E is the mother of B and thus F is the sibling of C.
From clue 5, as F is not married so, G is the sister of D.
The family tree is as follows:

So, from the above family tree, G is the sister of D.

8. **Answer: (B)**
We draw the following figures:

Conclusions:
I. No Diamond is Gold. This definitely doesn't follow as there is no direct relation between Diamond and Gold, so it could or couldn't be a possibility.
II. Some Gold is Diamond. This definitely doesn't follow as there is no direct relation between Diamond and Gold, so it could or couldn't be a possibility.

• BALAJI COLONY TIRUPATI CELL 9391794863
• DILSUKHNAGAR HYDERABAD CELL:9398611586
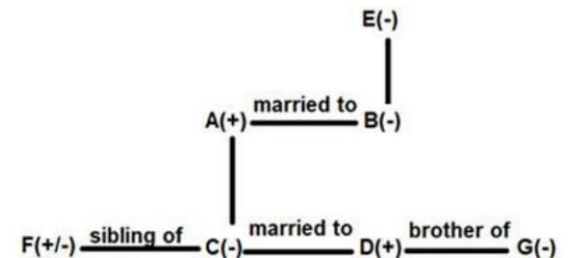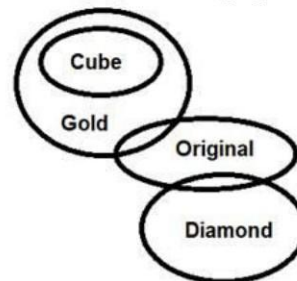• OPP TO CLOCK TOWER VRC CENTRE NELLORE CELL:6301414541

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2

III. No Cube is Original. This definitely doesn't follow as there is no direct relation between Cube and Original, so it could or couldn't be a possibility.
But 'I' and 'II' is a complimentary pair.
From the above figure, either conclusion I or II follows.

9.   **Answer: (B)**
The pattern followed here is:
In each letter cluster, the 1st letter is the 2nd preceding letter of the 1st letter of the previous term. The 2nd letter is the 3rd succeeding letter of the 2nd letter of the previous term. The 3rd letter is the 2nd preceding letter of the 3rd letter of the previous term and the 4th letter is the 3rd succeeding letter of the 4th letter of the previous term as per the English Alphabetical series.
The 1st letter of each letter cluster, V - 2 = T, T - 2 = R, R - 2 = P, P - 2 = N, N - 2 = **L**
The 2nd letter of each letter cluster, E + 3 = H, H + 3 = K, K + 3 = N, N + 3 = Q, Q + 3 = **T**
The 3rd letter of each letter cluster, I - 2 = G, G - 2 = E, E - 2 = C, C - 2 = A, A - 2 = **Y**
The 4th letter of each letter cluster, T + 3 = W, W + 3 = Z, Z + 3 = C, C + 3 = F, F + 3 = **I**
So, 'LTYI' will complete the series.
Therefore, the complete series is:
VEIT, THGW, RKEZ, PNCC, NQAF, **LTYI**
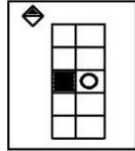
10.   **Answer: (B)**
The logic followed here is as follows:
The shaded square in the grid is moving from left to right in each row.
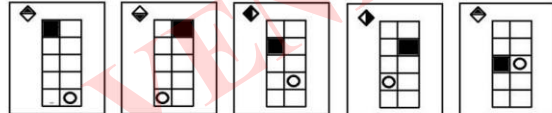The circle in the grid is moving from right to left in each row.
From left to right in each figure, the shaded portion in the diamond is changing the halves.
The figure which will repalce the question mark in the given series is as follows:
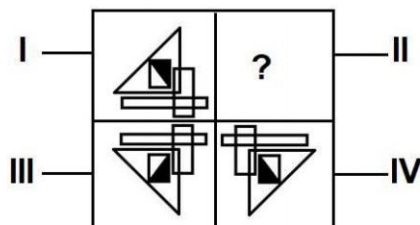

The complete series is as follows:

11.   **Answer: (A)**
'Actual' is the synonym of 'Historical'. Similarly, 'Aggressive' is the synonym of 'Hostile'.
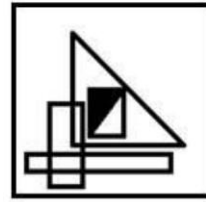
12.   **Answer: (A)**
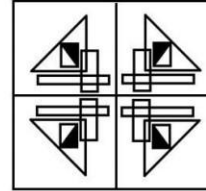Given:

The logic followed here is as follows,
Figure IV is the mirror image of figure III.
Similarly, figure II is the mirror image of figure I.
So, the figure that will complete the patternis as follows:

The complete figure is as follows:

13.   **Answer: (A)**
The logic followed here is as follows:
5 × 2 + 2 = 10 + 2 = 12
12 × 2 + 4 = 24 + 4 = 28
28 × 2 + 6 = 56 + 6 = 62
62 × 2 + 8 = 124 + 8 = 132
132 × 2 + 10 = 264 + 10 = 274
274 × 2 + 12 = 548 + 12 = 560
The complete series is as follows,
5, 12, 28, 62, 132, 274, **560**

14.   **Answer: (A)**

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 pattern followed here is as follows:
First, all the letters of the given word are changed to their 2nd succeeding letter as per English alphabetical series. The word is then divided into two equal halves such that the first half of the word is arranged in reverse order and the second half of the word is arranged in reverse order.
For 'TRANSFER':

T	R	A	N	S	F	E	R
V	T	C	P	U	H	G	T
P	C	T	V	T	G	H	U

So, 'TRANSFER' is coded as 'PCTVTGHU'.
For 'MARTIN':

M	A	R	T	I	N
O	C	T	V	K	P
T	C	O	P	K	V

So, 'MARTIN' is coded as 'TCOPKV'.
Similarly, for 'DOABLE':

D	O	A	B	L	E
F	Q	C	D	N	G
C	Q	F	G	N	D

So, 'DOABLE' is coded as 'CQFGND'.

15.   **Answer: (B)**
The embedded figure is shown below:

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3

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16. **Answer: (C)**
The logic followed here is as follows:
For each number pair 'AB: CD',
CD = AB + (A + B)
In option 'A': '67: 80',
= 67 + (6 + 7)
= 67 + 13
= 80
In option 'B': '91: 101',
= 91 + (9 + 1)
= 91 + 10
= 101
In option 'C', '41: 56',
= 41 + (4 + 1)
= 41 + 5
= 46
46 ≠ 56
In option 'D': '19: 29',
= 19 + (1 + 9)
= 19 + 10
= 29
So, '41: 56' is the odd pair.

17. **Answer: (C)**
The correct mirror image of the given figure when mirror is placed to the left is as follows:

M4A@NGO#ES5 | 5SƎ#OƆИⒼA4M
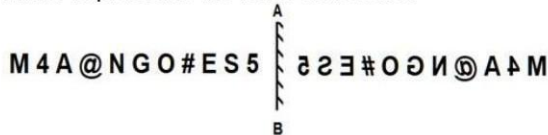
18. **Answer: (C)**
The logic followed here is we add all the place value of each letter, as per the English alphabetical series.
In 'SLIM',

S	L	I	M
19	12	9	13

Sum = 19 + 12 + 9 + 13 = 53
So, 'SLIM' is coded as '53'.
In 'BAND',

B	A	N	D
2	1	14	4

Sum = 2 + 1 + 14 + 4 = 21
So, 'BAND' is coded as '21'.
Similalrly, in 'TEAM',

| T	E	A	M
20	5	1	13

Sum = 20 + 5 + 1 + 13 = 39
So, 'TEAM' is coded as '39'.

19. **Answer: (C)**
The logic followed above is:
The number is the sum of the positional value of the 1st and 4th letter of the word as per the English Alphabetical series.
For 'JOIN',
Sum of the positional value of 'J' and 'N' is: 10 + 14 = 24
So, 'JOIN: 24'.
For 'DEAL',
Sum of the positional value of 'D' and 'L' is: 4 + 12 = 16
So, 'DEAL: 16'.
Similarly,
For 'GRAB',

Sum of the positional value of 'G' and 'B' is: 7 + 2 = 9
So, 'GRAB: 9'.

20. **Answer: (B)**
The continents are arranged in the descending order of their size.
'3'. Asia, 1.Africa, 4.North America, 2.South America, 5.Europe
So, the logical and meaningful order is '3, 1, 4, 2, 5'.

21. **Answer: (D)**
The unfolding of the paper is as follows:
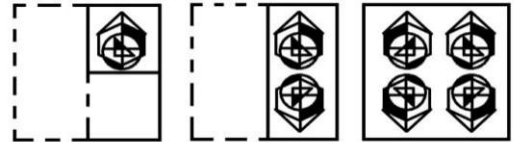
22. **Answer: (D)**
The following arrangement can be drawn from the given statements,
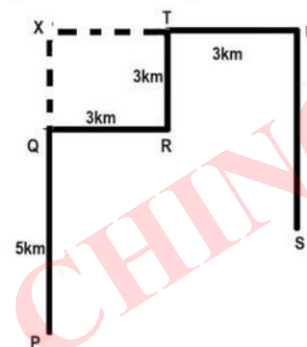
Applying Pythagoras theorem,
$PU = \sqrt{PX^2 + XP^2}$
$PU = \sqrt{(8^2 + 6^2)}$ km
$PU = \sqrt{(64 + 36)}$ km
$PU = \sqrt{100}$ km
PU = 10km
So, P is 10km to the southwest of U.

23. **Answer: (D)**
The logic followed here is as follows:
First number × (Sum of the digits of first number) = Second number
For (52: 364)
52 × (5 + 2) = 52 × 7 = 364
In option a, (39: 468)
39 × (3 + 9) = 39 × 12 = 468
In option b, (26: 208)
26 × (2 + 6) = 26 × 8= 208
In option c, (53: 424):
53 × (5 + 3) = 53 × 8 = 424
In option d, (29: 315):
29 × (2 + 9) = 29 × 11 = 319
319 ≠ 315

24. **Answer: (B)**
Given:
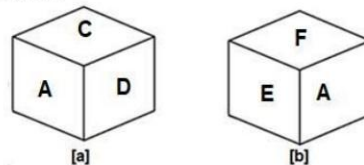
As the face which has 'A' is common in both the dice.
So, we take faces in clockwise direction from 'A':
In dice [a]: A, C, D
In dice [b]: A, E, F

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4

So, the letter that will be on the top if the dice is resting on 'D' is 'F'.

25. **Answer: (B)**
Cube of 1st number is equal to 2nd number.
13^3 = 2197
8^3 = 512
11^3 = 1331
So, ? = 2197

Quantitative Aptitude

26. **Answer: (A)**
Using Pythagoras theorem,
perpendicular^2 + base^2 = hypotenuse^2
Hypotenuse $= \sqrt{9^2 + 40^2} = \sqrt{80 + 1600} = \sqrt{1681}$
$= 41$cm
So, perimeter of the triangle = (9 + 40 + 41) = 90 cm

27. **Answer: (D)**
Let, the larger number and smaller number be 'x' and 'y', respectively.
x + y = 801 ....(i)
x = y × 41 + 3
Or, x = 41y + 3 ....(ii)
Put the value of 'x' in equation (i) , we get,
41y + 3 + y = 801
Or, 42y = 798
Or, y = 19
Put the value of 'y' in equation (i) , we get,
x + 19 = 801
Or, x = 782
Required difference = 782 - 19 = 763

28. **Answer: (B)**
Required ratio = (24 + 30)%:12% = 54%:12% = 9:2

29. **Answer: (C)**
$\frac{1}{2}$ of $\frac{16}{5} + \frac{1}{8}$ of $\frac{24}{9} \times \frac{18}{12} - \frac{5}{8}$
$= \frac{8}{5} + \frac{1}{3} \times \frac{18}{12} - \frac{5}{8}$
$= \frac{8}{5} + \frac{1}{2} - \frac{5}{8}$
$= \frac{64 + 20 - 25}{40}$
$= \frac{59}{40}$
$= 1\frac{19}{40}$

30. **Answer: (B)**
We know that;
Volume of a right circular cylinder = π × (radius)^2 × height
So, volume = (22/7) × 2.1 × 2.1 × 3.5 = 48.51 cm^3

31. **Answer: (C)**
First term (a) = 25
Common difference = 37 - 25 = 49 - 37 = 12
Let number of terms in the series be 'n'.
So, last term (l) = a + (n - 1) × d
253 = 25 + (n - 1) × 12
Or, 228 = (n - 1) × 12
Or, 19 = n - 1
So, 'n' = 20
So, sum of the series $= \frac{n}{2}\{a + l\}$
$= \frac{20}{2} \times \{25 + 253\}$
= 10 × 278
= 2780

32. **Answer: (D)**
$1280 \times \left(1 + \frac{R}{100}\right)^2 = 1492.992$
Or, $\left(1 + \frac{R}{100}\right)^2 = \frac{1492.992}{1280}$
Or, $\left(1 + \frac{R}{100}\right)^2 = \frac{729}{625}$
Or, $\left(1 + \frac{R}{100}\right) = \frac{27}{25}$
Or, $\frac{R}{100} = \frac{2}{25}$
So, 'R' = (2/25) × 100 = 8

33. **Answer: (D)**
Given: tan A = 1
Or, tan A = tan 45º
So, A = 45º
Therefore, cosec 45º × (1 - cos 45º) = √2 × {1 - (1/√2) }
= √2 × {(√2 - 1) ÷ √2} = √2 - 1

34. **Answer: (A)**
Given $(a^3 - b^3)$ = 414 and (a - b) = 3
Since we know,
$(a^3 - b^3) = (a - b) \times [(a - b)^2 + 3ab]$
So, 414 = 3 × [(3)^2 + 3ab]
Or, 414 = 27 + 9ab
Or, 9ab = 387
Or, ab = 43

35. **Answer: (C)**
Let the length of train 'A' and train 'B' be '2x' metres and '3x' metres, respectively and speed of train 'B' be 'y' m/s.
ATQ, $\frac{2x}{15} = 30$
Or, 2x = 450
So, 'x' = 225
Since, both trains are running in opposite directions
Therefore, relative speed of trains = sum of their individual speeds = (total distance covered/total time taken)
Total distance covered = 2x + 3x = '5x' metres
Now, $\frac{5x}{15} = 30$+ y
Or, 5 × 225 = 450 + 15y
Or, 1125 - 450 = 15y
Or, 675 = 15y
So, 'y' = 45
Therefore, speed of train 'B' = 45 m/s

36. **Answer: (B)**
Required percentage $= \left(\frac{40 - 30}{40}\right) \times 100 = \frac{10}{40} \times 100$
= 25%

37. **Answer: (B)**
We know that $\cos \theta = \frac{Base}{Hypotenuse}, \sin \theta = \frac{Perpendicular}{Hypotenuse}, \tan \theta = \frac{Perpendicular}{Base}$ and $\cot \theta = \frac{Base}{Perpendicular}$
So, Perpendicular $= \sqrt{13^2 - 5^2} = \sqrt{169 - 25}$
$= \sqrt{144} = 12$
Now,
$\frac{\sin \theta(1 + \tan \theta)}{\cos \theta(1 - \cot \theta)}$

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5

$$= \frac{\frac{12}{13} \times \left(1 + \frac{12}{5}\right)}{\frac{5}{13} \times \left(1 - \frac{5}{12}\right)}$$

$$= \frac{12 \times \left(\frac{5+12}{5}\right)}{5 \times \left(\frac{12-5}{12}\right)}$$

$$= \frac{12 \times \left(\frac{17}{5}\right)}{5 \times \left(\frac{7}{12}\right)}$$

$$= \frac{\left(\frac{204}{5}\right)}{\left(\frac{35}{12}\right)}$$

$$= \frac{2448}{175}$$

38. **Answer: (B)**
Let the time taken by Amit be '20x' days
Time taken by Bimal = (20x/5) = '4x' days
Time taken by Charu = (20x/4) = '5x' days
We know that efficiency (work done per day) of workers is inversely proportional to the time taken by the workers to complete a particular work.
Therefore, ratio of efficiency of Amit, Bimal and Charu = (1/20x):(1/4x):(1/5x)
Multiplying throughout by '20x' (LCM of 20, 4 and 5)
Ratio of efficiency of Amit, Bimal and Charu = 1:5:4
Let the efficiencies of Amit, Bimal and Charu be 'P' units/day, '5P'/units and '4P'/units, respectively.
Total work = 4 × (P + 5P + 4P) = '40P' units
Charu can do the work alone in = 40P/4P = 10 days

39. **Answer: (C)**
Scheme A: Buy 2 get 3 free
In this scheme, you're effectively getting 5 items (2 you paid for + 3 free) for the price of 2.
Discount % = (Number of free items/Total number of items) × 100 = (3/5) × 100 = 60%
Scheme B: Buy 4 get 5 free
In this scheme, you're effectively getting 9 items (4 you paid for + 5 free) for the price of 4. The discount percentage can be calculated as follows:
Discount % = (Number of free items/Total number of items) × 100 = (5/9) × 100 = 55.55%
Comparing the two, Scheme A has a higher discount percentage (60%) than Scheme B (55.56%). Therefore, Scheme B offers the lower discount percentage.

40. **Answer: (C)**
$x^2 - 2x + 1 = 0$
$x^2 + 1 = 2x$
By dividing both side by 'x' we get,
$$\left(x + \frac{1}{x}\right) = 2$$
So, x = 1 [Since we know if $\left(x + \frac{1}{x}\right) = 2$, then the value of 'x' is 1]
Now, $(x^2 + x^{-2})(x^3 + x^{-3}) = \left(x^2 + \frac{1}{x^2}\right)\left(x^3 + \frac{1}{x^2}\right) = (1 + 1)(1 + 1) = 2 \times 2 = 4$

41. **Answer: (C)**
Quantity of milk in the initial mixture = 80 × 0.6 = 48 litres
So, quantity of water in the initial mixture = 80 - 48 = 32 litres
Now, in the new mixture 20% of the mixture is water
ATQ:
20% of the new mixture = 32 litres

So, 80% of the mixture = (32/0.20) × 0.80 = 128 litres
So, required quantity of milk to be added = 128 - 48 = 80 litres

42. **Answer: (C)**
Number of bananas with the seller initially = 15 dozens
Number of bananas left after rotten bananas were thrown away = 0.8 × 15 = 12 dozens
Total cost price of bananas = 510 + 0.5 × 12 × 15 = ₹600
Total selling price of bananas = 1.8 × 600 = ₹1080
Required selling price = (1080/12) = ₹90

43. **Answer: (A)**
Relative speed of 'A' and 'B' = (72 + 108) ÷ (5/18) = 180 × (5/18) = 50 m/s
So, required time = (700/50) = 14 seconds

44. **Answer: (C)**
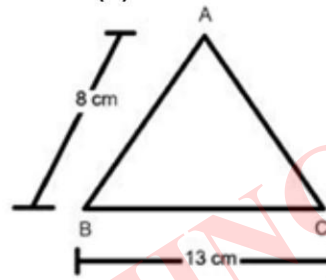
Let, AC = 'b' cm
Let, BC = 'a' = 13 cm
Let, AB = 'c' = 8 cm
On applying co-sine rule, we get,
$\cos B = \frac{(a^2 + c^2 - b^2)}{2 \times a \times c}$
$\cos 60^0 = [(13^2 + 8^2 - b^2) / (2 \times 13 \times 8)]$
Or, (1/2) = [(169 + 64 - b^2) /208]
Or, 233 - b^2 = 104
Or, b^2 = 129
Or, b = √129 cm

45. **Answer: (B)**
Let the previous price of the sugar be ₹'100x'/kg
Let previous consumption of the sugar of the consumer be 'y' kg
So, previous expense of the consumer on sugar = '100x' × 'y' = ₹'100xy'
New price of the sugar = '100x' × 1.16 = ₹'116x'/kg
New expense of the consumer on sugar = '100xy' × 1.1 = ₹'110xy'
So, his new consumption = $\frac{110xy}{116x} = \frac{110y}{116}$ kg
So, decrease in consumption
$= y - \frac{110y}{116} = \frac{116y - 110y}{116} = \frac{6y}{116}$
Required percentage in decrease of consumption = $\frac{\frac{6y}{116}}{y} \times 100 = 5.17\%$

46. **Answer: (B)**
Let the total work be 40 units (LCM of 8 and 10)
Efficiency of 'A' = (40/8) = 5 units/day
Efficiency of 'B' = (40/10) = 4 units/day
Work done in first 4 days = 4 × (5 + 4) = 36 units
So, time taken by 'A' to finish the remaining work = (40 - 36) ÷ 5 = (4/5) days
Therefore, 'N' = (4/5)

47. **Answer: (A)**
Since, we know if two triangles are similar, then their corresponding angles are equal and corresponding sides are in equal proportion.
Since, ΔABC ~ ΔDEF
So, ∠A = ∠D, ∠B = ∠E and ∠C = ∠F

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6

Now,

∠A = 47°

∠B = 63°

So, ∠C = 180° - (∠A + ∠B)

Or, ∠C = 180° - (47° + 63°)

Or, ∠C = 180° - 110° = 70°

48. **Answer: (D)**

We have given speed of the boat in still water = 23 km/h

Speed of the stream = 3 km/h

So, speed of the boat in downstream = 23 + 3 = 26 km/h

Speed of the boat in upstream = 23 - 3 = 20 km/h

So, required time = $\frac{390}{26} + \frac{260}{20}$ = 15 + 13 = 28 hours

49. **Answer: (D)**

Let the efficiency of a man and a woman is 'x' units/day and 'y' units/day

ATQ,

20x = 30y

So, 2x = 3y

Multiplying throughout by '8', we get

16x = 24y ..... (i)

Now, total work = 20x × 25 = 500x units

Efficiency of 9 men and 24 women = (9x + 24y) units per day

So, required time = $\frac{500x}{9x+24y} = \frac{500x}{9x+16x} = \frac{500x}{25x}$ = 20 days

50. **Answer: (D)**

Concept used:

$\sin 2A = \frac{2\tan A}{1+\tan^2 A}$

So, required value = $= \frac{2\tan 15°}{1+\tan^2 15°}$

= sin (2 × 15°)

= sin 30°

= 1/2

General Awareness

51. **Answer: (B)**

The **Aram Bagh** is the oldest Mughal Garden in India, originally built by the Mughal Emperor **Babur** in 1528. Aram Bagh is located in **Agra**, India. Babur was temporarily buried there before being interred in Kabul (Afghanistan).

Babur's tomb is situated in Kabul (Afghanistan).

52. **Answer: (C)**

American economist **Harry Markowitz**, father of modern portfolio theory (MPT), has recently passed away in San Deigo, California, the USA. He was born on 24th August 1927 in Chicago, the USA.

· He shared the **Nobel Prize in Economic Sciences (1990)** with Merton H. Miller and William F. Sharpe for his ideas on finance.

· He focused on combinations of assets, rather than individual securities

· He also did ground-breaking work in mathematical programming and computer simulations.

· He developed **Simscript**, a language used to write simulation software.

Modern Portfolio Theory (MPT) is a practical method for selecting investments in order to maximize their overall returns within an acceptable level of risk.

53. **Answer: (A)**

Net Factor Income from Abroad = Factor income earned from abroad - Factor income paid abroad

According to question,

= 1500 -1200

= 300

Net Factor Income from Abroad is 300.

54. **Answer: (A)**

P.V. Narasimha Rao, the 9th Prime Minister of India, represented the **Nandyal constituency** (Andhra Pradesh) as a Member of Parliament (MP) . He served as the **9th Prime Minister of India** from 1991 to 1996. This seat has been represented in Lok Sabha by Neelam Sanjiva Reddy, just before he became president in 1977, and by P.V. Narasimha Rao, just after he became Prime Minister in 1991.

55. **Answer: (B)**

Dalle Khursani or red cherry pepper chilli or simply Dalle is a variety of chilli pepper primarily cultivated in Nepal, **Sikkim**, **Darjeeling**, and Kalimpong districts of West Bengal.

· The Indian state of **Sikkim** received a Geographic Indication (GI) tag for the pepper in 2020.

· The GI tag was further extended to Darjeeling and Kalimpong districts in September 2021.

56. **Answer: (D)**

Some common characteristics of high yielding technologies are:

· Shorter gestation period

· Good response with better management

· Higher return in terms of yield and income

· Higher investment in comparison to traditional technologies.

57. **Answer: (B)**

Composition of Earth

Name of the element	Percentage
Iron	35
Oxygen	30
Silicon	15
Magnesium	13
Nickel	2.4
Sulphur	1.9
Calcium	1.1
Aluminium	1.1
Others	0.5

58. **Answer: (B)**

The **Beas River** rises in the **Pir Panjal range** near the Rohtang Pass and flows about 256 kilometres in **Himachal Pradesh**.

The river is joined by a number of tributaries; the major tributaries are the Parbati, the Hurla, the Sainj, the Uhl, the Suheti, the Luni, the Banganga, and the Chaki. The northern and eastern tributaries of the river are snow-fed and perennial, while the southern ones are seasonal.

59. **Answer: (C)**

The newspaper **"Swaraj"** was started by the eminent Indian freedom fighter **Subhash Chandra Bose** in the year 1921. He had written a book called "The Indian Struggle". The book covers the Indian Independence movement between 1920 and 1942.

The term "Jai Hind" was coined by Netaji Subhash Chandra Bose.

With the slogan "Give me blood and I will give you freedom", he awakened the country towards fighting against the British.

He founded a new party, 'the Forward Bloc'. The purpose was to consolidate the political left and major support base in his home state Bengal.

He built a force known as the Azad Hind Fauj (Indian National Army) giving the slogan of "Dilli Chalo".

Hence, Option C is the correct answer.

60. **Answer: (B)**

The Union Budget 2023-24 has announced that India will set up **3 centres of excellence (COE) for Artificial Intelligence (AI)** at top educational institutions to develop cutting-edge AI solutions in the country.

Leading industry players will partner in conducting interdisciplinary research, develop cutting-edge applications and scalable problem solutions in the areas of agriculture, health, and sustainable cities.

61. **Answer: (A)**

The **Kheda Satyagraha** of **1918** was a satyagraha movement in the Kheda district of **Gujarat** in India organized by Mahatma Gandhi during the period of the British Raj.

After the successful Satyagraha conducted at Champaran in Bihar, Mahatma Gandhi organized the movement to support peasants who were unable to pay the revenue because of famine and plague epidemic.

62. **Answer: (B)**

Hepatitis is swelling and inflammation of the **liver**.

Hepatitis is caused by a variety of infectious viruses and noninfectious agents leading to a range of health problems, some of which can be fatal. There are five main strains of the hepatitis virus, referred to as types A, B, C, D, and E.

In particular, types B and C lead to chronic disease in hundreds of millions of people and together are the most common cause of liver cirrhosis, liver cancer, and viral hepatitis-related deaths.

63. **Answer: (B)**

Netaji Subhas National Institute of Sports, commonly known as the National Institute of Sports, is the Academic Wing of the Sports Authority of India and Asia's largest Sports Institute located in the city of **Patiala, Punjab**.

It was founded on **7 May 1961**, the institute was renamed as Netaji Subhas National Institute of Sports in January 1973.

64. **Answer: (D)**

National Statistics Day is observed annually on **29th June** to raise awareness about the use of statistics in everyday life and policy-making. The day marks the celebration of the birth anniversary of Late Professor **Prasanta Chandra Mahalanobis**, known as the "Father of Indian Statistics". The day was first observed in 2007.

65. **Answer: (B)**

Kala Azar:

It is caused by **protozoan parasites** of the genus Leishmania. These parasites spread through sandfly bites. The disease primarily affects the reticuloendothelial system, including organs such as the liver, spleen, and bone marrow.

The disease is endemic in **Bihar, Jharkhand, Uttar Pradesh and West Bengal**.

Areas infected: Brazil, east Africa, and India.

66. **Answer: (B)**

Nohkalikai falls:

It is the tallest plunge waterfall in India, with a staggering height of 340 meters (1,115 feet) . It is located in the East Khasi Hills district of **Meghalaya**, within the lush green landscape of Cherrapunji, renowned as one of the wettest places on Earth.

The falls are fed by rainwater collected on the summit of a comparatively small plateau. During the dry season (from December to February) , their power decreases. Below the falls lies a plunge pool with water of an unusual shade of green.

67. **Answer: (C)**

Rajeev's commendable efforts in establishing a dairy cooperative in the backward areas of Jharkhand state are aligned with the principles outlined in **Article 43B** in **Part IV (Directive Principle of State Policy)** of the Indian Constitution. This article emphasizes the promotion of cooperative societies for the economic and social betterment of citizens. By fostering dairy cooperatives, Rajeev contributes to the upliftment of livelihoods and sustainable development in these regions.

68. **Answer: (C)**

In **1979, the Morarji Desai Government** appointed the Second Backward Classes Commission under the chairmanship of **B P Mandal**, a Member of Parliament, in terms of Article 340 of the Constitution to investigate the conditions of the socially and educationally backward classes and suggest measures for their advancement.

The commission submitted its **report in 1980** and identified as many as 3743 castes as socially and educationally backward classes. The commission recommended for reservation of 27% of government jobs for the Other Backward Classes so the total reservation for all (SCs, STs, and OBCs) amounts to 50%.

As of now **10 %** reservation further added for the Economic Weaker Section (**EWS**) of the society.

69. **Answer: (B)**

Wing Commander **Deepika Misra** has become the first woman officer in the Indian Air Force to be presented with Vayu Sena Medal for Gallantry. This award acknowledged her act of exceptional courage displayed during a flood relief operation in Madhya Pradesh.

Vayu Sena Medal:

It is a military decoration, usually awarded in peacetime for a job well done in the Indian Air Force. It was instituted on 26th January 1960. In 1994, the award was split into Vayu Sena Medal (Gallantry) and Vayu Sena Medal (Devotion to Duty).

70. **Answer: (D)**

M.S. Swaminathan has been acclaimed by Time magazine as one of the 20 most influential Asians of the 20th century.

The United Nations Environment Programme (UNEP) has recognized Dr. M.S. Swaminathan as the Father of Economic Ecology because of his leadership in the green revolution in agriculture.

71. **Answer: (B)**

The Conference of the Parties (COP)

· COP is the **apex decision-making authority of UNFCCC**. 'COP' is the formal meeting of the United Nations Framework Convention on Climate Change (UNFCCC) Parties.

· The COP meets every year, unless the Parties decide otherwise. The first UNFCCC Conference of the Parties took place from 28 March to 7 April 1995 in **Berlin, Germany**. The COP meets in Bonn, the seat of the secretariat, unless a Party offers to host the session.

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VENKIS COACHING

8

· The United Nations Climate Change Conferences are yearly conferences held in the framework of the UNFCCC, or COP, to assess progress in dealing with climate change.

72. **Answer: (C)**
Recently, five Army personnel, including a JCO and four jawans, died when their T-72 tank got stuck in the Shyok River near Nyoma-Chushul, Eastern Ladakh, due to a sudden water level rise. Despite rescue efforts, strong currents prevented their rescue. The T-72 tanks, initially designed by the Soviet Union and later modernized as T-72 Ajeya, were deployed in Ladakh post-2020 Galwan clash.

73. **Answer: (D)**
The Tamil Nadu government plans to build a high-level bridge to protect the Pallikaranai Marshland, a freshwater and saline wetland 20 km south of Chennai. As one of Chennai's last natural wetlands, it serves as an aquatic buffer, draining 250 sq.km through Okkiyam Madavu and Kovalam Creek into the Bay of Bengal. A Ramsar site, it supports diverse species including 115 bird species, Russell's viper, and the glossy ibis.

74. **Answer: (B)**
After 164 years, the Comptroller and Auditor General (CAG) of India opened its first museum at Chadwick House in Shimla. Inaugurated by CAG GC Murmu, the museum highlights India's federal audit heritage. Chadwick House, where Mahatma Gandhi stayed during the 1946 Cabinet Mission, also housed the first training school for Indian Audit and Accounts Service probationers in 1950. Exhibits include Chanakya writing the Arthashastra.

75. **Answer: (A)**
The **Government of Odisha** has decided to provide **interest-free loans** up to **Rs 1 lakh** to youth of the state under the new government scheme **'Swayam.'**
Under this scheme, 1 lakh eligible rural and an equal number of urban youths in the age group of 18-35 years will receive interest-free loans of up to Rs 1 lakh for starting a new business.
All rural unemployed youth or those with no outstanding loan for the same purpose from any central or state government-supported schemes in the age group of 18-35 years (18-40 years for a special category) desirous of starting a new business or expanding their existing business will be provided an interest-free bank loan for project costs up to ₹1 lakh.
The scheme will be operational for **two years** and **Rs 672 crore** will be spent by the state government.

English Language

76. **Answer: (B)**
We need a noun to be modified by the preposition WITH. FORTITUDE (courage in pain or adversity) will fit here contextually as the sentence talks about how she faced the challenge with courage and determination. Thus, B is the right answer.
Frivolity - lack of seriousness; light-heartedness. Fallacy - a mistaken belief. Illusion - a false belief.

77. **Answer: (B)**
We need an adjective to modify the noun MEASURES. Out of all the given options, only PRACTICAL (sensible and likely to be successful) will fit here to convey that the need for such measures that are sensible and

capable of succeeding has been brought about by increasing concerns over climate change.
Thus, B is the right answer.
The remaining options are contextually incorrect.
LAME - difficult to believe.
ACROBATIC - involving or performing different movements with the body.
JOVIAL - friendly and cheerful.

78. **Answer: (A)**
Speech or writing that is intended to influence people but that is not necessarily honest or sincere is called Rhetoric. Thus, A is the right answer.
Dermatology - the study of the skin and its diseases.
Contemporary - living or occurring at the same time.
Gratuity - money that is paid to employees on retirement.

79. **Answer: (C)**
The correctly spelled word is EXORBITANT (excessive or extravagant) . Thus, C is the right answer.

80. **Answer: (B)**
The correct spelling of the word is FEROCIOUS (savage or fierce). Thus, B is the right answer.

81. **Answer: (B)**
In B, change the singular verb HAS to the plural verb HAVE to agree with the plural subject SHE AND HER BROTHER. Thus, B is the right answer.

82. **Answer: (D)**
The sentence is grammatically correct and free of error. Thus, D is the right answer.

83. **Answer: (B)**
A person who is skilled in interpreting writing or inscriptions is known as a DECIPHERER. Thus, B is the right answer.
Translator - a person who translates written or spoken material. Interpreter - a person who interprets spoken language. Linguist - a person skilled in foreign languages.

84. **Answer: (D)**
Sentence A introduces the topic by providing information about the coffee plant and its cultivation. Sentence A provides additional information about how coffee plants yield coffee beans. Sentence D continues the idea by explaining the process of turning coffee beans into the beverage known as coffee. Sentence B concludes, elaborating on the popularity of coffee worldwide. Therefore, the correct order is ACDB. Thus, D is the right answer.

85. **Answer: (A)**
The idiom THROUGH THE GRAPEVINE means through gossip or rumours. Thus, A is the right answer. None of the other options correctly conveys the meaning of the idiom.

86. **Answer: (A)**
We need the base form of a verb, as the sentence is in the present tense, to come after the plural noun AI systems. Out of all the given options, only IMPROVE (become better) will fit here to convey that the performance and usefulness of AI systems become better when the task is narrowed.
Thus, A is the right answer.
The remaining options are contextually incorrect.
Impede- to make it difficult for something to happen.
Forecast - to predict or estimate a future event.
Eliminate - to completely remove or get rid of something.

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9

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87. **Answer: (C)**
We need an adjective or a determiner to modify the noun TASKS. Out of all the given options, only FEW (a small number of something) will fit here to convey that the mentioned activities are just a small fraction of the number of tasks that AI systems deal with today.
Thus, C is the right answer.
The remaining options are grammatically incorrect. MUCH (a large amount of something) and LITTLE (a small amount of something) are used with uncountable nouns, whereas TASKS is a countable noun. SOME (an unspecified amount of something) is not preceded by the indefinite article A.

88. **Answer: (B)**
We need the base form of a verb to come after the modal verb WILL. The sentence seeks to convey that common sense will assist a human in saving his life. HELP (aid or assist) will fit here.
Thus, B is the right answer.
The remaining options are contextually incorrect. BROADCAST - to spread information to many people. ADMIRE - to feel respect and approval for someone. OPPOSE - to disagree with something.

89. **Answer: (D)**
We need a noun to be modified by the adjective CREDIBLE. Out of all the given options, only EFFORTS (attempts to do something) will fit here to convey that there are no believable attempts made towards building AGI yet.
Thus, D is the right answer.
The remaining options are grammatically incorrect. CHALLENGING - questioning whether something is true or legal. It is the present participle form of the verb. PUNCTUALLY - at the expected or correct time. It is an adverb. SUPPORTIVE - providing help or encouragement. It is an adjective.

90. **Answer: (A)**
We need the past participle form of the verb to complete the passive voice structure BE + VERB. Out of all the given options, only ACHIEVED (succeeded in accomplishing something or reached an aim) will fit here to convey the opinion of experts that a machine will never be able to accomplish AGI.
Thus, A is the right answer.
The remaining options are grammatically incorrect. CRITICAL - expressing disapproval. It is an adjective. IDENTIFY - to recognise someone or something. It is the base form of the verb. TRAVELLING - going from one place to another. It is the present participle form of the verb.

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

92. **Answer: (D)**
The sentence is in the indicative mood, present perfect tense, and active voice. To change the sentence to the passive voice, follow the rules below:
I. The object clause will become the subject clause. The object "THE MEMBERS OF THE ASSOCIATION" will become the subject of the sentence and start the sentence.
II. The verb HAS INFORMED will change to HAVE BEEN INFORMED, as the passive construction for the present perfect tense in the indicative mood is HAS/HAVE + BEEN + PAST PARTICIPLE. HAS will change to HAVE to agree with the plural subject THE MEMBERS OF THE ASSOCIATION.
III. The preposition BY will be added to the sentence, and ANITA will become its object.
Thus, D is the right answer.

93. **Answer: (B)**
The sentence is in the indicative mood, present perfect tense, and passive voice. To change the sentence to the active voice, follow the rules below:
I. The subject clause will become the object clause. The subject in the sentence, THE SPEECH, will change to the object of the verb, the preposition BY will be omitted, and its object, THE OFFICER, will become the subject and begin the sentence.
II. The present perfect passive voice verb HAS BEEN DELIVERED will be replaced by the present perfect active voice verb HAS DELIVERED.
Thus, B is the right answer.

94. **Answer: (C)**
The word GORGEOUS means very beautiful or attractive. The word DRAB means dull or shabby in appearance, and is the most appropriate antonym of the given word. Thus, C is the right answer.
Splendid - wonderful. Colossal - huge. Puny - small.

95. **Answer: (A)**
ADHERENT means a follower. DISCIPLE is its synonym. Thus, A is the right answer.
Hater - one who hates or dislikes strongly. Misfit - one who is out of place in a group or environment. Deviant - abnormal.

96. **Answer: (D)**
TURNED INTO (became something else) will fit here contextually as the sentence tells us how the dog transformed into a wolf. Thus, D is the right answer.
Turned down - rejected. Turned out - resulted. Turned up - appeared.

97. **Answer: (B)**
Sentence S1: introduces the topic of leadership and its importance in organisations. Sentence P elaborates on the concept of leadership, defining it as the ability to inspire and influence others towards a common goal. Sentence R lists some qualities that a good leader possesses, such as vision, integrity, empathy, and communication skills, and how these are necessary to inspire and influence others. Sentence Q highlights the significance of effective leadership for the success and growth of any group or company. Sentence S emphasises the consequences of lacking this kind of leadership, including directionless and demotivated teams. Sentence S6 concludes the paragraph by reiterating the importance of effective leadership for the performance and sustainability of an organisation.

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10

Therefore, the correct order of the sentences is PRQS. Thus, B is the right answer.

98. **Answer: (A)**
We need a phrase that can convey that Harry will assume the roles and responsibilities of managing director when Norman retires. TAKE OVER (to begin to have responsibility for something, especially in place of somebody else) can replace the bracketed phrase in the sentence.
Thus, A is the right answer.
Take against - to begin to dislike someone.
Take apart - to separate something into pieces.
Take on - to remove.

99. **Answer: (A)**

The word CORDIAL means warm and friendly. The word AFFABLE (friendly; genial) is the most appropriate synonym of the given word. Thus, A is the right answer.
Fervent - passionate. Futile - pointless. Reckless - heedless of danger or the consequences of one's actions.

100. **Answer: (D)**
The word PUERILE means childish or immature. The word MATURE means sensible or adult-like and is the most appropriate antonym of the given word. Thus, D is the right answer.
Lively - energetic; enthusiastic. Sluggish - dull; lazy. Gigantic - huge.

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11