SSC CGL Pre

Solution

SCP-907344063-E

General Intelligence and Reasoning

1. **Answer: (A)**
The logic followed here is as follows:

T	A	G
-7	-5	-3
M	V	D
-7	-5	-3
F	**Q**	**A**
-7	-5	-3
Y	L	X
-7	-5	-3
R	G	U
-7	-5	-3
K	B	R

So, 'FQA' is the missing term in the given series.

2. **Answer: (C)**
Given expression:
64 R 2 Q 4 S 28 P 13
After replacing the letters with signs, we get
64 ÷ 2 × 4 + 28 - 13
= 32 × 4 + 28 - 13
= 128 + 28 - 13
= 156 - 13
= 143
So, the value of the given expression is '143'.

3. **Answer: (B)**
The pattern followed here is:
In each column:
Third number = First number + (Second Number)^2
In 1st column:
Third number = 27 + (7)^2
Third number = 27 + 49 = 76
In 2nd column:
Third number = 14 + (11)^2
Third number = 14 + 121 = 135
Similarly, in 3rd column:
Third number = 32 + (13)^2
Third number = 32 + 169 = 201
So, '201' will come in place of question mark.

4. **Answer: (D)**
Among the given options, only Tiger is a carnivore.

5. **Answer: (B)**
Given equation: 121 * 11 * 40 * 2 * 4 * 21 * 10
After replacing '*' with mathematical sign given in option 'A' we get:
121 ÷ 11 × 40 ÷ 2 + 4 × 21 =10
11 × 20 + 4 × 21 = 10
220 + 84 = 10
304 ≠ 10
So, signs given in option 'A' will not balance the equation.
After replacing '*' with mathematical sign given in option 'B' we get:
121 ÷ 11 + 40 × 2 ÷ 4 - 21 =10
11 + 40 × 0.5 - 21 = 10
11 + 20 - 21 = 10
31 - 21 = 10
10 = 10
So, signs given in option 'B' will balance the equation.
After replacing '*' with mathematical sign given in option 'C' we get:
121 + 11 - 40 ÷ 2 ÷ 4 + 21 =10
121 + 11 - 5 + 21 = 10
153 - 5 = 10
148 ≠ 10

So, signs given in option 'C' will not balance the equation.
After replacing '*' with mathematical sign given in option 'D' we get:
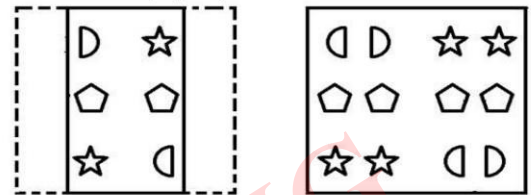121 - 11 × 40 ÷ 2 + 4 = 21 × 10
121 - 11 × 20 + 4 = 210
121 - 220 + 4 = 210
125 - 220 = 210
- 95 ≠ 210
So, signs given in option 'D' will not balance the equation.

6. **Answer: A**
Correct sequence is:
A /A **B** /A B **C** /A B C **D** /A **B** C **D** E

7. **Answer: (C)**
The unfolded paper piece is shown below:

8. **Answer: (A)**
Shilpa said, "She is the daughter of my husband's wife." In this case, Shilpa is referring to herself as her husband's wife. So, the girl is Shilpa's daughter. The question asks how Shilpa's son is related to that girl. Since the girl is Shilpa's daughter, the relation between Shilpa's son and the girl is that of siblings. Therefore, the girl's brother is Shilpa's son.

9. **Answer: (B)**
There are 10 bats, which are neither Bail nor Pitch.

10. **Answer: (B)**
The logic followed here is third number is the difference between the cube of first number and square of second number.
Third number = (First number)^3 - (second number)^2
In (7, 5, 318)
318 = 7^3 - 5^2
318 = 343 - 25
318 = 318
In (12, 8, 1664)
1644 = 12^3 - 8^2
1644 = 1728 - 64
1644 = 1664
In option 'a': (8, 6, 486)
486 = 8^3 - 6^2
486 = 512 - 36
486 ≠ 476
In option 'b': (9, 11, 608)
608 = 9^3 - 11^2
608 = 729 - 121
608 = 608
In option 'c': (10, 13, 881)
881 = 10^3 - 13^2
881 = 1000 - 169
881 ≠ 831
In option 'd': (6, 4, 190)
190 = 6^3 - 4^2
190 = 216 - 16
190 ≠ 200

11. **Answer: (C)**
The embedded figure is shown below:

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

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2

12. **Answer: (A)**
The patter followed here is as follows:
First, all the consonants of the word are changed to its place value as per the English alphabetical series and all the vowels are changed to the place value of opposite letter as per the English alphabetical series and then, they are written in reverse order as show below.
In 'NOTABLE':

N	O	T	A	B	L	E
14	12	20	26	2	12	22
22	12	2	26	20	12	14

So, 'NOTABLE' is coded as '2212226201214'.
In 'MINTOS':

M	I	N	T	O	S
13	18	14	20	12	19
19	12	20	14	18	13

So, 'MINTOS' is coded as '191220141813'.
Similarly, in 'PLUMBER':

P	L	U	M	B	E	R
16	12	6	13	2	22	18
18	22	2	13	6	12	16

So, 'PLUMBER' is coded as '182221361216'.

13. **Answer: (B)**
The correct arrangement of the given words in the order in which they appear in an English dictionary is:
1- Jealousy, 3- Jeopardy, 5- Jersey, 4- Jetliners, 2- Jets
So, '1, 3, 5, 4, 2' is the correct dictionary order of the following words.

14. **Answer: (A)**
Here @ means ' × ' and % means ' - '
In, 12 @ 4 % 17 = 31
12 × 4 - 17 = 31
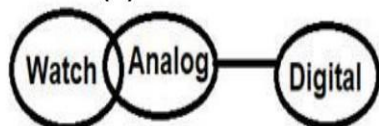48 - 17 = 31
In, 56 % 8 @ 5 = 16
56 - 8 × 5 = 16
56 - 40 = 16
16 = 16
Similarly, 14 @ 7 % 38 = ?
14 × 7 - 38 = ?
98 - 38 = 60

15. **Answer: (D)**

Conclusions:
I. All Watch are Digital: Doesn't follow (As, there is no direct relation between Watch and Analog. So, no definite conclusions follow)
II. No Digital are Watch: Doesn't follow (As, there is no direct relation between Watch and Analog. So, no definite conclusions follow)
III. Some Watch are not Digital: Follows (As, some Watch are Analog and no Analog are Digital. So, those Watch, which are Analog can never be Digital)

So, only conclusion III follows.

16. **Answer: (C)**

17. **Answer: (C)**
Given: GET, LBY, QYD, VVI, ASN, FPS, [?]
The logic followed here is as follows:
G + 5 = L, L + 5 = Q, Q + 5 = V, V + 5 = A, A + 5 = F, F + 5 = K
E - 3 = B, B - 3 = Y, Y - 3 = V, V - 3 = S, S - 3 = P, P - 3 = M
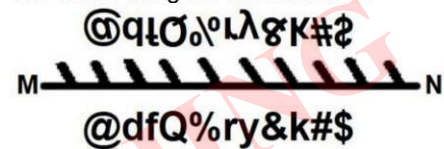T + 5 = Y, Y + 5 = D, D + 5 = I, I + 5 = N, N + 5 = S, S + 5 = X
So, 'KMX' will replace the question mark in the given series.
The complete series is as follows:
GET, LBY, QYD, VVI, ASN, FPS, **KMX**

18. **Answer: (B)**
The mirror image is shown below:

19. **Answer: (C)**
The logic followed here is as follows:
Second number = (Sum of the digits of first number) × (difference of the digits of first number)
In option 'a', '82: 60':
Second number = (8 + 2) × (8 - 2)
Second number = 10 × 6
Second number = 60
In option 'b', '61: 35':
Second number = (6 + 1) × (6 - 1)
Second number = 7 × 5
Second number = 35
In option 'c', '56: 21':
Second number = (5 + 6) × (6 - 5)
Second number = 11 × 1
Second number = 11 ≠ 21
In option 'd', '13: 8':
Second number = (1 + 3) × (3 - 1)
Second number = 4 × 2
Second number = 8

20. **Answer: (D)**
The pattern followed here is as follows:
First, all the letters of the given word are changed to 3rd succeeding letter, as per English alphabetical series, and then they are arranged in reverse order.
In 'ZEBRAS':

Z	E	B	R	A	S
C	H	E	U	D	V
V	D	U	E	H	C

So, 'ZEBRAS' is coded as 'VDUEHC'.
In 'MOLTEN':

M	O	L	T	E	N
P	R	O	W	H	Q
Q	H	W	O	R	P

So, 'MOLTEN' is coded as 'QHWORP'.
Similarly, in 'PRODUCE',

P	R	O	D	U	C	E
S	U	R	G	X	F	H
H	F	X	G	R	U	S

So, 'PRODUCE' is coded as 'HFXGRUS'.

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3

21. **Answer: (C)**
The logic followed here is as follows:
'Yen' is currency of 'Japan'. Similarly, 'Rubble' is currency of 'Russia'.
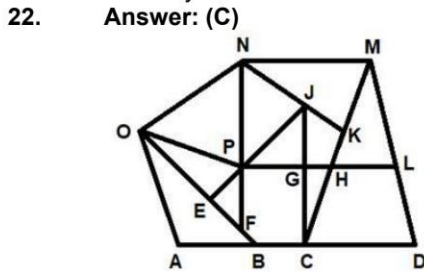
22. **Answer: (C)**

Triangles in the figure: PEF, PEO, POF, FON, OAB, ONP, NPJ, JPG, JCK, GHC, MHL, MDC, NKM.
So, there are 13 triangles in the given figure.

23. **Answer: (C)**
The logic followed here is as follows:
In option 'A', '4560 - 2310':
= 4560 - 2250
= 2310
LHS = RHS
In option 'B', '8970 - 6720':
= 8970 - 2250
= 6720
LHS = RHS
In option 'C', '7650 - 5300':
= 7650 - 2250
= 5400
LHS ≠ RHS
In option 'D', '9480 - 7230':
= 9480 - 2250
= 7230
LHS = RHS
So, '7650 - 5300' is the odd pair.

24. **Answer: (C)**
The logic followed here is:
The square of the consecutive number in the number series is the next number starting from '8'.
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = \mathbf{121}$
$12^2 = 144$
$13^2 = 169$
$14^2 = 196$
So, '121' will come in place of question mark. The complete series is:
64, 81, 100, **121**, 144, 169, 196

25. **Answer: (A)**
On taking the faces in clockwise direction from '3',
In dice [a]: '3, 5, 1'
In dice [b]: '3, 2, 4'
So, '5' is opposite to '2', '1' is opposite to '4'. Thus '3' is opposite to '6'.
If the dice is resting on '1' then the number that will be on the top is '4'.

Quantitative Aptitude

26. **Answer: (C)**
Total selling price of cans = (10 × 450 × 1.16) + (4 × 450 × 1.2) + (6 × 504) = 5220 + 2160 + 3024
= ₹10,404
And, total cost price = 450 × 20 = ₹9,000
So, profit earned = 10404 - 9000 = ₹1,404

27. **Answer: (B)**
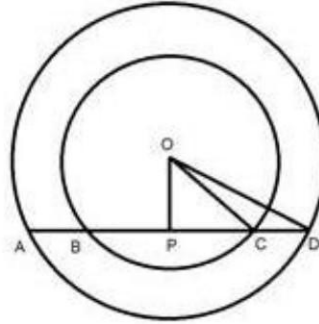
Let 'O' be the centre of the two circles and OP ⊥ on ABCD
OC is the radius of the smaller circle
So, OC = 13 cm
OD is the radius of the larger circle
So, OD = 15 cm
We, have, ∠OPC = 90°
BP = PC = (BC/2) = 5 cm {Since, a line drawn from the centre of the circle is perpendicular bisector of the chord}
In triangle OCP, using Pythagoras theorem
$OP = \sqrt{OC^2 - P^2} = \sqrt{13^2 - 5^2} = \sqrt{169 - 25} = \sqrt{144}$
= 12cm
As ∠OPC = 90°
So, AP = PD = (AD/2) {Since, a line drawn from the centre of the circle is perpendicular bisector of the chord}
Now, In triangle OPD, using Pythagoras theorem
$PD = \sqrt{OD^2 - OP^2} = \sqrt{15^2 - 12^2}$
$= \sqrt{225 - 144} = \sqrt{81} = 9cm$
So, AD = 2 × 9 = 18 cm

28. **Answer: (B)**
Let the present age of 'A' be '5x' years
So, present age of 'C' = 5x × (8/5) = '8x' years
Present age of 'B' = 1.2 × 5x = '6x' years
ATQ;
6x + 8 = 8x
Or, 8 = 2x
So, x = 4
So, present age of 'A' = 5 × 4 = 20 years
And present age of 'B' = 20 × 1.2 = 24 years

29. **Answer: (A)**
Let the total work be '60x' units.
Efficiency of Aman = 60x ÷ 12 = 5x units/day
Efficiency of Ayush = 60x ÷ 10 = 6x units/day
Required difference = 6600 × {(6x - 5x) ÷ 11x} = 6600 × (1/11) = ₹600

30. **Answer: (D)**
Given, $x + \frac{1}{x} = 5\sqrt{5}$
On squaring both sides, we have;
$x^2 + \frac{1}{x^2} + 2 \times x \times \frac{1}{x} = 125$
$x^2 + \frac{1}{x^2} = 123$
Now, on subtracting 2 from both sides, we have;
$x^2 + \frac{1}{x^2} - 2 = 121$
$\left(x - \frac{1}{x}\right)^2 = 121$
$x - \frac{1}{x} = 11$
So, required value = $x^2 - \frac{1}{x^2} = \left(x - \frac{1}{x}\right)\left(x + \frac{1}{x}\right)$
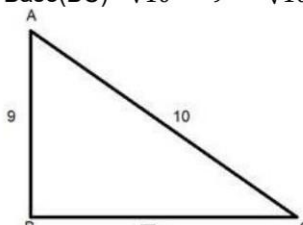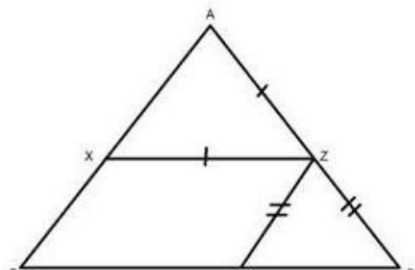$= 5\sqrt{5} \times 11 = 55\sqrt{5}$

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4

31. **Answer: (C)**
Sum of 12 number = 52 × 12 = 624
Sum of 11 number after removing one number = 55 × 11 = 605
The number which was removed = 624 - 605 = 19

32. **Answer: (A)**
We know, simple interest
$= \dfrac{Principal \times Time \times Rate}{100}$
So, simple interest received
$= \dfrac{12500 \times 12.5 \times 2}{100}$ = ₹3,125

33. **Answer: (B)**
Let the marked price of the TV be ₹'100x'.
So, selling price of the TV = 100x × 0.82 = ₹'82x'
ATQ,
82x = 5330
So, 'x' = 65
So, marked price of the TV = 100x = 100 × 65
= ₹6,500

34. **Answer: (C)**
Let the speed of the man and usual time taken be 'x' km/minutes and 't' minutes, respectively.
ATQ,
x × t = 1.4x × (t - 16)
Or, 't' = 1.4t - 22.4
Or, 0.4t = 22.4
So, 't' = 56

35. **Answer: (A)**
Let the radius and height of the cylinder be 'r' cm and 'h' cm, respectively.
So, curved area of the cylinder = 2πrh
Or, 440 = 2 × (22/7) × r × 10
So, 'r' = 7
So, volume of the cylinder = πr²h = (22/7) × 7 × 7 × 10 = 1540 cm³

36. **Answer: (A)**
(240 ÷ 8) ÷ 49 × 7³ + 9 of 9 × 9 ÷ 3 of 27
= 30 ÷ 49 × 343 + 81 × 9 ÷ 81
= 30 × 7 + 9
= 210 + 9
= 219

37. **Answer: (C)**
Required percentage $= \dfrac{120+160}{150+170} \times 100 = \dfrac{280}{320} \times 100$
= 87.5%

38. **Answer: (C)**
In right triangle ABC, we have
$\cos 45° = \dfrac{base}{hypoteneus} = \dfrac{AB}{6\sqrt{2}}$
$\dfrac{1}{\sqrt{2}} = \dfrac{AB}{6\sqrt{2}}$
Or,
So, AB = 6 cm

39. **Answer: (A)**
We know that, if the sum of the digits of a number is divisible by 9, then the number will be divisible by 9.
Hence, Sun of digits of the number = 5 + 4 + 8 + 2 + X + 5 + 5 = 29 + X
Since, 36 is divisible by 9, then if we add 7 in the digits of the number given above, then it will be divisible by 9.
So, 29 + X = 36
So, 'X' = 7

40. **Answer: (D)**
Sum of income of the company in year 'Y4' and 'Y5' = 600 + 520 = ₹1,120 crores
Sum of expenditure of the company in year 'Y1' and 'Y3' = 320 + 240 = ₹560 crores

Required percentage = {(1120 - 560)/560} × 100
= 100%

41. **Answer: (A)**
Formula, (a + b)² = a² + b² + 2ab
$\left(\dfrac{x}{y} + \dfrac{y}{x}\right)^2 = \dfrac{x^2}{y^2} + \dfrac{y^2}{x^2} + 2 \times \dfrac{x}{y} \times \dfrac{y}{x}$
Or, $\left(\dfrac{x}{y} + \dfrac{y}{x}\right)^2 = 62 + 2$
Or, $\left(\dfrac{x}{y} + \dfrac{y}{x}\right)^2 = 64$
So, $\dfrac{x}{y} + \dfrac{y}{x} = 8$
Cubing both sides, we have
So, $\left(\dfrac{x}{y} + \dfrac{y}{x}\right)^3 = 512$
Using (a + b)³ = a³ + b³ + 3ab(a + b)
$\dfrac{x^3}{y^3} + \dfrac{y^3}{x^3} + 3 \times \left(\dfrac{x}{y} \times \dfrac{y}{x}\right) \times \left(\dfrac{x}{y} + \dfrac{y}{x}\right) = 512$
Or, $\dfrac{x^3}{y^3} + \dfrac{y^2}{x^2} + 3 \times 8 = 512$
So, $\dfrac{x^2}{y^2} + \dfrac{y^2}{x^2} = 512 - 24 = 488$

42. **Answer: (C)**
Total marks of Aditya = 600 × 0.94 = 564
Actual marks obtained by Aditya = 564 - 85 - 65 + 58 + 56 = 678 - 150 = 528
So, required percentage $= \dfrac{528}{600} \times 100 = 88\%$

43. **Answer: (D)**
Given, sin C = $\dfrac{perpendicular}{hypotenuse} = \dfrac{9}{10}$
Therefore,
Base(BC)= $\sqrt{10^2 - 9^2} = \sqrt{100 - 81} = \sqrt{19}$

cosec² A= $\left(\dfrac{hypotenuse}{perpendicular}\right)^2 = \left(\dfrac{AC}{BC}\right)^2 \left(\dfrac{10}{\sqrt{19}}\right)^2 = \dfrac{100}{19}$

44. **Answer: (A)**

In triangle AXZ,
As AZ = XZ
So, ∠XAZ = ∠ZXA = 60° (Angles opposite to equal sides are equal)
So, ∠XZA = 180° - (60° + 60°) = 60° (Sum of interior angles of a triangle is 180°)
Again, in triangle ZCY
As ZC = ZY
∠ZYC = ∠ZCY = 80° (Angles opposite to equal sides are equal)

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5

So, ∠YZC = 180° - (80° + 80°) = 20° (Sum of interior angles of a triangle are equal)
Now,
XZY + (∠XZA + ∠YZC) = 180° (Angle made by a straight line is 180°)
XZY = 180° - (∠XZA + ∠YZC) = 180° - (60° + 20°) = 180° - 80° = 100°

45. **Answer: (A)**
Let the sum invested be ₹'P'.
ATQ;
14552 - P = (P × 18.2 × 4.5) ÷ 100
Or, 14552 - P = 0.819P
Or, 14552 = 1.819P
So, P = (14552/1.819) = 8000
So, sum invested = ₹8,000

46. **Answer: (A)**
Let the initial investment of Kevin and Ben be ₹'4y' and ₹'5y', respectively
Increased investment of Kevin = 4y × 1.25 = ₹'5y'
Increased investment of Ben = 5y × 1.2 = ₹'6y'
So, respective ratio of annual profit shares of Ben and Kevin = (5y × 6 + 6y × 6):(4y × 6 + 5y × 6)
= 11y:9y = 11:9

47. **Answer: (D)**
According to the question,
$(a + b)^2 = 8^2$
Or, $a^2 + b^2 + 2ab = 64$
Or, $a^2 + b^2 + 20 = 64$
So, $a^2 + b^2 = 64 - 20 = 44$

48. **Answer: (B)**
$16\frac{2}{3}\% = \frac{50}{3}\%$
Amount spent on food = 75000 × (50/300) = ₹12,500
So, remaining income = 75000 - 12500 = ₹62,500
Amount spent on Rent = 62500 × 0.6 = ₹37,500
Remaining income = 62500 - 37500 = ₹25000
So, amount saved = 25000 × 0.44 = ₹11,000

49. **Answer: (A)**
We know that tan θ = (Perpendicular/Base)
And, tan A = (24/7)
So, Perpendicular = 24 and base = 7
So, hypotenuse = $\sqrt{(24^2 + 7^2)}$ = 25
And, sec θ = (Hypotenuse/base)
So, $\sec^2 A = (25/7)^2 = (625/49)$

50. **Answer: (B)**
We know that,
$\left(x - \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} - 2$
Or, $\left(x - \frac{1}{x}\right)^2 = 38 - 2$
Or, $\left(x - \frac{1}{x}\right)^2 = 36$
So, $\left(X - \frac{1}{x}\right) = 6$
Cubing both sides, we get
$x^3 - \frac{1}{x^3} - 3x6 = 216$
$x^3 - \frac{1}{x^3} = 234$

General Awareness

51. **Answer: (B)**
The first joint military exercise **'FRINJEX-23'** between the Indian Army and the French Army has been conducted at **Pangode Military Station, Thiruvananthapuram, Kerala**.

The theme for the exercise is "Humanitarian Assistance and Disaster Relief Operations in a Contested Environment".

52. **Answer: (A)**
Tansen and Swami Haridas were the leading Dhrupad singers during Akbar's reign. Tansen is considered one of the greatest composer's musicians in Indian classical music. He lived during the period of the great Mughal Indian king Akbar. His tomb is in Gwalior near the tomb of Saint Hazrat Ghaus.

53. **Answer: (B)**
Semeru Volcano has started erupting in Java Island, **Indonesia**. The eruption has caused huge volcanic ash and over 2,000 residents in East Java province were evacuated. It was last erupted in December 2021, killing at least 50 people and leaving streets filled with mud and ash.
Semeru, also known as "The Great Mountain", is the highest volcano in Java at 3,676m (12,060ft) and one of the most active.

54. **Answer: (C)**
Zymase is an enzyme complex that catalyzes the fermentation of sugar into ethanol and carbon dioxide. It occurs naturally in yeast. Zymase activity varies among yeast strains.
Glucose is converted into ethyl alcohol in the presence of the **Zymase enzyme**.

55. **Answer: (C)**
Vinegar is a commercial name of Acetic acid. Vinegar is an aqueous **Answer** of **acetic acid** and trace compounds that may include flavorings. Vinegar typically contains from 5% to 8% acetic acid by volume. Acetic acid is also known as ethanoic acid, ethylic acid, vinegar acid, and methane carboxylic acid; it has the chemical formula of CH_3COOH.

56. **Answer: (C)**
An **error** in a program is called a **bug**. It is a term used to describe any issue that arises unexpectedly and causes a computer not to function properly.
The types of errors are classified into four categories, which are as follows.
1) Syntax Error
2) Semantic Error
3) Logical Error
4) Runtime Error

57. **Answer: (B)**
Pakistani economist Mahbub-ul-Haq developed Human Development Index (HDI) for the **United Nations Development Programme (UNDP)'s** Human Development Report, which was first launched in 1990.

58. **Answer: (A)**
The **Gulf of Mannar Biosphere Reserve** is also known as the Gulf of Mannar Marine National Park. It is the largest biosphere reserve in India. It is located between India & Sri Lanka in the Indian Ocean as a shallow water body. A rare species of dugong (Sea cow) is found here.

59. **Answer: (B)**
The term "PIL" originated in the United States. After the Emergency era, the Supreme Court reached out to the people, devising a means for any person of the public (or an NGO) to approach the court seeking legal remedy in cases where the public interest is at stake.

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6

It was introduced in the early 1980s. **Justice V R Krishna Iyer** and **Justice P N Bhagwati** were the pioneers of the concept of PIL.

Justice Bhagwati has been called the Father of Public Interest Litigation in India due to his contribution to Public Interest Litigation jurisprudence.

PIL can be filed both in High Courts and Supreme Court.

60. **Answer: (A)**
The 42nd Amendment Act, 1976 of the Indian constitution added the three new words (i.e., socialist, **secular** and integrity) to the preamble of the constitution.

The other terms "Sovereign," "Democratic," and "Republic" were already part of the preamble since its original adoption in 1950.

61. **Answer: (C)**
In 1932, **B.R. Ambedkar** negotiated the **Poona Pact** with **Mahatma Gandhi**. The background to the Poona Pact was the Communal Award of August 1932 which provided a separate electorate for depressed classes. On August 16, 1932, the British Prime Minister, Ramsay MacDonald, announced the Communal Award which provided for separate electorates for the 'Depressed Classes', the Muslims, the Europeans, the Sikhs, the Anglo-Indians and the Indian-based Christians.

62. **Answer: (B)**
Read – Only Memory (ROM) is a type of non – volatile memory used in computers and other electronic devices to store permanent instructions. The data stored in ROM cannot be modified, hence it is called "read – only."

63. **Answer: (C)**
The Maritime Technical Exposition MTEX-24 is a key feature of MILAN 2024 in Visakhapatnam, showcasing India's strides in naval technology. Inaugurated by Defence Minister Rajnath Singh, MTEX-24 spans three days and emphasizes self-reliance in defence. It highlights advancements in shipbuilding, communication, cybersecurity, and sustainable energy **Answers**. Key participants include major players, defence start-ups, PSUs, and Naval organizations, fostering collaboration and knowledge exchange. MTEX-24 aims to propel India's maritime industry towards a secure and prosperous future.

64. **Answer: (A)**
The Ministry of Education conducted the "Mera Pehla Vote Desh Ke Liye" from Feb 28 to Mar 6, 2024, aiming to engage and encourage youth in the electoral process. UGC Chairman M Jagadesh Kumar issued a call to inspire and mobilize first-time voters, urging all to support the campaign. The nationwide initiative, in collaboration with the Election Commission of India, seeks to raise electoral awareness among the youth, fostering universal enlightened participation in elections.

65. **Answer: (B)**
The Prime Minister inaugurated the Kulasekarapattinam Spaceport in Tamil Nadu, the second spaceport after Satish Dhawan Space Centre. The facility will specialize in launching Small Satellite Launch Vehicles commercially. Spanning 2,350 acres, it features 35 facilities, including launch pads and rocket integration areas. The spaceport's unique advantage is launching directly south over the Indian Ocean, saving fuel for small rocket launches

compared to the existing site. The project is estimated to cost ₹986 crore, boosting India's space capabilities.

66. **Answer: (D)**
Diamond shines more than a glass piece because of its low critical angle of **24.4 degrees**. This is the reason why a diamond shines more than a glass piece of the same shape.

A cut diamond shines brilliantly due to the total internal reflection (TIR) of light.

67. **Answer: (C)**
UPSC (Union Public Service Commission) is a Constitutional Body under **Article 315-323** in Chapter II of **Part XIV** of the Constitution of India to discharge their duties, functions and obligations assigned under Article 320.

The UPSC conducts various examinations in accordance with the Rules of examination as notified by the Government of India in a just, fair and impartial manner for making a merit-based selection and recommendation of candidates for various Group A and Group B Services of the Govt. of India

68. **Answer: (A)**
Sutluj River enters India through Shipki La pass. Sutluj is the easternmost **tributary of Indus River**.

Raksak Lake in Tibet is the source of Sutlej River. The Sutlej River enters India through **Shipki La pass**. The river flows through the Himachal Pradesh and Punjab before entering Pakistan. The Bhakra Nangal dam is built along the river Sutlej. The dam provides irrigation and other facilities to the state of Punjab, Rajasthan and Haryana. With Indus water treaty, the water of Sutlej River is allocated to India.

69. **Answer: (A)**
The Gupta king, **Chandragupta II** had another name Devagupta. He was the third, and most significant of the dying Gupta kings (C. 375-C. 415). Also known by his title Vikramaditya, as well as Chandragupta Vikramaditya.

70. **Answer: (D)**
Shashi Shekhar Vempati, the former CEO of Prasar Bharati, has authored a book titled 'Collective Spirit, Concrete Actions'. The book is focused on 'Mann Ki Baat', a radio broadcast of Prime Minister Narendra Modi, and its impact on India.

The book has been released during a day-long National Conclave on Mann Ki Baat @100 held in New Delhi

71. **Answer: (B)**
Rhizobium is a genus of **nitrogen-fixing bacteria** that forms a **symbiotic relationship** with certain plants, such as legumes.

These bacteria are known as rhizobia and are able to convert atmospheric nitrogen into a form that can be used by the plant.

In return, the plant provides the bacteria with a source of energy and nutrients. This mutualistic relationship is important for the growth and development of both the plant and the bacteria.

72. **Answer: (D)**
Indian Wild Ass Sanctuary also known as the Wild Ass Wildlife Sanctuary is in the Rann of Kachchh in **Gujarat**. Spread over 4953.71 km², it is the largest wildlife sanctuary in India. The sanctuary was set up in 1973 with the purpose to protect the endangered Indian wild ass.

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7

73. **Answer: (C)**
The **budget set** or feasible set is the set of goods that the consumer can afford to purchase. A budget set or a set of opportunities incorporates all feasible utilization bundles that someone can manage provided the cost of commodities and the person's earning degree. The budget set is always bounded above the budget line. It refers to a set of attainable combinations of two goods, given the market price of the goods and the income of the consumer.

74. **Answer: (B)**
The **Leader** (24 October 1909 - 6 September 1967) was one of the most influential English-language newspapers in India during British Raj. It was founded by **Madan Mohan Malviya**. The paper was published in Allahabad. Madan Mohan Malviya was honored with Bharat Ratna.

75. **Answer: (A)**
In the literal sense, **quo-warranto** means **'by what authority or warrant'**.
It is a writ issued with a view to restraining a person from holding a public office to which he is not entitled. Quo warranto is a special form of legal action used to resolve a dispute over whether a specific person has the legal right to hold the public office that he or she occupies.
The writ requires the concerned person to explain to the Court by what authority he holds the office. If a person has usurped a public office, the Court may direct him not to carry out any activities in the office or may announce the office to be vacant.

English Language

76. **Answer: (B)**
DESTROY means to ruin or demolish. CREATE (build; invent) will be its antonym. Thus, B is the right answer.
Soar - fly; rise. Execute - carry out. Explain - describe.

77. **Answer: (C)**
HARSH means cruel or ruthless. KIND (friendly and generous) will be its antonym. Thus, C is the right answer.
Jealous - envious. Moody - irritable. Arrogant - proud.

78. **Answer: (A)**
The correct spelling of the word is DESPERATE (hopeless). Thus, A is the right answer.

79. **Answer: (C)**
The correct spelling of the given word is AGHAST (shocked; horrified). Thus, C is the right answer.

80. **Answer: (C)**
FURORE means disorder or commotion. UPROAR is its synonym. Thus, C is the right answer.
Stain - mark. Disaster - crisis. Debate - heated discussion.

81. **Answer: (B)**
FAITHFUL means unchanging in one's loyalty. LOYAL will be its synonym. Thus, B is the right answer.
Gaudy - too bright or showy. Kaput - useless or ineffective. Polite - well-mannered.

82. **Answer: (B)**
The idiom PULL THE PLUG ON means to terminate something. Thus, B is the right answer.

83. **Answer: (A)**
The idiom HIT IT OUT OF THE PARK means to succeed brilliantly. Thus, A is the right answer.

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

84. **Answer: (B)**
In B, replace the plural verb HAVE with the singular HAS as the subject BUILDING is singular. Thus, B is the right answer.

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

86. **Answer: (B)**
We need the past tense form of a verb, as the sentence talks about an event in the past, to come after the subject pronoun SHE. The sentence seeks to convey that the person travelled around the United Kingdom with a youth orchestra. TOURED (travelled around a place) will fit here. Thus, B is the right answer.
The remaining options are contextually incorrect.
SEIZED - took something by force.
ADAPTED - changed according to the environment or situation.
LEAPED - jumped high.

87. **Answer: (D)**
We need the past participle form of a verb to complete the past perfect tense structure HAD + VERB. The sentence seeks to convey that the person had made the choice to make a career in music. DECIDED (made a choice about what to do) will fit here. Thus, D is the right answer.
The remaining options are contextually incorrect.
CREATED - made something.
IGNORED - refused to give attention or acknowledge.
COMPLAINED - expressed annoyance or dissatisfaction about something or someone.

88. **Answer: (C)**
We need a verb that is similar in form to the verb AUDITIONED, as verbs joined with AND are similar in form. The sentence seeks to convey that the person gained one of the highest marks. SCORED (gained marks in a test) will fit here. Thus, C is the right answer.
The remaining options are contextually incorrect.
DISTRIBUTED - divided something among many people.
MEASURED - found the size or quantity of something.
HOSTED - organised an event.

89. **Answer: (A)**
We need the past participle form of a verb to complete the past perfect tense structure HAD + VERB. The sentence seeks to convey that the person had succeeded in getting most of the top awards. CAPTURED (succeeded in getting something that other people were also trying to get) will fit here. Thus, A is the right answer.
The remaining options are contextually incorrect.
SLICED - cut into thin pieces.
QUELLED - completely stopped something.
NUDGED - gently persuaded someone to do something.

90. **Answer: (C)**
We need the base form of a verb to follow the modal verb WILL NOT. The sentence seeks to convey that Evelyn will not agree to take any indication that she has made heroic achievements. ACCEPT (to agree to take something) will fit here. Thus, C is the right answer.

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8

The remaining options are contextually incorrect.
CONVINCE - to make someone believe that something is true.
FORGIVE - to stop blaming someone or being angry with someone.
THREATEN - to say that one will cause harm or do something unpleasant.

91. **Answer: (C)**
PASS UP (give up) will fit here as the sentence talks about how he did not regret giving up the chance to work abroad at the cost of being near to his family. Thus, C is the right answer.
Pass away - die. Pass out - faint. Pass off - misrepresent.

92. **Answer: (B)**
HANG OUT (to spend time with someone in a relaxed or casual way) will fit here contextually as the sentence tells us how the speaker used to spend his free time at the mall. Thus, B is the right answer.
Hang on - to wait. Hang up - to end a phonecall. Hand in - submit.

93. **Answer: (C)**
QPSR is the correct order of the sentences. QP is a mandatory pair. Q begins the paragraph by telling us that resources are very important for developmental activities, and P follows and presents a contrast by telling us that injudicious use or overuse of resources can cause socio-economic and environmental problems. SR is another mandatory pair. S follows P because it continues to talk about the problems mentioned in P and states that resource conservation is the way to overcome them, and R follows S and builds on the information mentioned in S by telling us that the importance of resource conservation prompted many leaders and thinkers to express their concerns about it. Thus, C is the right answer.

94. **Answer: (B)**
The sentence is in direct speech. Follow the instructions to change the sentence to indirect speech:
I. Remove the comma and inverted commas.
II. SAID TO will be replaced by TOLD. Add THAT after the reporting speech clause, "SAMRIDDHI TOLD ME."
III. The present continuous tense construction AM TRYING will change to the past continuous WAS TRYING.
IV. The first person pronoun I will change to the third person pronoun SHE.
V. The first person possessive adjective MY will change to the third person possessive adjective HER.
Thus, B is the right answer.

95. **Answer: (B)**

(B) is the correct answer. The sentence is in the passive voice. The rules to change the passive voice to active are given below:
I. The object clause will become the subject clause. Here, the subject A TEAM OF DETECTIVES will become the object and the object THE POLICE will become the subject and begin the sentence.
II. Replace HAS BEEN TAKEN with HAS TAKEN.
III. Remove the conjunction BY before THE POLICE.

96. **Answer: (A)**
RAN INTO (encountered) will fit here as the sentence talks about how the speaker met Rakesh on his way back home. Thus, A is the right answer.
Ran down - belittled. Ran out of - to suffer a lack of. Ran up - allowed a debt or bill to accumulate.

97. **Answer: (C)**
The sentence is in the indicative mood, simple past 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 "YOUR NEW RECIPE" will become the subject of the sentence and start the sentence.
II. The verb COOKED will change to WAS COOKED, as the passive construction for the simple past tense in the indicative mood is WAS/ WERE + PAST PARTICIPLE.
III. The preposition BY will be added to the sentence, and I will change to ME and become its object.
Thus, C is the right answer.

98. **Answer: (D)**
A person who can read and write is called a literate person. Thus, D is the right answer.
Epitaph - words on a tombstone. Volunteer - one who works for free. Sacrilege - violating the sanctity of a religious place.

99. **Answer: (B)**
We need the past participle form of a verb to complete the present perfect tense structure HAS + VERB. The sentence talks about the person who has climbed the top of Mount Everest twice. SCALED (climbed to the top of something) will fit here. Thus, B is the right answer.
The remaining options are contextually incorrect.
DELIVERED - took something to someone.
ENCOURAGED - motivated someone to do something.
LIFTED - raised something to a higher position.

100. **Answer: (B)**
We need a base form verb to fit in the TO + VERB infinitive construction. PREVENT (hinder) will fit here contextually as the sentence talks about how the army had been kept small in size to avert abuses of power by the king. Thus, B is the right answer.
Praise - appreciate. Permit - allow. Perish - die.

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9