RRB NTPC CBT I Memory Based Paper 19 March 2026 S1

Q.1 **All 35 students in a class are standing in a straight line facing north. Bunny is 12th from the right end, while Gaurav is 21st from the left end. How many people stand between Bunny and Gaurav?**

A. 2
B. 8
C. 9
D. 1

Answer: A

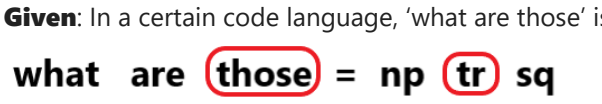
Sol: **Given**:
All 35 students in a class are standing in a straight line facing north.
Bunny is 12th from the right end, while Gaurav is 21st from the left end.
Solution:
Total students = 35
Convert positions to the same side:
Bunny is 12th from right
→ Position from left = (35 - 12 + 1 = 24)
Gaurav is 21st from left
→ Position from left = 21
Now find the number of people between them:
|24 - 21| - 1 = 3 - 1 = 2
So, **2** people stand between Bunny and Gaurav.
Thus, correct option is (a).

Q.2 **In a certain code language, 'what are those' is written as 'np tr sq' and 'take those gifts' is coded as 'hk my tr'. How is 'those' coded in that language?**

A. tr
B. my
C. hk
D. np

Answer: A

Sol: **Given**: In a certain code language, 'what are those' is written as 'np tr sq' and 'take those gifts' is coded as 'hk my tr'.



So, the code of **those** is **tr.**
Thus, correct option is (a).

Q.3 **Six boxes, L, M, N, O, P and Q, are stacked vertically. Q is placed at the topmost position. N is placed immediately below P. M is placed immediately above P. L is placed second from the bottom. Which box is placed at the bottommost position?**

A. P
B. O
C. M
D. N

Answer: B

Sol: **Given**:
Six boxes, L, M, N, O, P and Q, are stacked vertically.
Q is placed at the topmost position.
N is placed immediately below P.
M is placed immediately above P.
L is placed second from the bottom.
From the given information arrangement will be.

OrderBoxes

6	Q
5	M
4	P
3	N
2	L
1	O

So, **O** box is placed at the bottommost position.
Thus, correct option is (b).

Q.4 **The Paika Rebellion of 1817 took place in _____.**

A. Punjab
B. Madras
C. Orissa
D. Bengal

Answer: C

Sol: The correct answer is **(C) Orissa**

Explanation:
• The Paika Rebellion (Paika Bidroha) was an armed rebellion against British East India Company's rule in 1817 in Odisha (then Orissa).
• The Paikas were the traditional landed militia of Odisha. They rose in rebellion under the leadership of Bakshi Jagabandhu Bidyadhar Mohapatra.
• The causes included the British land revenue policies, the rise in salt prices, and the abolition of the local currency (cowrie).

Information Booster:
• **Historical Debate:** In recent years, there have been demands to recognize the Paika Rebellion as the 'First War of Indian Independence' instead of the 1857 Sepoy Mutiny.
• **Outcome:** Although the British suppressed the rebellion by 1818, it led to some administrative reforms and concessions in land revenue.

Additional Knowledge:
• **Punjab (Option A):** Notable for the Kuka Movement or Anglo-Sikh wars.
• **Madras (Option B):** Site of the Vellore Mutiny (1806).
• **Bengal (Option D):** Site of the Sanyasi Rebellion, Indigo Revolt, and Santhal Rebellion.

Q.5 **In a race, an athlete covers a distance of 390 m in 65 sec in the first lap. He covers the second lap of the same length in 195 sec. What is the average speed (in m/sec) of the athlete?**

A. 3
B. 9
C. 12
D. 1

Answer: A

Sol: **Given**
Distance of first lap = 390 m
Time for first lap = 65 sec
Distance of second lap = 390 m
Time for second lap = 195 sec

Formula Used
Average speed = $\frac{\text{Total Distance}}{\text{Total Time}}$

Solution

Total Distance = 390 + 390 = 780 m

Total Time = 65 + 195 = 260 sec

Average speed = $\frac{780}{260}$ = 3 m/sec

So the correct answer is (a)

Q.6 **What should come in place of the question mark (?) in the given series?**
7, 8, 12, 21, 37, '?'

A. 63
B. 56
C. 50
D. 62

Answer: D

Sol: **Given**: 7, 8, 12, 21, 37, '?'
Logic: Difference is increasing perfect square of natural number.
8 − 7 = 1
12 − 8 = 4
21 − 12 = 9
37 − 21 = 16
These are 1^2, 2^2, 3^2, 4^2.
Next difference: 5^2 = 25
Next term: 37 + 25 = 62
So, the missing term is **62**.
Thus, correct option is (d).

Q.7 **What should come in place of the question mark (?) in the given series?**
123, 133, 142, 150, 157, ?

A. 163
B. 161
C. 164
D. 165

Answer: A

Sol: **Given**: 123, 133, 142, 150, 157, ?
Logic: Numbers are increasing natural number in decreasing order from 10.
123 + 10 = 133
133 + 9 = 142
142 + 8 = 150
150 + 7 = 157
157 + 6 = 163
So, the missing term is **163**.
Thus, correct option is (a).

Q.8 **Each of A, B, C, D, E and F has an exam on a different day of a week, starting from Monday and ending on Saturday of the same week. B has his exam before C. C has his exam after D but before E. A has his exam on Monday. F has his exam after E. D does not have his exam on Tuesday. Who has his exam on Wednesday?**

A. B
B. C
C. D
D. E

Answer: C

Sol: **Given:**
Each of A, B, C, D, E and F has an exam on a different day of a week, starting from Monday and ending on Saturday of the same week.
B has his exam before C.
C has his exam after D but before E.

A has his exam on Monday.
F has his exam after E.
D does not have his exam on Tuesday.

Day	Person
Monday	A
Tuesday	B
Wednesday	**D**
Thursday	C
Friday	E
Saturday	F

So, **D** has his exam on Wednesday.
Thus, the correct option is: (c)

Q.9 **K is the sister of L. L is the daughter of M. M is the wife of N. N is the brother of O. How is K related to O?**

A. Sister's daughter
B. Daughter's daughter
C. Son's daughter
D. Brother's daughter

Answer: D

Sol: **Information Given:**
K is sister of L
L is daughter of M
M is wife of N
N is brother of O
Trace relations from L → M → N → O.
Step-by-step:
L is daughter of M and N (since M is wife of N).
K is sister of L → K is also daughter of M and N.
N is brother of O → O is sibling of K's father.
Thus K is the **brother's daughter (niece)** of O.
Final Answer:
K is the brother's daughter of O.
Final Correct Option:
(D)

Q.10 **Which of the following numbers will replace the question marks (?) in the given series?**
10, 2, 15, 3, 20, 5, 25, 7, ?, ?

A. 35, 9
B. 30, 9
C. 35, 11
D. 30, 11

Answer: D

Sol: **Given**: 10, 2, 15, 3, 20, 5, 25, 7, ?, ?
Logic: Odd position + 5 and even position increasing prime numbers.
1st pattern (odd positions):
10, 15, 20, 25, ?
The numbers increase by +5.
Next number = 30

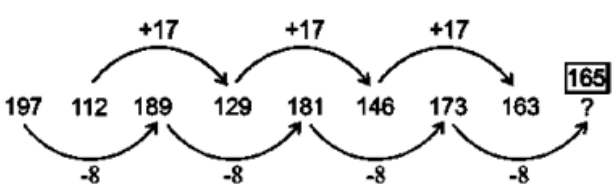
2nd pattern (even positions):
2, 3, 5, 7, ?
These are prime numbers.
Next prime number = 11
So, the missing numbers are **30, 11**.
Thus, correct option is (d).

Q.11 **What should come in place of the question mark (?) in the given series?**
197 112 189 129 181 146 173 163 ?

A. 153
B. 156
C. 144
D. 165

Answer: D

Sol: The logic followed here is:



Thus, the missing term in the series is 165.

Hence, the correct answer is **"Option D".**

Q.12 **The two distinct forms of Indian Classical Music, Hindustani and Carnatic, came into existence:**

A. after the advent of the French
B. after the advent of the British
C. after the advent of the Portuguese
D. after the advent of Muslims

Answer: D

Sol: The correct answer is **(D) after the advent of Muslims**

Explanation:
• Originally, Indian classical music was a unified system. However, following the **Islamic invasions** and the establishment of the Delhi Sultanate and later the Mughal Empire, the music of North India began to incorporate Persian and Arabic influences.
• This led to the divergence of the North Indian style (**Hindustani**) and the relatively unaffected South Indian style (**Carnatic**) around the 13th-14th centuries.
• Legendary figures like Amir Khusrau played a key role in introducing Persian elements into Hindustani music.

Information Booster:
• **Hindustani Music:** Focuses more on 'Gharanas' and instrumental improvisations.
• **Carnatic Music:** More vocal-oriented and follows a strictly structured system of 'Melakarta' ragas.
• **Common Grounds:** Both systems share the fundamental concepts of 'Raga' (melody) and 'Tala' (rhythm).

Additional Knowledge:
• **European Advent (Options A, B, C):** The French, British, and Portuguese arrived much later (15th century onwards). While they influenced light music and introduced instruments like the violin (to Carnatic) and harmonium, the fundamental split into two classical systems had already occurred centuries prior.

Q.13 **In a certain code language, 'TUNE' is coded as '5279' and 'WAIT' is coded as '1428'. What is the code for 'T' in the given code language?**

A. 1
B. 2
C. 8
D. 5

Answer: B

Sol: **Given**: In a certain code language, 'TUNE' is coded as '5279' and 'WAIT' is coded as '1428'.

T U N E = 5 2 7 9

W A I T = 1 4 2 8

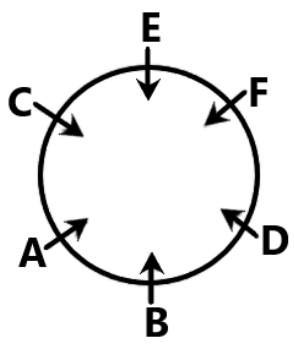
So, the code of **T** is **2**.
Thus, correct option is (b).

Q.14 **A, B, C, D, E and F are sitting around a circular table, facing the centre. B sits second to the left of F. C is an immediate neighbour of A. B sits to the immediate right of A. D sits second to the left of E. What is the position of E with respect to A?**

A. Immediate right
B. Third to the left
C. Second to the right
D. Second to the left

Answer: D

Sol: **Given**:
A, B, C, D, E and F are sitting around a circular table, facing the centre.
B sits second to the left of F.
C is an immediate neighbour of A.
B sits to the immediate right of A.
D sits second to the left of E.
From the given information seating arrangement will be.



So, **Second to the left** is the position of E with respect to A.
Thus, correct option is (d).

Q.15 **Warner starts from Point A and drives 78 km towards the west. He then takes a right turn, drives 79 km, turns right and drives 80 km. He then takes a right turn and drives 90 km. He takes a final right turn, drives 2 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90-degree turns only unless specified.)**

A. 11 km to the north
B. 10 km to the north
C. 13 km to the south
D. 12 km to the south

Answer: A

Sol: **Given**:

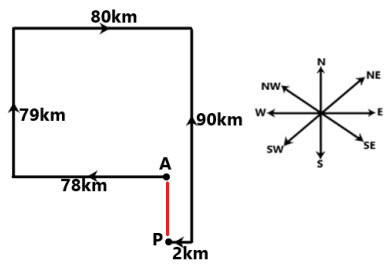
Warner starts from Point A and drives 78 km towards the west.

He then takes a right turn, drives 79 km, turns right and drives 80 km.

He then takes a right turn and drives 90 km.

He takes a final right turn, drives 2 km and stops at Point P.

From the given statements path diagram will be.



90 - 79 = 11 km

So, he far **11 km** and towards **north** direction should he drive in order to reach Point A again.

Thus, correct option is (a).

Q.16 **In a certain code language,**

A + B means 'A is the mother of B',

A - B means 'A is the brother of B',

A x B means 'A is the wife of B',

A % B means 'A is the father of B' and

A # B means 'A is the daughter of B'.

How is E related to T if 'T - L # Q # P x E'?

A. Wife's brother

B. Mother's father

C. Daughter's husband

D. Daughter's son

Answer: B

Sol: **Given**: In a certain code language,

A + B means 'A is the mother of B',

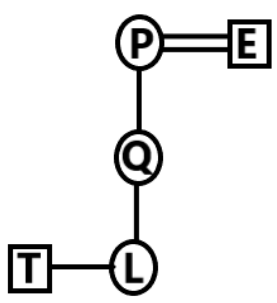
If 'T - L # Q # P x E'?

Symbols + - x % #

RelationMotherBrotherWifeFatherDaughter

Symbol in Diagram	Meaning
- / O	Female
+ / □	Male
=	Married Couple
—	Siblings
|	Difference Of Generation

From the given information blood relation diagram will be.



So, E is the **Mother's father** of T.

Thus, correct option is (b).

Q.17 **Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.**

Statements:

1. Some seats are plates.

2. All plates are chairs.

Conclusion:

I. Some seats are chairs.

II. All chairs are plates.

A. Only conclusion (II) follows.
B. Only conclusion (I) follows.
C. Both conclusions (I) and (II) follow.
D. Neither conclusion (I) nor (II) follows.

Answer: B

Sol: **Statements**:
1. Some seats are plates.
2. All plates are chairs.

From the given statements possible Venn diagram will be.

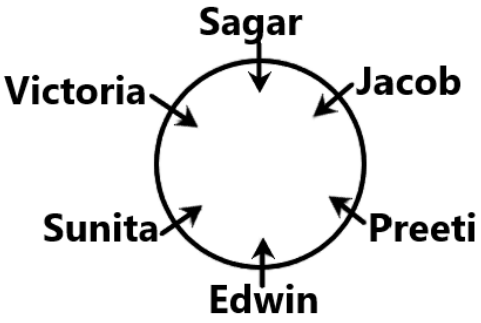
Conclusion:
I. Some seats are chairs. (**True**, some seats are plates and all plates are chairs, so that means some seats are chairs).
II. All chairs are plates. (False, all plates are chairs).
So, **Only conclusion (I) follows.**
Thus, correct option is (b).

Q.18 **Six friends - Edwin, Preeti, Sunita, Jacob, Victoria, and Sagar - are sitting around a circular table facing the centre. Edwin is an immediate neighbour of both Preeti and Sunita. Jacob is sitting third to the left of Sunita. Victoria is sitting second to the right of Jacob. Who is sitting second to the left of Edwin?**

A. Sagar
B. Victoria
C. Preeti
D. Sunita

Answer: B

Sol: **Given**:
Six friends - Edwin, Preeti, Sunita, Jacob, Victoria, and Sagar - are sitting around a circular table facing the centre.
Edwin is an immediate neighbour of both Preeti and Sunita.
Jacob is sitting third to the left of Sunita.
Victoria is sitting second to the right of Jacob.
From the given information seating arrangement will be.



So, **Victoria** is sitting second to the left of Edwin.
Thus, correct option is (b).

Q.19 **This question is based on the five, three-digit numbers given below.**
(Left) 745 768 729 716 721 (Right)
(Example: 697 - First digit = 6, second digit = 9 and third digit = 7)
Note: All operations to be done from left to right.
What will be the resultant if the second digit of the second highest number is added to the third digit of the lowest number?

A. 14
B. 10
C. 13
D. 12

Answer: B

Sol: **Given**: (Left) 745 768 729 716 721 (Right)
Arrange to find highest and lowest:

716, 721, 729, 745, 768
Second highest = 745
Lowest = 716
Second digit of 745 = 4
Third digit of 716 = 6
Add them: 4 + 6 = **10**
So, **10** will be the resultant if the second digit of the second highest number is added to the third digit of the lowest number.
Thus, correct option is (b).

Q.20 **Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?**
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

A. TX-YF
B. KO-QU
C. NR-TX
D. GK-MQ

Answer: A

Sol:

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

Logic: Letters are increasing + 6 place.
Now, we check each options.
Option (a): TX-YF
T + 6 $\neq$ Y, X + 6 $\neq$ F
Option (b): KO-QU
K + 6 = Q, O + 6 = U
Option (c): NR-TX
N + 6 = T, R + 6 = X
Option (d): GK-MQ
G + 6 = M, K + 6 = Q
Thus, correct option is (a).

Q.21 **Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group?**
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

A. GMOS
B. UACG
C. AGIM
D. BHIM

Answer: D

Sol:

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

Logic: 1st letter + 6 = 2nd letter, 2nd letter + 2 = 3rd letter and 3rd letter + 4 = 4th letter
Now, we check each options.
Option (a): GMOS
G + 6 = M, M + 2 = O, O + 4 = S
Option (b): UACG
U + 6 = A, A + 2 = C, C + 4 = G
Option (c): AGIM
A + 6 = G, G +2 = I, I + 4 = M
Option (d): BHIM
B + 6 = H, H + 2 $\neq$ I, I + 4 = M
Thus, correct option is (d).

Q.22 **Refer to the given series and answer the question that follows. (All numbers are single digit numbers only.) Counting to be done from left to right.**
(Left) 5 7 4 5 2 5 7 9 8 7 4 2 3 4 3 6 9 3 6 2 3 7 1 8 4 1 5 (Right)
How many such even digits are there, each of which is immediately preceded by an even digit and also immediately followed by an odd digit?

A. 3
B. 4
C. 2
D. 5

Answer: A

Sol: **Given**: (Left) 5 7 4 5 2 5 7 9 8 7 4 2 3 4 3 6 9 3 6 2 3 7 1 8 4 1 5 (Right)
Logic: Even digit | Even digits | Odd digit
(Left) 5 7 4 5 2 5 7 9 8 7 4 2 3 4 3 6 9 3 6 2 3 7 1 8 4 1 5 (Right)

So, **3** such even digits are there, each of which is immediately preceded by an even digit and also immediately followed by an odd digit.
Thus, correct option is (a).

Q.23 **If $\cos A = \frac{4}{5}$, find the value of 4+4 $\tan^2 A$**

A. 25/16
B. 25/4
C. 4/25
D. 16/25

Answer: B

Sol: **Given:**
$\cos A = \frac{4}{5}$
Formula Used:
$1 + \tan^2 A = \sec^2 A$
$\sec A = \frac{1}{\cos A}$
Solution:
We need to find the value of $4 + 4\tan^2 A$
Taking 4 common, we get:
= $4(1 + \tan^2 A)$
Using the identity $1 + \tan^2 A = \sec^2 A$, substitute it into the expression:
= $4\sec^2 A$
We know that $\sec A = \frac{1}{\cos A}$. Thus:
= $\sec A = \frac{5}{4}$
Now, substitute \sec A into the expression:
= $4 \times (\frac{5}{4})^2$
= $4 \times \frac{25}{16}$
= $\frac{25}{4}$
Final Answer
So the correct answer is (b)

Q.24 **For a journey of 600 km, a truck covers the first 300 km at a speed of 42 km/hr. What speed (in km/hr) must it maintain for the remaining distance to achieve an average speed of 60 km/hr?**

A. 120
B. 85
C. 80
D. 105

Answer: D

Sol: **Given:**

Total distance = 600 km

Distance of the first part = 300 km

Speed for the first part = 42 km/hr

Overall average speed = 60 km/hr

Formula Used:

Time = $\frac{Distance}{Speed}$

Average Speed = $\frac{TotalDistance}{TotalTime}$

Solution:

Total time taken for the entire journey:

Total Time = $\frac{600}{60} = 10 \text{ hours}$

Time taken for the first 300 km:

Time1 = $\frac{300}{42} = \frac{50}{7} \text{ hours}$

Time left for the remaining 300 km:

Time2 = $10 - \frac{50}{7} = \frac{70-50}{7} = \frac{20}{7} \text{ hours}$

Required speed for the remaining distance:

Speed2 = $\frac{300}{\frac{20}{7}}$

Speed2 = $\frac{300 \times 7}{20}$

Speed2 = 15× 7

Speed2 = 105 km/hr

Final Answer

So the correct answer is (d)

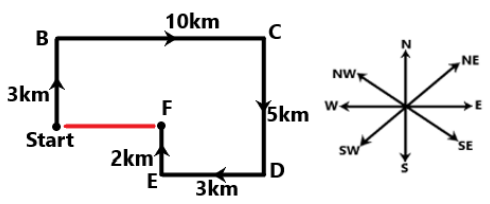
Q.25 **A man goes north for 3 km and reaches point B. Then he turns right, goes 10 km to reach point C. Next, he takes a right turn, goes 5 km to reach point D. Then he goes west for 3 km to reach point E. Finally, he turns right and goes 2 km to reach point F. In which direction is the man now with respect to the starting point? (Note: All turns are 90° turns only unless specified.)**

A. Southwest
B. West
C. East
D. Southeast

Answer: C

Sol: **Given**:

A man goes north for 3 km and reaches point B.
Then he turns right, goes 10 km to reach point C.
Next, he takes a right turn, goes 5 km to reach point D.
Then he goes west for 3 km to reach point E.
Finally, he turns right and goes 2 km to reach point F.
From the given statements path diagram will be.



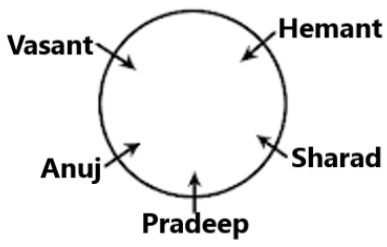
In **east** direction is the man now with respect to the starting point.
Thus, correct option is (c).

Q.26 **Sharad, Hemant, Anuj, Pradeep, and Vasant are discussing their assignment while sitting at a circular table facing the centre. Pradeep is sitting to the immediate right of Anuj and Vasant is sitting to the immediate right of Hemant. Sharad is second to the right of Anuj and immediately left of Hemant. Which of the following statement is correct?**

A. Vasant is the immediate neighbour of Sharad and Anuj.
B. Pradeep is the immediate neighbour of Hemant and Vasant.
C. Anuj is the immediate neighbour of Hemant and Pradeep.
D. Hemant is the immediate neighbour of Sharad and Vasant.

Answer: D

Sol: **Given**:
Sharad, Hemant, Anuj, Pradeep, and Vasant are discussing their assignment while sitting at a circular table facing the centre.
Pradeep is sitting to the immediate right of Anuj and Vasant is sitting to the immediate right of Hemant.
Sharad is second to the right of Anuj and immediately left of Hemant.
From the given information seating arrangement will be.



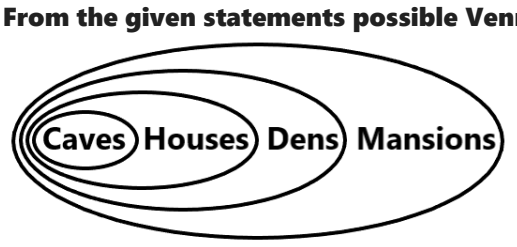
So, **Hemant is the immediate neighbour of Sharad and Vasant** is the following statement is correct.
Thus, correct option is (d).

Q.27 **Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.**
Statements:
1. All caves are houses.
2. All houses are dens.
3. All dens are mansions.
Conclusions:
I. All caves are mansions.
II. Some mansions are houses.

A. Only conclusion (II) follows
B. Neither conclusion (I) nor (II) follows
C. Only conclusion (I) follows
D. Both conclusions (I) and (II) follow

Answer: D

Sol: **Statements**:
1. All caves are houses.
2. All houses are dens.
3. All dens are mansions.
From the given statements possible Venn diagram will be.



Conclusions:
I. All caves are mansions. (**True**, all caves are houses, all houses are dens and all dens are mansion, so that means all caves are mansions).
II. Some mansions are houses. (**True**, all houses are dens and all dens are houses, so that means some mansions are houses).
So, **Both conclusions (I) and (II) follow.**
Thus, correct option is (d).

Q.28 **Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.**
UM-SK-PR
RJ-PH-MO

A. MF-LD-IJ
B. NF-LD-IJ
C. MF-LE-IJ
D. NF-LD-IK

Answer: D

Sol: **Given**:
UM-SK-PR
RJ-PH-MO

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

Logic: 1st letter - 2 = 3rd letter and 3rd letter - 3 = 5th letter
2nd letter - 2 = 4th letter and 4th letter + 7 = 6th letter
For, UM-SK-PR
U - 2 = S, S - 3 = P
M - 2 = K, K + 7 = R
For, RJ-PH-MO
R - 2 = P, P - 3 = M
J - 2 = H, H + 7 = O
Now, we check each options.
Option (a): MF-LD-IJ
M - 2 $\neq$ L, L - 3 = I
Option (b): NF-LD-IJ
N - 2 = L, L - 3 = I
F - 2 = D, D + 7 $\neq$ J
Option (c): MF-LE-IJ
M - 2 $\neq$ L, L - 3 = I
Option (d): NF-LD-IK
N - 2 = L, L 3 - I
F - 2 = D, D + 7 = K
Thus, correct option is (d).

Q.29 **In a certain code language,**
'A + B' means 'A is the mother of B',
'A - B' means 'A is the brother of B',
'A × B' means 'A is the wife of B',
'A % B' means 'A is the father of B' and
'A # B' means 'A is the daughter of B'.
How is E related to P if 'E % C # Q # L + P'?

A. Wife's sister
B. Mother's mother
C. Sister's husband
D. Wife's mother

Answer: C

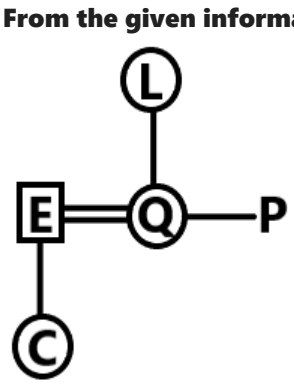
Sol: **Given**: In a certain code language,
'A + B' means 'A is the mother of B',
If 'E % C # Q # L + P'?

Symbols + - × % #

RelationMotherBrotherWifeFatherDaughter

Symbol in Diagram	Meaning
- / O	Female
+/ □	Male
=	Married Couple
—	Siblings
|	Difference Of Generation

From the given information blood relation diagram will be.



So, E is the **Sister's husband** of P.
Thus, correct option is (c).

Q.30 **OPNO is related to STRS in a certain way based on the English alphabetical order. In the same way, DECD is related to HIGH. To which of the given optuons is JKIJ related, following the same logic?**

A. NPLS
B. NOMN
C. NOLN
D. NNLN

Answer: B

Sol: **Given**: OPNO is related to STRS and DECD is related to HIGH with same logic.

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

Logic: Letters are increasing + 4 place.
For, OPNO - STRS
O + 4 = S, P + 4 = T, N + 4 = R, O + 4 = S
For, DECD - HIGH
D + 4 = H, E + 4 = I, C + 4 = G, D + 4 = H
Similarly,
JKIJ - ?
J + 4 = N, K + 4 = O, I + 4 = M, J + 4 = N
So, JKIJ is related to **NOMN**.
Thus, correct option is (b).

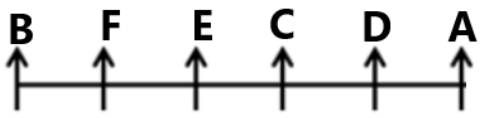
Q.31 **Six people, A, B, C, D, E and F, are sitting in a row, facing north. Only two people sit to the left of E. Only one person sits between A and C. F sits to the immediate left of E. A sits to the immediate right of D. C sits third to the right of B. Who sits at the extreme left end of the row?**

A. B
B. E
C. D
D. C

Answer: A

Sol: **Given**:
Six people, A, B, C, D, E and F, are sitting in a row, facing north.

Only two people sit to the left of E.
Only one person sits between A and C.
F sits to the immediate left of E.
A sits to the immediate right of D.
C sits third to the right of B.
From the given information seating arrangement will be.



So, **B** sits at the extreme left end of the row.
Thus, correct option is (a).

Q.32 **Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.**
BH - FM - JR
JP - NU - RZ

A. HN - LS - PX
B. BF - EI - HL
C. RM - TQ - PR
D. PL - RN - TP

Answer: A

Sol: **Given**:
BH - FM - JR
JP - NU - RZ

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

Logic: 1st letter + 4 and 2nd letter + 5 place.
For, BH - FM - JR
B + 4 = F, F + 4 = J
H + 5 = M, M + 5 = R
For, JP - NU - RZ
J + 4 = N, N + 4 = R
P + 5 = U, U + 5 = Z
Now, we check each options.
Option (a): HN - LS - PX
H + 4 = L, L + 4 = P
N + 5 = S, S + 5 = X
Option (b): BF - EI - HL
B + 4 $\neq$ E, E + 4 $\neq$ H
Option (c): RM - TQ - PR
R + 4 $\neq$ T, T + 4 $\neq$ P
Option (d): PL - RN - TP
P + 4 $\neq$ R, R + 4 $\neq$ T
Thus, correct option is (a).

Q.33 **Seven boxes, A, B, C, D, E, F and G, are kept one over the other, but not necessarily in the same order. Only three boxes are kept below D. Only two boxes are kept between D and E. Only C is kept immediately above A. F is kept at some place below B and at some place above G. How many boxes are kept below G?**

A. 4
B. 1
C. 2
D. 3

Answer: B

Sol: **Given**:
Seven boxes, A, B, C, D, E, F and G, are kept one over the other, but not necessarily in the same order.
Only three boxes are kept below D.

Only two boxes are kept between D and E.
Only C is kept immediately above A.
F is kept at some place below B and at some place above G.
From the given information arrangement will be.

OrderBoxes

7	C
6	A
5	B
4	D
3	F
2	G
1	E

So, **1** boxes are kept below G.
Thus, correct option is (b).

Q.34 **In a certain code language, 'book news leaf' is coded as 'rk qh aa' and 'leaf gum boat' is coded as 'vf rk xl'. How is 'leaf' coded in that language?**

A. aa
B. vf
C. rk
D. qh

Answer: C

Sol: **Given**: In a certain code language, 'book news leaf' is coded as 'rk qh aa' and 'leaf gum boat' is coded as 'vf rk xl'.

book news leaf = rk qh aa

leaf gum boat = vf rk xl

So, the code of '**leaf**' is **rk**.
Thus, correct option is (c).

Q.35 **This question is based on the following words.**
COP, TIK, ANY, CAN, OWN
If in each of the words, each letter is changed to the next letter in the English alphabetical order, how many words thus formed will have no vowel?

A. Four
B. Three
C. Two
D. One

Answer: D

Sol: **Given**: COP, TIK, ANY, CAN, OWN
First change each letter to the next letter in the English alphabet.

WordAfter Change

COP	DPQ
TIK	UJL
ANY	BOZ
CAN	DBO
OWN	PXO

Check vowels (A, E, I, O, U)
DPQ → no vowel
UJL → contains U
BOZ → contains O
DBO → contains O
PXO → contains O
So, only **one** word (DPQ) has no vowel.
Thus, correct option is (d).

Q.36 **The state producing maximum iron ore in India is:**

A. Goa
B. Karnataka
C. Gujarat
D. Chhattisgarh

Answer: B

Sol: **Correct Answer: (B)**
Explanation:
→ Karnataka is one of the leading producers of iron ore in India.
→ **Major iron ore mines are located in Ballari, Chitradurga, and Kudremukh regions.**
→ **High-quality hematite and magnetite ores are extracted in large quantities.**
→ Iron ore is essential for the steel industry.
→ Hence, Karnataka ranks at the top among the given options.
Information Booster:
→ Iron ore is the basic raw material for steel manufacturing.
→ Other major iron ore producing states include Odisha and Chhattisgarh.
→ India is among the top iron ore producers globally.
→ The Ballari–Hospet belt is one of the most important mining regions.
→ Export of iron ore contributes significantly to foreign exchange earnings.
Additional Information (Other Options):
Option (A): Goa produces iron ore but not the maximum in India.

Q.37 **Poonam sold a book to Mohini at a loss of 5% and Mohini sold it to Rupashi at a profit of 8%. If Rupashi bought the book for ₹1,539, then what was the cost price (in ₹) of the book for Poonam?**

A. 1,500
B. 1,600
C. 1,550
D. 1,650

Answer: A

Sol: **Given:**
Poonam's loss percentage = 5%
Mohini's profit percentage = 8%
Rupashi's cost price = ₹1,539
Formula Used:
Selling Price = Cost Price $\times(1 \pm \frac{\text{Profit/Loss }\%}{100})$
Solution:
Let the cost price for Poonam be CP.
Poonam sold it at a loss of 5%, so Mohini's cost price = $CP \times (1 - \frac{5}{100}) = CP \times 0.95$

Mohini sold it at a profit of 8%, so Rupashi's cost price = $(CP \times 0.95) \times (1 + \frac{8}{100})$

$= CP \times 0.95 \times 1.08$

We are given that Rupashi bought it for 1539.

$CP \times 0.95 \times 1.08 = 1539$

$CP \times 1.026 = 1539$

$CP = \frac{1539}{1.026}$

$CP = 1500$

The cost price for Poonam is ₹1,500.

Final Answer

So the correct answer is (a)

Q.38 **Mixed economy implies:**

A. Only state control
B. Only private control
C. Public and private coexistence
D. Foreign dominance

Answer: C

Sol: The correct answer is **(C) Public and private coexistence**

Explanation:

• A **Mixed Economy** is an economic system that combines elements of both market economies (capitalism) and planned economies (socialism).
• In such a system, both the **Public Sector** (government-owned enterprises) and the **Private Sector** (individual-owned businesses) coexist and operate simultaneously.
• The government typically regulates the private sector and manages essential services like defense, infrastructure, and welfare, while the private sector operates in most other commercial areas based on supply and demand.
• India adopted the mixed economy model after independence, influenced by the vision of leaders like Jawaharlal Nehru.

Information Booster:

• **Industrial Policy Resolution (IPR) 1956:** This was the 'Economic Constitution' of India that formally laid down the framework for a mixed economy, reserving certain industries for the state.
• **LPG Reforms 1991:** Shifted the balance more toward the private sector, but India remains a mixed economy with significant public sector presence.
• **Global Examples:** Most modern economies (like the UK, France, and Canada) are mixed economies to varying degrees.

Additional Knowledge:

• **Only state control (Option A):** Refers to a Command Economy or Socialist/Communist model (e.g., former USSR).
• **Only private control (Option B):** Refers to a Laissez-faire or pure Capitalist economy.
• **Foreign dominance (Option D):** This describes a colonial or dependent economy, not a structural economic type.

Q.39 **The mean of a set of 5 numbers is 20. If a number 'p' is added, the mean becomes 22. If another number 'q' replaces 'p', the mean of the original 5 plus 'q' becomes 24. Find p + q.**

A. 60
B. 64
C. 76
D. 78

Answer: C

Sol: **Given:**

Mean of 5 = 20. p added, Mean = 22. q replaces p, Mean = 24.

Formula Used:

Sum = Mean × N

Solution:

Sum(5) = 100.

Sum(5+p) = 22 × 6 = 132 ➔ p = 32.

Sum(5+q) = $24 \times 6 = 144 \implies q = 44.$

p + q = 32 + 44 = 76.

Final Answer

So the correct answer is (c)

Q.40 **The 2nd India–Arab Foreign Ministers' Meeting (IAFMM) 2026 was hosted by India in which city?**

A. Mumbai
B. New Delhi
C. Hyderabad
D. Bengaluru

Answer: B

Sol: **Correct Answer:** (b) New Delhi

Explanation:

- The 2nd India–Arab Foreign Ministers' Meeting (IAFMM) was hosted by the Government of India in New Delhi on 31 January 2026.
- It renewed high-level engagement between India and the Arab League after nearly a decade.

Information Booster:

- Co-chaired by:
  - Dr. S. Jaishankar (India's External Affairs Minister)
  - Khalifa Shaheen Al Marar (UAE Minister of State)
- Participation:
  - Delegates from all 22 Arab League member states
  - Ahmed Aboul Gheit (Secretary-General, League of Arab States)
- Key outcome:
  - Adoption of the **New Delhi Declaration**
- Significance:
  - First IAFMM held in India
  - First meeting since 2016 (in Bahrain)
  - Focus on regional & global cooperation
- UAE facts:
  - President: Sheikh Mohamed bin Zayed Al Nahyan
  - Capital: Abu Dhabi
  - Currency: UAE Dirham (AED)

Q.41 **In the event of a clash between a Central law and a State law on a subject in the Concurrent List, the State law will prevail only when:**

A. It is approved by a special majority of the State Legislature
B. It has obtained the assent of the President of India
C. It is upheld by the Supreme Court
D. It is passed unanimously by Parliament

Answer: B

Sol: The correct answer is **(B) It has obtained the assent of the President of India**

Explanation:

• Under Article 254(2) of the Indian Constitution, if a State law on a Concurrent List subject is inconsistent with an existing Central law, the State law can prevail in that State if it was reserved for the President's consideration and received his/her assent.
• However, Parliament can still override such a law by passing a new law on the same matter.

Information Booster:

• The Concurrent List (List III) contains 52 items (originally 47) over which both the Centre and States have jurisdiction.

Additional Knowledge:

• In normal circumstances (Article 254-1), the Central law prevails over the State law in case of a conflict.

Q.42 **A train goes from station X to station Y at an average speed of 80 kmphr. At what average speed should it return so that the average speed of whole journey (from X to Y to X) is 90 kmphr?**

A. 98.24 kmphr
B. 100 kmphr
C. 102.86 kmphr
D. 104.34 kmphr

Answer: C

Sol: **Given:**

Speed $S_1 = 80 \text{ km/hr}$

Average Speed $S_{avg} = 90 \text{ km/hr}$

Formula Used:

$$\text{Average Speed} = \frac{2S_1S_2}{S_1 + S_2}$$

Solution:

Let the return speed be S_2.

$$90 = \frac{2 \times 80 \times S_2}{80 + S_2}$$

$$90(80 + S_2) = 160S_2$$

$$7200 + 90S_2 = 160S_2$$

$$7200 = 160S_2 - 90S_2$$

$$7200 = 70S_2$$

$$S_2 = \frac{7200}{70} = \frac{720}{7}$$

$$S_2 \approx 102.86 \text{ km/hr}$$

Final Answer

102.86 kmphr

Q.43 A can do a work in 12 days and B can do the same work in 25 days. If they work on it together for 6 days, then what fraction of the work is left?

A. 9/50
B. 17/50
C. 13/50
D. 21/50

Answer: C

Sol: **Given**

Time taken by A = 12 days
Time taken by B = 25 days
Time worked together = 6 days

Formula Used

Work Done = Rate $\times$Time

Solution

A's 1 day work = $\frac{1}{12}$
B's 1 day work = $\frac{1}{25}$
Combined work in 1 day:
A + B = $\frac{1}{12} + \frac{1}{25} = \frac{25 + 12}{300} = \frac{37}{300}$

Work done in 6 days = $6 \times \frac{37}{300} = \frac{37}{50}$

Remaining = $1 - \frac{37}{50} = \frac{50 - 37}{50} = \frac{13}{50}$

Final Answer

So the correct answer is (c)

Q.44 **An article is sold at a profit of 57%. If the cost price is increased by ₹20 and the selling price is reduced by ₹18, then the profit would be 47.5%. What is the original cost price (in ₹) of the article?**

A. 200
B. 500
C. 300
D. 400

Answer: B

Sol: **Given**

Original Profit % = 57%
New CP = Original CP + 20
New SP = Original SP - 18
New Profit % = 47.5%

Formula Used

$SP = CP \times (1 + \frac{P\%}{100})$

Solution

Let Original CP be 100x.
Original SP = 157x.
New CP = 100x + 20
New SP = 157x - 18
According to the new profit percentage:

$157x - 18 = (100x + 20) \times (1 + \frac{47.5}{100})$

$157x - 18 = (100x + 20) \times 1.475$

157x - 18 = 147.5x + 29.5
157x - 147.5x = 29.5 + 18
9.5x = 47.5
x = $\frac{47.5}{9.5} = 5$
Original CP = 100x = 100 $\times$ 5 = 500

Final Answer

So the correct answer is (b)

Q.45 **Five solid cubes, each of volume 512000 cm³, are joined end to end to form a cuboid. What is the lateral surface area (in cm²) of the cuboid?**

A. 76949
B. 76903
C. 76800
D. 76820

Answer: C

Sol: **Given**

Volume of each cube = 512000 cm^3

Number of cubes = 5

Formula Used

Volume of cube = a^3

Lateral Surface Area of cuboid = 2h(l + b)

Solution

$a^3 = 512000$

$a = \sqrt[3]{512000} = 80 \text{ cm}$

When 5 cubes are joined end to end:

Length (l) = $5 \times 80 = 400 \text{ cm}$

Breadth (b) = 80 cm

Height (h) = 80 cm

LSA = $2 \times 80 \times (400 + 80)$= $160 \times 480 = 76800 \text{ cm}^2$

Final Answer

So the correct answer is (c)

Q.46 **The population of a district is 374000, out of which 170000 are males. 78% of the population is literate. If 72% males are literate, then what percentage of females are literate?**

A. 85%

B. 83%

C. 81%

D. 80%

Answer: B

Sol: **Given**

Total Population = 374000

Total Males = 170000

Total Literate Rate = 78%

Male Literate Rate = 72%

Solution

Total Females = Total Population - Males = 374000 - 170000 = 204000

Total Literate People = 78% of 374000 $= \frac{78}{100} \times 374000 = 291720$

Literate Males = 72% of 170000 $= \frac{72}{100} \times 170000 = 122400$

Literate Females = Total Literate - Literate Males= 291720 - 122400 = 169320

Percentage of literate females $= \frac{169320}{204000} \times 100 = \frac{16932}{204} = 83\%$

Final Answer

So the correct answer is (b)

Q.47 **Two banks A and B offered loans at 3.5% and 6% per annum, respectively. Gopal borrowed an amount of ₹36,000 from each bank. Find the positive difference between the amounts of simple interest paid to the two banks by Gopal after 4 years (in ₹).**

A. 3600

B. 3550

C. 3750

D. 3700

Answer: A

Sol: **Given:**

$P = 36000$

$R_1 = 3.5\%, \quad R_2 = 6\%$

$T = 4\text{years}$

Formula Used:

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

Solution:

$SI_1 = \frac{36000 \times 3.5 \times 4}{100} = 5040$

$SI_2 = \frac{36000 \times 6 \times 4}{100} = 8640$

$\text{Difference} = 8640 - 5040 = 3600$

Final Answer:
3600

Q.48 **Match the following tribal uprisings with their respective years and choose the correct option.**

Tribal Uprising	Correct Year
A. Kol Rebellion	I. 1910
B. Santhal Rebellion	II. 1940
C. Bastar Rebellion	III. 1855
D. Warli Revolt	IV. 1831–32

A. A–IV, B–III, C–I, D–II
B. A–II, B–III, C–IV, D–I
C. A–IV, B–II, C–III, D–I
D. A–II, B–IV, C–I, D–III

Answer: A

Sol:

Correct Answer: (A) A–IV, B–III, C–I, D–II

Explanation:

→ The **Kol Rebellion took place during 1831–32 against British administrators and landlords.**
→ **The Santhal Rebellion occurred in 1855** as a major tribal uprising **against exploitation.**
→ **The Bastar Rebellion of 1910** was a response **to British forest policies and administrative control.**
→ **The Warli Revolt took place around 1940** as an **agrarian and tribal movement** in western India.
→ Therefore, option (A) correctly matches all uprisings with their respective years.

Information Booster:

→ Tribal revolts were primarily reactions to land alienation, forest laws, and revenue exploitation.
→ These movements reflected resistance against both colonial authority and local intermediaries.
→ The Santhal Rebellion was one of the most organised tribal uprisings of the nineteenth century.
→ The Bastar Rebellion highlighted tribal opposition to restrictions on traditional forest rights.
→ Such movements played an important role in shaping anti-colonial resistance at the grassroots level.

Q.49 **Find the simple interest (in ₹) on ₹4,000 at 7.5% per annum rate of interest deposited on 5 February 2024 and withdrawn on 6 April 2024.**

A. 49
B. 51
C. 50
D. 48

Answer: C

Sol: **Given**

Principal (P) = ₹4,000
Rate (R) = 7.5% p.a.
Dates: 5 Feb 2024 to 6 April 2024

Formula Used

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

Solution

Time calculation:
2024 is a leap year (February has 29 days).
Days in Feb = 29 - 5 = 24 days
Days in March = 31 days
Days in April = 6 days
Total Time (Days) = 24 + 31 + 6 = 61 days

Time in Years = $\frac{61}{366} = \frac{1}{6} year$

$$SI = \frac{4000 \times 7.5 \times 1}{100 \times 6}$$

$$SI = \frac{30000}{600}$$

$$SI = 50$$

Final Answer
So the correct answer is (c)

Q.50 **Which of the following devices performs optical character recognition (OCR)?**

A. Flatbed Scanner
B. Barcode Reader
C. OCR Scanner
D. OMR Scanner

Answer: C

Sol: The correct answer is (c) OCR Scanner

Explanation

• OCR scanners convert printed or handwritten text into digital text.
• They are widely used in document digitisation.
• OCR enables text editing and searching in scanned documents.

Information Booster

• OCR is commonly used in banks, libraries, and offices.
• Accuracy depends on font clarity and image quality.

Additional Knowledge:

• OMR reads marked responses, not characters.
• Barcode readers read encoded data, not text.

Q.51 **International Migrants Day, observed every year on 18 December, commemorates the adoption of which United Nations instrument?**

A. Universal Declaration of Human Rights, 1948
B. International Covenant on Civil and Political Rights, 1966
C. International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, 1990
D. Global Compact on Refugees, 2018

Answer: C

Sol: The correct answer is (c) International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, 1990.

• International Migrants Day marks the adoption of this UN Convention in 1990.
• The day was officially proclaimed by the UN General Assembly in 2000.
• The convention focuses on protecting the human rights of migrant workers and their families.

Information Booster:

• International Migrants Day is observed annually on 18 December.
• There are over 280 million international migrants worldwide, as per UN data.
• Migrants contribute significantly to global economic growth and cultural diversity.
• The UN plays a central role in global migration governance.
• Migration is influenced by factors such as conflict, climate change, and economic inequality.

Additional Knowledge:

• (a) Universal Declaration of Human Rights, 1948 — a foundational human rights document, not specific to migrants.
• (b) International Covenant on Civil and Political Rights, 1966 — covers civil and political rights broadly.
• (d) Global Compact on Refugees, 2018 — focuses on refugees, not migrant workers.
• The Global Compact for Safe, Orderly and Regular Migration was adopted in 2018.

Q.52 **Which country recently signed a Free Trade Agreement (FTA) with India after approval by the Union Cabinet?**

A. Kuwait
B. Qatar
C. Oman

D. Saudi Arabia

Answer: C

Sol: The correct answer is (c) Oman.

• The Union Cabinet approved the **India–Oman FTA (CEPA)**.

• The agreement enables **duty-free trade** in several sectors.

Information Booster:

• Covered sectors include **petroleum, gems & jewellery, agriculture, and machinery**.

• Oman's parliament has also approved the agreement.

Additional Knowledge:

• The FTA supports India's **West Asia trade strategy**.

• CEPA aims to boost **investment and supply chains**.

Q.53 **Which article of the Constitution allows for a common High Court for two or more states?**

A. Article 129
B. Article 231
C. Article 368
D. Article 280

Answer: B

Sol: The correct answer is (b) Article 231.

• **Article 231** provides for a **common High Court** for two or more states.

Information Booster:

• Example: **Punjab and Haryana High Court**.

• High Courts are part of **Indian judiciary**.

Additional Knowledge:

• High Courts function under **Part VI, Chapter V**.

• Judges are appointed under **Article 217**.

Q.54 **What is a distinctive feature of Warli paintings?**

A. Use of gold leaf
B. Depiction of royal courts
C. Use of bright colours
D. Geometric patterns and white pigment

Answer: D

Sol:

The correct answer is: (d) Geometric patterns and white pigment

Explanation:

· **Warli paintings** are instantly recognizable by their use of basic **geometric shapes**: a circle, a triangle, and a square.

· The **circle** represents the sun and the moon.

· The **triangle** comes from mountains and pointed trees.

· The **square** indicates a sacred enclosure or a piece of land.

· The paintings are monosyllabic in color, predominantly using a **white pigment** made from a mixture of rice paste and water, with gum used as a binder.

· This white pigment provides a stark contrast against the background, which is usually an earthen wall smeared with red ochre or cow dung.

Information Booster:

· **Origin:** This tribal art form originates from the Warli tribe, living in the mountainous and coastal areas of the Maharashtra-Gujarat border (North Sahyadri Range).

· **Themes:** Unlike classical Indian art, Warli paintings do not depict mythological characters or deities. Instead, they focus on **social life**, nature, hunting, fishing, farming, and festivals.

· **The Tarpa Dance:** A central motif in many Warli paintings is the spiral formation of dancers around a musician playing the *Tarpa* instrument, symbolizing the circle of life.

Additional Knowledge (Incorrect Options):

Use of gold leaf (Option a)

· The use of gold leaf and semi-precious stones is a distinctive feature of **Tanjore paintings** from Tamil Nadu, known for their richness and density.

Depiction of royal courts (Option b)

· Scenes of royal courts, emperors, and battles are characteristic of **Mughal** or **Rajasthani miniature paintings**, not tribal art which focuses on agrarian life.

Use of bright colours (Option c)

· While folk arts like **Madhubani** (Bihar) use vibrant vegetable dyes and bright colors, Warli art is traditionally austere, strictly sticking to the white-on-earth colour scheme.

Q.55 **The Andaman and Nicobar Islands are separated by which water body?**

A. Gulf of Mannar
B. Nine Degree Channel
C. Ten Degree Channel
D. Duncan Passage

Answer: C

Sol:

The correct answer is (c) Ten Degree Channel

Explanation:

• The Ten Degree Channel separates the Andaman Islands (north) from the Nicobar Islands (south).
• It is located roughly along the 10° N latitude.
• This channel is an important route for navigation in the Bay of Bengal.
• It is approximately 150 km wide.
• The Andaman & Nicobar group forms India's largest union territory archipelago.

Information Booster:

• The Coco Channel separates North Andaman from Myanmar territory.
• The Duncan Passage lies between South Andaman and Little Andaman.

Additional Knowledge:

(a) Gulf of Mannar – Between India and Sri Lanka.
(b) Nine Degree Channel – Separates Lakshadweep islands.
(d) Duncan Passage – Separates South Andaman and Little Andaman.

Q.56 **The value of 22 - 2 × [7 + 8 × {14 - 7(6 - 5) × 2} ÷ 37] is:**

A. 18
B. 8
C. 7
D. 2

Answer: B

Sol: **Given:**

22 - 2 × [7 + 8 × {14 - 7(6 - 5) × 2} ÷ 37]

Solution:

22 − 2 × [7 + 8 × {14 − 7(6 − 5) × 2} ÷ 37]
= 22 − 2 × [7 + 8 × {14 − 7 × 2} ÷ 37]
= 22 − 2 × [7 + 8 × {14 − 14} ÷ 37]
= 22 − 2 × [7 + 8 × 0 ÷ 37]
= 22 − 2 × [7 + 0]

= 22 − 2 × 7
= 22 − 14
= 8

Q.57 **Who among the following built the city of Tughlaqabad?**

A. Tughluq Khan
B. Muhammad bin Tughlaq
C. Firuz Shah Tughlaq
D. Ghiyasuddin Tughlaq

Answer: D

Sol: **Correct Answer: (D) Ghiyasuddin Tughlaq**

Explanation:

The city of **Tughlaqabad** was built by **Ghiyasuddin Tughlaq**, the founder of the Tughlaq dynasty of the Delhi Sultanate. He established it as his capital during his reign.

Information Booster:

- Tughlaqabad was built around **1321 AD**.
- Located in present-day **Delhi**.
- Built for defense with strong fortifications.
- Abandoned after his death and became a ghost city.
- Example of **Indo-Islamic architecture** of the Sultanate period.

Additional Knowledge:

- Muhammad bin Tughlaq shifted the capital from Delhi to Daulatabad.
- Firuz Shah Tughlaq built cities like **Firozabad and Hissar**.
- Ghiyasuddin Tughlaq was originally named **Ghazi Malik**.

Q.58 **A flagstaff stands on the top of a building. At a distance of 30 m away from the foot of the building, the angle of elevation of the top of the flagstaff is 60° and the angle of elevation of the top of the building is 30°. Find the height (in metres) of the flagstaff.**

A. 20√3
B. 40√3
C. 30√3
D. 60√3

Answer: A

Sol: **Given:**

Distance from building = 30 m

Angle of elevation to top of building = 30°

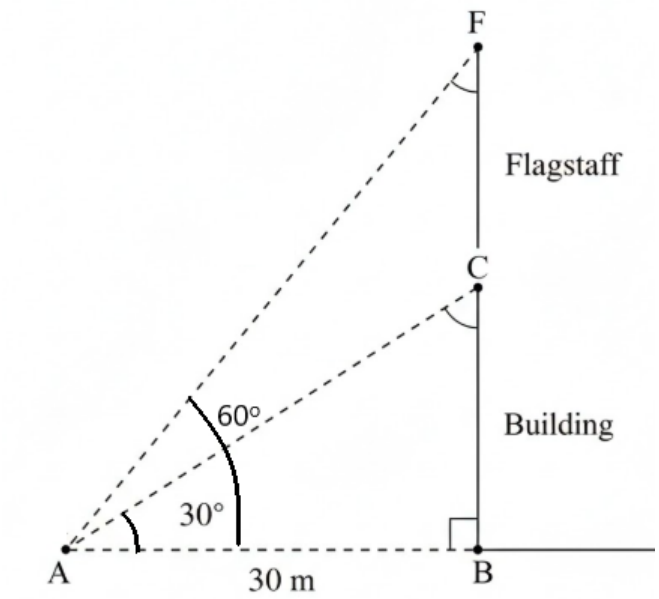
Angle of elevation to top of flagstaff = 60°

Find height of flagstaff.

Formula Used:

$$\tan\theta = \frac{Perpendicular}{Base}$$

Solution:



Height of building

$$\tan 30^\circ = \frac{BC}{30}$$

$$\frac{1}{\sqrt{3}} = \frac{BC}{30}$$

$$BC = \frac{30}{\sqrt{3}} = 10\sqrt{3}\text{m}$$

Total height (building + flagstaff)

$$\tan 60^\circ = \frac{BF}{30}$$

$$\sqrt{3} = \frac{BF}{30}$$

$$BF = 30\sqrt{3}$$

Flagstaff height = BF - BC

$$= 30\sqrt{3} - 10\sqrt{3}$$

$$= 20\sqrt{3}m$$

Q.59 **6 men can complete a piece of work in 9 days, while 6 women can do it in 6 days. In how many days can 2 women and 3 men complete this work?**

A. 10 days
B. 11 days
C. 12 days
D. 9 days

Answer: D

Sol: **Given:**

6 men complete the work in 9 days

6 women complete the work in 6 days

Find time taken by 3 men + 2 women

Formula Used:

Total work = $M_1 \times E_1 \times D_1 = M_2 \times E_2 \times D_2$

where M = number of men, D = number of days, E = Efficiency

Solution:

Using the formula;

6M × 9 = 6W × 6

54M = 36B

$$\frac{M}{W} = \frac{36}{54} = \frac{6}{9}$$

so, 1 man efficiency = 6 and 1 woman efficiency = 9

Now, time taken by 3men + 2 women

(3M + 2W)×D = 6M × 9

{3(6) + 2(9)}×D = 6(6) × 9

{18+ 18} × D = 36 × 9

36 × D = 36 ×9

D = 9 days

Q.60 **Under the 44th Constitutional Amendment, which term was defined to signify conditions that justify the imposition of an emergency in India?**

A. Armed Conflict
B. Natural Disaster
C. Internal Disturbance
D. Social Unrest

Answer: C

Sol: **Correct Answer: (C) Internal Disturbance**

Explanation:

→ **Statement (C):** The 44th Constitutional Amendment (1978) of India redefined the conditions under which a national emergency could be declared. The amendment substituted the term "internal disturbance" for "internal disturbance" in Article 352, narrowing the scope of emergencies that could justify the imposition of emergency powers.

Information Booster:

→ The 44th Constitutional Amendment aimed to limit the scope of emergency powers that could be invoked under the Constitution of India, especially to avoid misuse as occurred during the Emergency of 1975-77.

→ Internal disturbance was introduced as a more restrictive term, making it harder for a government to declare an emergency.

→ The change in wording was an effort to safeguard citizens' rights and reduce the potential for arbitrary and oppressive use of emergency powers.

→ Prior to the amendment, the term "internal disturbance" was often interpreted broadly, allowing for emergencies to be declared under various pretexts. The 44th Amendment clarified that the term should only be invoked in extreme situations that threaten the nation's integrity.

Additional Information:

→ **Option (A) Armed Conflict:** This term refers to conflicts between nations or groups but was not used to define conditions justifying an emergency under the 44th Amendment.

→ **Option (B) Natural Disaster:** While natural disasters can have a significant impact, they were not the basis for declaring an emergency under the 44th Amendment.

→ **Option (D) Social Unrest:** This term was not specifically used to define conditions under the 44th Amendment for the declaration of emergency.

Q.61 **Which factor has the greatest influence on the climate of a region?**

A. The latitude and altitude of the region
B. The type of vegetation in the region
C. The population density of the region
D. The longitude of the region

Answer: A

Sol: **The correct answer is (A) The latitude and altitude of the region**

Explanation:

- **Latitude** determines the amount of solar energy received, making it the most important factor influencing climate.
- **Altitude** affects temperature: higher altitudes have cooler climates.

● Together, latitude and altitude largely control the **temperature, rainfall, and overall climate** of any region.

Information Booster:

● Equatorial regions receive **direct sunlight**, making them hotter.
● Temperature drops by **6.5°C for every 1,000 m** increase in altitude.
● Mountains affect rainfall through the **rain-shadow effect**.
● Latitude influences **day length** and seasonal changes.
● These factors shape vegetation, wildlife, and human habitation patterns.

Additional Knowledge:

● Vegetation can modify local climate but not the overall regional climate.
● Population density has **no effect** on climate.
● Longitude only affects **time zones**, not climate.

Q.62 **The Union Parliament can make laws on subjects in the State List provided the resolution is supported by at least what proportion of members?**

A. Two-thirds of the members present and voting
B. One-half of the members present and voting
C. Two-thirds of the total membership of the House
D. One-half of the total membership of the House

Answer: A

Sol: The correct answer is (a) **Two-thirds of the members present and voting**

Explanation:

- According to **Article 249** of the Indian Constitution, the Parliament can legislate on a subject in the State List if the **Rajya Sabha** (Council of States) passes a resolution to that effect.
- This resolution must be supported by a special majority: at least **two-thirds of the members present and voting**.
- The resolution declares that it is necessary or expedient in the national interest for the Parliament to make laws on that state subject.
- Such a resolution remains in force for a maximum period of **one year** at a time, but it can be renewed for further periods of one year each.

Information Booster:

- Article 249 empowers the Rajya Sabha to protect national interests by allowing the central government to intervene in matters typically reserved for state jurisdiction when required.
- The laws made by Parliament under this provision cease to have effect six months after the resolution ceases to be in force.
- This is one of several ways the central government can legislate on state subjects, other methods include during a national emergency (Article 250), with the consent of states (Article 252), and to implement international treaties (Article 253).

Additional Knowledge:
(b) **One-half of the members present and voting**: This is the simple majority required for most ordinary legislative business in the Parliament.
(c) **Two-thirds of the total membership of the House**: This higher majority is required for more significant constitutional changes, such as the impeachment of judges or the President, but not for the Article 249 resolution.
(d) **One-half of the total membership of the House**: This is a key part of the special majority required for most constitutional amendments (Article 368), but not the sole criterion for the Article 249 resolution.

Q.63 **What is the effect of using Ctrl + J in MS Word, and how is it distinct from Ctrl + Shift + J?**

A. Both shortcuts justify text identically
B. Ctrl + J left-aligns; Ctrl + Shift + J right-aligns
C. Ctrl + J justifies text; Ctrl + Shift + J applies distributed justification where last line is also stretched
D. Ctrl + J centers text; Ctrl + Shift + J varies justification

Answer: C

Sol: The correct answer is **(C) Ctrl + J justifies text; Ctrl + Shift + J applies distributed justification where last line is also stretched**

Explanation:

● **Ctrl + J** applies **normal justification**, aligning text evenly on both left and right margins while keeping the **last line left-aligned**.
● **Ctrl + Shift + J** applies **distributed justification**, where **even the last line is stretched** to occupy the full width of the paragraph.

Information Booster:

● Justification adjusts spacing between words to align text neatly on both margins.
● Distributed justification is commonly used in **table cells or headings**.
● MS Word provides four alignments: left, center, right, and justify.
● These shortcuts improve formatting speed.

Basic Shortcuts:

- **Ctrl + N** – New document
- **Ctrl + O** – Open document
- **Ctrl + S** – Save
- **Ctrl + P** – Print
- **Ctrl + W** – Close document

Q.64 **Which of the following sportspersons is also known as the 'Dhing Express'?**

A. Mirabai Chanu

B. Jisna Mathew
C. P.T. Usha
D. Hima Das

Answer: D

Sol: **The correct answer is: (d) Hima Das**

Explanation:

• Hima Das, an Indian sprinter from Assam, is popularly known as the **'Dhing Express'**, named after her hometown *Dhing* in the Nagaon district of Assam.
• She made history by becoming the **first Indian woman to win a gold medal in a track event at the IAAF World U20 Championships (2018)** in Finland.
• She specializes in the 400 m and 200 m sprint events.

Information Booster:

• Born: 9 January 2000.
• Event: 400 m sprint (main), also competes in 200 m.
• Awarded **Arjuna Award (2018)** for outstanding performance.
• Won **5 gold medals in 19 days** during European events in July 2019.
• Represented India at the **Asian Games 2018**, winning 1 silver and 2 gold medals.

Additional Knowledge:

• **Mirabai Chanu** – Indian weightlifter, Olympic silver medallist (Tokyo 2020).
• **Jisna Mathew** – Indian sprinter, part of women's 4×400 m relay team.
• **P.T. Usha** – Known as the *Payyoli Express*; legendary Indian sprinter from Kerala.

Q.65 **Nikhil, Nidhi and Tejas invested Rs.1,200, Rs. 1,070 and Rs. 1,310, respectively to start a business. If the profit at the end of the year is Rs. 1,790, what is Tejas's share of the profit?**

A. Rs. 654
B. Rs. 657
C. Rs. 658
D. Rs. 655

Answer: D

Sol: **Given:**

Investments: Nikhil = Rs. 1,200, Nidhi = Rs. 1,070, Tejas = Rs. 1,310.
Total Profit = Rs. 1,790.

Solution:

Ratio of their investments:
Nikhil : Nidhi : Tejas = 1200 : 1070 : 1310 = 120 : 107 : 131
Sum of the ratios = 120 + 107 + 131 = 358.
Tejas's share = $\frac{131}{358} \times 1790$
Tejas's share = 131 × 5 = 655

Final Answer

So the correct answer is (d)

Q.66 **The selling price of 20 books is equal to the cost price of 36 books. Find the loss or gain percentage.**

A. 100/16 % loss
B. 80% loss
C. 80% gain
D. 100/16 % gain

Answer: C

Sol: **Given:**

SP of 20 books = CP of 36 books.

Formula Used:

$$\text{Profit } \% = \frac{\text{SP} - \text{CP}}{\text{CP}} \times 100$$

Solution:

$20 \times SP = 36 \times CP$

$\frac{SP}{CP} = \frac{36}{20} = \frac{9}{5}$

Let CP = 5 units and SP = 9 units.

Profit = 9 - 5 = 4 units.

Profit % = $\frac{4}{5} \times 100 = 80\%$

Final Answer

So the correct answer is (c)

Q.67 ABCD is a trapezium in which BC||AD and AC=CD. If ∠ABC=40° and ∠BAC=120°, then what is the measure of ∠ACD (in degree)?

A. 144°
B. 148°
C. 140°
D. 149°

Answer: C

Sol: **Given:**

Trapezium ABCD with B$C \parallel A$D.

AC=CD so $\triangle A$CD is isosceles with base AD.

$\angle ABC = 40^\circ, \angle BAC = 120^\circ.$

Find $\angle ACD.$

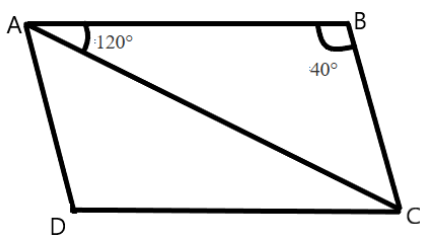
Formula Used:

Triangle angle sum: $\angle A + \angle B + \angle C = 180^\circ.$

In isosceles $\triangle ACD$ with AC = CD: base angles $\angle CAD = \angle ADC.$

If two lines are parallel, corresponding/alternate interior angles with a transversal are equal.

Solution:



In $\triangle ABC$:
$\angle BCA = 180^\circ - \angle BAC - \angle ABC = 180^\circ - 120^\circ - 40^\circ = 20^\circ.$

Since B$C \parallel AD$, the angle that CA makes with AD equals the angle it makes with BC. Hence
$\angle CAD = \angle ACB = 20^\circ.$

In $\triangle ACD, AC = CD \implies \angle CAD = \angle ADC = 20^\circ$

Therefore
$\angle ACD = 180^\circ - 20^\circ - 20^\circ = 140^\circ.$

Q.68 **Who authored Poverty and Un-British Rule in India?**

A. Badruddin Tyabji
B. Dadabhai Naoroji
C. A.O. Hume
D. Annie Besant

Answer: B

Sol: The correct answer is: **(b) Dadabhai Naoroji**

Explanation:

· *Poverty and Un-British Rule in India* was written by **Dadabhai Naoroji** in **1901**.
· It presented his famous **Drain of Wealth Theory**, showing how Britain drained India's economic resources.
· Naoroji is also called the **"Grand Old Man of India"**.

Information Booster:

· Naoroji was the **first Indian MP in British Parliament** (1892).
· Founder of the **Indian National Congress** (INC).
· His book highlighted economic exploitation under British rule.
· Advocated for **Swaraj (self-rule)** in India.
· He linked poverty in India to colonial economic policies.

Additional Knowledge:

· **Badruddin Tyabji (a):** Third President of INC, social reformer, not author of this book.
· **A.O. Hume (c):** British civil servant, co-founder of INC.
· **Annie Besant (d):** Theosophist, leader of Home Rule Movement, not linked to this book.

Q.69 **The process of formation of mRNA from DNA is called**

A. Translation
B. Transcription
C. Replication
D. Reverse transcription

Answer: B

Sol: **Correct Answer**: (b)

Explanation: Transcription is the process where DNA sequence is copied into mRNA.

Information Booster:

Catalyzed by RNA polymerase.
Occurs in nucleus (eukaryotes).
Produces pre-mRNA → processed to mature mRNA.
Coding strand vs template strand.
mRNA carries genetic code to ribosome.
First step of gene expression.

Additional Knowledge:

Translation: mRNA → protein.
Transcription: DNA → RNA.
Replication: DNA → DNA.
Reverse transcription: RNA → DNA (retroviruses).

Q.70 **Which key is used to insert a new line or execute a command?**

A. Enter
B. Shift
C. Backspace
D. Delete

Answer: A

Sol: The correct answer is (a) Enter

Explanation:

• The Enter key is used to insert a new line in text editors or execute a command in operating systems.
• In many applications, Enter is used to confirm selections or start an action.

• Shift is mainly a modifier key, not for creating new lines.
• Backspace deletes text to the left of the cursor, not for execution or line breaks.
• Delete removes text to the right of the cursor or files in OS, not for line breaks or execution.

Information Booster:
• In command-line interfaces, pressing Enter executes the typed command.
• In word processors, Enter starts a new paragraph or line.

Additional Knowledge:

Shift (Option b)
• Used for typing uppercase letters and special characters.
• Also used in keyboard shortcuts.

Backspace (Option c)
• Deletes one character to the left of the cursor.
• Often used for correcting mistakes while typing.

Delete (Option d)
• Deletes one character to the right of the cursor.
• In file management, it removes files or folders.

Q.71 The value of $\sqrt{169} + \sqrt{0.0144} - \sqrt{5.76}$ is_____.

A. 10.72

B. 15.09
C. 15.76
D. 9.35

Answer: A

Sol: **Given:**
$\sqrt{169} + \sqrt{0.0144} - \sqrt{5.76}$

Solution:

$$\sqrt{169} + \sqrt{\frac{144}{10000}} - \sqrt{\frac{576}{100}}$$

$$= 13 + \frac{12}{100} - \frac{24}{10}$$

= 13 + 0.12 - 2.4

= 13.12 - 2.4 = 10.72

Q.72 **Alluvial soil is divided into which two types?**

A. Khadar and Bhanger
B. Regur and Laterite
C. Bangar and Terai
D. Black and Red

Answer: A

Sol: **Correct Answer: (A) Khadar and Bhanger**
Explanation:
Alluvial soil in India is divided into two types: Khadar and Bhanger. Khadar soil is found in floodplains and is replenished regularly by floods, while Bhanger soil is older and less fertile.
Information Booster:

→ Khadar soil is fertile and ideal for agriculture due to its fresh nutrient deposits.
→ Bhanger soil is found in the higher areas and is often less fertile due to the lack of regular flooding.
→ These soils are rich in minerals and form the basis for extensive farming in India.
Additional Information (Other Options):
Option (B) Regur and Laterite: These are types of soil but are not associated with alluvial soil.
Option (C) Bangar and Terai: Terai is a region of marshy land, and Bangar is another term for older alluvial soil, but the correct division is Khadar and Bhanger.
Option (D) Black and Red: These are types of soil, not divisions of alluvial soil.

Q.73 **Rutherford's alpha (α) particles scattering experiment resulted into discovery of**

A. Nucleus in the atom
B. Proton
C. Electron
D. Atomic mass

Answer: A

Sol: **Correct Answer:** (A) Nucleus in the atom
Explanation:
Rutherford's gold foil experiment showed that most α-particles passed through, but a few deflected at large angles.
This proved that atoms have a small, dense, positively charged **nucleus**.
Information Booster:
Atom is mostly empty space.
Nucleus contains protons (and later discovered neutrons).
Additional Knowledge:
(B) Proton → discovered later by Rutherford (1919).
(C) Electron → discovered earlier by J.J. Thomson (1897).
(D) Atomic mass → concept existed but not discovered by Rutherford's experiment.

Q.74 **Simplify the following expression:** $\frac{15^3+20^3+25^3-22500}{15^2+20^2+25^2-300-500-375}$

A. 75
B. 80
C. 50
D. 60

Answer: D

Sol: **Given:**

$$\frac{15^3+20^3+25^3-22500}{15^2+20^2+25^2-300-500-375}$$

Formula Used:

$a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$

Solution:

$$\frac{15^3+20^3+25^3-22500}{15^2+20^2+25^2-300-500-375}$$

$$= \frac{15^3+20^3+25^3-3\times20\times25\times15}{15^2+20^2+25^2-15\times20-20\times25-25\times15}$$

$$= \frac{(15+20+25)(15^2+20^2+25^2-15\times20-20\times25-25\times15)}{(15^2+20^2+25^2-15\times20-20\times25-25\times15)}$$

= 60

Q.75 **When was India's first fully indigenous 32-bit microprocessor, Vikram3201, unveiled?**

A. September 2, 2021
B. September 2, 2025
C. January 15, 2024
D. August 5, 2025

Answer: B

Sol:

Correct Answer: (B) September 2, 2025

Explanation:

· Vikram3201 was officially unveiled on **September 2, 2025**, during **Semicon India 2025** by **Union Minister Ashwini Vaishnaw** to **PM Narendra Modi**.

· The event highlighted India's progress in **semiconductor self-reliance** and technological autonomy.

Information Booster:

· This microprocessor represents a major milestone in India's goal to **reduce dependence on foreign chips** through the **India Semiconductor Mission (2021)**.

· PM Modi described semiconductors as **"digital diamonds"**, emphasizing their strategic importance.

Q.76 **Most Biodiversity is found in:**

A. Flower's Valley
B. Dorang Valley
C. Silent Valley
D. Surma Valley

Answer: C

Sol: **Solution: Correct Answer: C. Silent Valley**

Explanation:

The Silent Valley in Kerala (Nilgiri Hills, Western Ghats) is world famous for its rich biodiversity. It is a unique tropical evergreen forest that harbors thousands of rare, endemic, and endangered species of flora and fauna. Because of its dense and untouched greenery, it is often called "the last pristine stretch of tropical evergreen forest in India."

Information Booster:

→Silent Valley National Park is located in Palakkad district, Kerala.
→It is part of the Nilgiri Biosphere Reserve and Western Ghats, which is a UNESCO World Heritage Site.
→The forest is home to rare species like the Lion-tailed Macaque, Nilgiri Langur, and many endemic orchids, birds, reptiles, and amphibians.
→It is also called "Sairandhri Vanam" in ancient texts.
→In the 1970s, the area came into the limelight when environmentalists and scientists protested against a hydroelectric project that would have destroyed this biodiversity hotspot. Their efforts succeeded, and the region was declared a National Park in 1984.

Additional Knowledge:

Biodiversity Hotspots in India: India has 4 biodiversity hotspots –
→Himalaya (including Indo-Burma)
→Indo-Burma (North-East + Andaman-Nicobar)
→Indo-Malayan (Sundalands – Nicobar Islands)
→Western Ghats (where Silent Valley is located).

Q.77 **Which Article of the Indian Constitution relates to the reservation of seats in the Lok Sabha for Scheduled Castes (SC) and Scheduled Tribes (ST)?**

A. Article 15
B. Article 17
C. Article 330
D. Article 368

Answer: C

Sol: **Correct Answer: (c) Article 330**

Explanation:

· **Article 330** of the **Indian Constitution** provides for **reservation of seats** in the **Lok Sabha** (House of the People) and **State Legislative Assemblies** for **Scheduled Castes (SC)** and **Scheduled Tribes (ST)**. It ensures that a certain number of seats are reserved for these communities to promote their representation in the legislative process.

Information Booster:
· The reservation for **SCs** and **STs** is valid for a specific period, which is **extended periodically** by amendments to the Constitution.
· The **purpose** of this provision is to ensure political representation for communities that have historically been marginalized and to give them a voice in the decision-making process.

Q.78 **The curved surface area of a cylinder is half of its total surface area. If its height is 195 cm, then find its diameter (in cm).**

A. 393
B. 390
C. 383
D. 381

Answer: B

Sol: **Given:**
$h = 195 \text{ cm}$
$\text{CSA} = \frac{1}{2}\text{TSA}$

Formula Used:
$\text{CSA} = 2\pi rh$
$\text{TSA} = 2\pi r(h + r)$

Solution:
$2\pi rh = \frac{1}{2}(2\pi r(h + r))$
$2\pi rh = \pi r(h + r)$
$2h = h + r$
$r = h$
$r = 195$
$\text{Diameter} = 2r = 2 \times 195 = 390$

Final Answer:
390 cm

Q.79 **Who founded Arya Women's Society/Arya Mahila Samaj at Pune in 1882?**

A. Pandita Ramabai Saraswati
B. Fatima Sheikh
C. Savitribai Phule
D. Tarabai Shinde

Answer: A

Sol: The correct answer is (a) Pandita Ramabai Saraswati.
Explanation:
· **Pandita Ramabai Saraswati** founded the **Arya Women's Society** (also called **Arya Mahila Samaj**) in **1882** at **Pune**.
· She was a prominent **social reformer** and **educationist** who dedicated her life to improving the condition of **women** in India.
· Pandita Ramabai advocated for the **empowerment of women**, particularly through education, and was instrumental in **challenging social norms** that restricted women's freedom.
Information Booster:
· Pandita Ramabai is famous for her translation of the **Bible** into **Marathi**, which was a groundbreaking achievement for women at the time.
· She was also known for establishing the **Mukti Mission** for widows and orphaned girls.
· **Fatima Sheikh**, **Savitribai Phule**, and **Tarabai Shinde** were also influential figures in the **social reform** movement, but they were not associated with the founding of the Arya Women's Society.
Additional Information:
· Pandita Ramabai's contributions to **women's education** and **social reforms** are celebrated across India, especially for her pioneering efforts in creating opportunities for **underprivileged women**.

Q.80 **The mean and the mode of a data set are 33.9 and 40.1, respectively. Find the median of the data, using the empirical formula. (Round off your answer to two decimal places.)**

A. 35.33
B. 36.27
C. 35.97

D. 34.66

Answer: C

Sol: **Given:**

Mean = 33.9

Mode = 40.1

Find Median (to two decimal places)

Formula Used:

Empirical relation: $\text{Mode} = 3\text{Median} - 2\text{Mean}$

$$\text{Median} = \frac{\text{Mode} + 2\text{Mean}}{3}$$

Solution:

$$\text{Median} = \frac{40.1 + 2(33.9)}{3}$$

$$= \frac{40.1 + 67.8}{3}$$

$$= \frac{107.9}{3}$$

$$\approx 35.97$$

Q.81 **Intel 8086 microprocessor is a/an:**

A. 32-bit microprocessor
B. 8-bit microprocessor
C. 64-bit microprocessor
D. 16-bit microprocessor

Answer: D

Sol: The **Intel 8086** is a **16-bit microprocessor**, which means it processes data and instructions in 16-bit chunks. Introduced in 1978, it was one of the first processors to use a 20-bit address bus, allowing access to up to **1 MB of memory**, but its data bus and general-purpose registers were 16-bit wide.

Important Key Points:

1. The 8086 is the foundation for the x86 architecture.
2. It has 16-bit wide registers like AX, BX, CX, and DX.
3. It supports 20-bit memory addressing using a segmented memory model.

Knowledge Booster:

· A **32-bit microprocessor** like the Intel 80386 came later, supporting larger data widths and memory.
· An **8-bit microprocessor** (e.g., Intel 8085) processes data in 8-bit chunks, with lower performance and memory capacity.
· **64-bit microprocessors**, like modern Intel Core i7 or AMD Ryzen, can handle large-scale computing with access to much larger memory sizes.
· The Intel 8086 is often confused with being 20-bit due to its address bus, but its internal architecture and processing capability is 16-bit.

Q.82 **Which of the following is an impact of globalization on India's trade?**

A. It has reduced the dependency on foreign markets
B. It has reduced the competition and challenges of trade
C. It has increased the volume and diversity of trade
D. It has increased the self-reliance and autonomy of trade

Answer: C

Sol: The correct answer is (c) It has increased the volume and diversity of trade

- **Globalization** has significantly impacted **India's trade** by increasing the **volume** and **diversity** of trade.

- The liberalization of trade policies, the opening of international markets, and advancements in technology have led to India increasing its trade with various countries across the globe.

- As a result, India has witnessed a growth in exports and imports, with a **greater variety** of goods and services being traded. This includes products like **information technology services**, **textiles**, **pharmaceuticals**, and **agricultural products**.

Information Booster:

- **Impact of Globalization on India's Trade:**
    - **Increased trade volume**: The adoption of **trade liberalization policies** in the early 1990s opened up new markets for Indian businesses, leading to a surge in both **imports** and **exports**.
    - **Diversity of trade**: With globalization, India has diversified its export base to include **high-tech products**, **software services**, and **luxury goods**, in addition to traditional exports like **textiles** and **agricultural products**.
    - **Access to international markets**: Indian companies now have access to a broader array of international markets, contributing to economic growth and global economic integration.
- **Related Policies and Acts:**
    - **New Economic Policy (NEP), 1991**:
        - Introduced by **P.V. Narasimha Rao** and **Dr. Manmohan Singh**, this policy marked a significant shift towards **economic liberalization**. It **reduced tariffs**, **decreased import duties**, and opened up the economy to **foreign investment**. This was a crucial policy for expanding India's trade volume and diversity.
    - **Foreign Trade Policy (FTP) 2004-2009**:
        - The **Foreign Trade Policy** aimed at **enhancing exports** and **promoting trade relations**. It provided incentives like **duty drawbacks** and **export subsidies**, further diversifying India's trade portfolio.
    - **Goods and Services Tax (GST) Act, 2017**:
        - The **GST** streamlined India's **tax system**, helping to reduce the cascading effect of taxes and improving the flow of goods across borders. By simplifying the trade process, it made India more competitive in the global market.
    - **Make in India** (2014):
        - The **Make in India** initiative, launched by **Prime Minister Narendra Modi**, aims to **boost manufacturing** and **exports**, encouraging foreign companies to set up production facilities in India. It has also contributed to the **diversification of trade** by focusing on sectors like **electronics**, **automobiles**, and **consumer goods**.

Q.83 . Match the following List-I with List-II and select the correct answer using the codes given below -

List-I (Sites as Mesolithic age). List-II (State)

A.The Langhnaj i. Gujarat

B.Teri Group ii. Tamil Nadu

C.Sarai Nahar Rai iii. Madhya Pradesh

D.Adamgarh iv. Uttar Pradesh

Options:

A B C D

A. (i) (iv) (iii) (ii)
B. (i) (ii) (iv) (iii)

C. (ii) (i) (iv) (iii)

D. (iii) (ii) (i) (iv)

Answer: B

Sol: **Information Booster:**

The correct matches are:

- A. Langhnaj – Gujarat - A prominent Mesolithic site located in Mehsana district of Gujarat.
- B. Teri Group – Tamil Nadu - Mesolithic habitation sites found in the coastal districts of Tamil Nadu (like Thoothukudi), known for red sand dunes.
- C. Sarai Nahar Rai – Uttar Pradesh - An important Mesolithic site in Pratapgarh district, known for human skeletons and microliths.
- D. Adamgarh – Madhya Pradesh - Rock shelters near Hoshangabad; significant Mesolithic and Upper Paleolithic remains found here.

Q.84 **The number of students in a school increases every year by 5%. If the number of the students in 2023 is 5,670, what was the number of students in 2022?**

A. 5,230
B. 5,330
C. 5,400
D. 5,430

Answer: C

Sol: **Given:**

The number of students in 2023 = 5670

Annual increase rate = 5%

We are to find the number of students in 2022 (i.e., 1 year before the increase)

Formula Used:

Original Value = $\frac{\text{Increased Value}}{1+\frac{r}{100}}$

Where:

Increased Value = value after increase

r = rate of increase

Solution:

Students in 2022 $= \frac{5670}{1+\frac{5}{100}}$

$= \frac{5670}{1.05}$

= 5400

Q.85 Find the value of $\left[\left(\frac{3}{2}\right)^{-9} \times \left(\frac{2}{3}\right)^{-6} \times \left(\frac{1}{4}\right)^{-3}\right]^{-7}$

A. $\left(\frac{5}{8}\right)^{20}$
B. $\left(\frac{3}{18}\right)^{21}$
C. $\left(\frac{8}{3}\right)^{23}$
D. $\left(\frac{3}{8}\right)^{21}$

Answer: D

Sol: **Given:**

$\left[\left(\frac{3}{2}\right)^{-9} \times \left(\frac{2}{3}\right)^{-6} \times \left(\frac{1}{4}\right)^{-3}\right]^{-7}$

Formula Used:

$a^{-n} = \left(\frac{1}{a}\right)^{n}$; $(a^m)^n = a^{mn}$

Solution:

$\left[\left(\frac{3}{2}\right)^{-9} \times \left(\frac{3}{2}\right)^{6} \times 4^3\right]^{-7}$

$= \left[\left(\frac{3}{2}\right)^{-9+6} \times 4^3\right]^{-7}$

-

$$= \left[\left(\frac{3}{2} \right)^{-3} \times \left(\frac{1}{4} \right)^{-3} \right]^{-7}$$

$$= \left[\left(\frac{3}{2} \times \frac{1}{4} \right)^{-3} \right]^{-7}$$

$$= \left[\left(\frac{3}{8} \right)^{-3} \right]^{-7}$$

$$= \left(\frac{3}{8} \right)^{-3 \times -7}$$

$$= \left(\frac{3}{8} \right)^{21}$$

Q.86 ABCD is a cyclic quadrilateral, AB is a diameter of the circle. If $\angle ACD = 35^o$ find the value of $\angle BAD$.

A. 70^o
B. 55^o
C. 45^o
D. 60^o

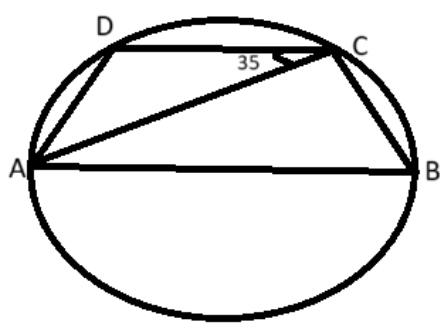
Answer: B

Sol: **Given:**
ABCD is a cyclic quadrilateral.

AB is a diameter of the circle.

$\angle ACD = 35^\circ$.

Solution:



$\angle ACB = \angle ADB = 90^\circ$

Also, in a cyclic quadrilateral, the sum of opposite angles is 180°,

$\angle ABC + \angle ADC = 180^\circ$

$\angle BAD + \angle BCD = 180^\circ$

$\angle BAD = 180^\circ - (\angle ACD + \angle ACB)$

$= 180 - (35 + 90)$

$= 180 - 125$

$= 55^\circ$

Q.87 The sum of first 15 terms of the series $2^2 + 5^2 + 8^2 + \cdots$ is :

A. 10440
B. 10425
C. 10455
D. 10415

Answer: C

Sol: **Given:**

The series:

$$2^2 + 5^2 + 8^2 + \ldots \text{ up to } 15 \text{ terms}$$

Formula Used:

Formula for AP:

$$T_n = a + (n-1)d$$

Where a = first term, n = number of terms, d = common difference

Solution:

First term of AP: a = 2

Common difference: d = 3

Number of terms: n = 15

So,

2 + (n − 1)3 = 3n – 1

Then

$$\sum_{n=1}^{15} (3n-1)^2$$

$$(3n-1)^2 = 9n^2 - 6n + 1$$

$$\sum_{n=1}^{15} (3n-1)^2 = 9\sum n^2 - 6\sum n + \sum 1$$

Now,

$$\sum n = \frac{n(n+1)}{2} = \frac{15(15+1)}{2} = 120$$

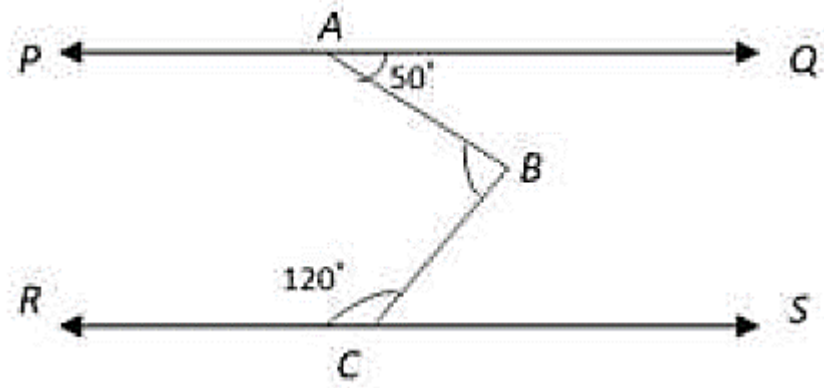
$$\sum n^2 = \frac{n(n+1)(2n+1)}{6} = \frac{15 \cdot 16 \cdot 31}{6} = 1240$$

$$\sum_{n=1}^{15} 1 = 1 \times 15 = 15$$

Applying in the formula;

$9 \cdot 1240 - 6 \cdot 120 + 15$= 11160 - 720 + 15 = 10455

Q.88 What is the measure of ∠**ABC** in the given figure, given that PQ‖RS ?



A. 140°
B. 90°
C. 110°
D. 70°

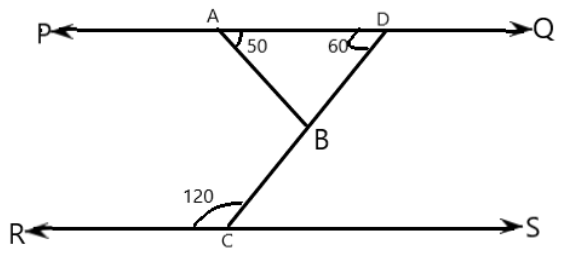
Answer: C

Sol: Given:

$\angle C$ = 120°

$\angle A = 50^\circ$

Concept Used:



Solution:

PQ || RS

Extending line CB which intersect line PQ on point D.

$\angle ADB = \angle BCS$ (Alternate angle)

So $\angle BCS = 180 - 120 = 60$

$\angle ADB = 60^\circ$

In $\triangle ADB$

$\angle ABC = \angle DAB + \angle ADB$ (By external angle property)

$50^\circ + 60^\circ$ = 110°

Q.89 **Mahatma Gandhi called a halt to the Non-Cooperation Movement after the Chauri Chaura incident. Where among the following places is Chauri Chaura located?**

A. Meerut

B. Gorakhpur
C. Lucknow
D. Mathura

Answer: B

Sol: **The Correct Answer is: (b) Gorakhpur**

Explanation:

The **Chauri Chaura incident** occurred on **February 4, 1922**, in a small town near **Gorakhpur in present-day Uttar Pradesh**. During a protest against police atrocities as part of the **Non-Cooperation Movement**, agitated protesters set fire to a police station, **killing 22 policemen**.

In response, **Mahatma Gandhi**—a staunch believer in **non-violence (Ahimsa)**—was deeply disturbed by the violent turn of events. He decided to **suspend the Non-Cooperation Movement** immediately, believing that the people were **not yet prepared for non-violent struggle**.

Information Booster:

• The Non-Cooperation Movement was launched in **1920** in response to the **Jallianwala Bagh Massacre**, **Rowlatt Act**, and **Khilafat issue**.
• Chauri Chaura marked the first instance where the movement **turned violent**.
• Gandhi was arrested and sentenced to **6 years of imprisonment** in March 1922.
• This incident **divided opinion** within the national leadership on the future course of the movement.
• It led to the formation of **Swaraj Party in 1923** by **Motilal Nehru and C.R. Das**.
• The place **Chauri Chaura** has since become a symbolic site for India's struggle for independence.

Additional Information:

• **Meerut** – Famous for the **1857 Revolt**, not related to Chauri Chaura.
• **Lucknow** – Known for the **Lucknow Pact (1916)**, not this event.
• **Mathura** – Associated with Krishna Janmabhoomi, not relevant to the movement.

Q.90 If α and β are the roots of the equation $x^2 - 11x + 24 = 0$, then what is the value of ($\alpha^2 + \beta^2$)?

A. 64
B. 75
C. 80
D. 73

Answer: D

Sol: **Given:**

Quadratic equation: $x^2 - 11x + 24 = 0$

Roots: α and β

Concept Used:

If α and β are roots of a quadratic equation $x^2 - (\alpha + \beta)x + \alpha\beta = 0$

Solution:

From the equation:

Sum of roots: $\alpha + \beta$ = 11

Product of roots: $\alpha\beta$= 24

$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$

$\alpha^2 + \beta^2 = (11)^2 - 2(24) = 121 - 48 = 73$

Q.91 Who was the court poet of King Harshavardhana?

A. Vatsabhatti
B. Kalidasa
C. Ravikirti
D. Banabhatta

Answer: D

Sol: **Correct Answer:(D) Banabhatta**
Explanation:

- **Banabhatta** was the **court poet** of **King Harshavardhana**, the ruler of the **Pushyabhuti dynasty** in the **7th century CE**.
- He wrote the famous **biographical work "Harshacharita"**, which details the life and reign of Harsha.
- He also authored the **Sanskrit prose romance "Kadambari"**, considered one of the greatest works of classical Sanskrit literature.

Key Points:

- **Harshacharita** provides **valuable historical insights** into Harsha's administration and society.
- **Banabhatta** was one of the earliest **prose writers in Sanskrit**.
- His works influenced later Sanskrit literature and historical writings.

Additional Information:

- **Vatsabhatti** – A poet in the court of **Yashovarman**, not Harsha.
- **Kalidasa** – A **classical Sanskrit poet and dramatist** from the **Gupta era**, much earlier than Harsha.
- **Ravikirti** – A poet and military officer in the court of **Chalukya king Pulakesin II**, not Harsha.

Q.92 **What is the speed of sound in air?**

A. 343 m/sec
B. 373 m/sec
C. 434 m/sec
D. 383 m/sec

Answer: A

Sol: The correct answer is **(a) 343 m/sec**

Explanation:
The speed of sound in air at 20°C (68°F) is approximately 343 meters per second (m/s). This speed can vary depending on factors such as temperature, humidity, and air pressure. For example, the speed of sound increases with an increase in temperature.

Information Booster:

The speed of sound in air is calculated using the formula:

$v = 331\ m/s + (0.6 \times T)$

where v is the speed of sound and T is the temperature in Celsius.

- At 0°C, the speed of sound is about 331 m/s, and it increases by 0.6 m/s for every 1°C rise in temperature.
- Sound travels faster in denser mediums like water (approximately 1481 m/s) and even faster in solids like steel (approximately 5960 m/s).

Q.93 **The approximate total length of the coastline of the mainland of India, Lakshadweep Islands and Andaman & Nicobar Islands is:**

A. 10516.6 km
B. 7516.6 km
C. 8516.6 km
D. 9516.6 km

Answer: B

Sol: The Correct Answer is: (**B) 7,516.6 km**
The total length of the coastline of the mainland of India, Lakshadweep Islands, and Andaman & Nicobar Islands combined is approximately **7,516.6 km**.

Information Booster:

- **Mainland India**: Around 6,100 km.

- **Lakshadweep Islands**: Approximately 132 km.
- **Andaman & Nicobar Islands**: Roughly 1,284 km

Additional Knowledge:It is important to note that the length of a coastline can vary slightly depending on the measurement technique used. For example, the Survey of India reported a new length of 11,098.81 km in 2025 based on a changed methodology, though the 7,516.6 km figure is the widely accepted one for general purposes.

Q.94 **Out of 500 students in a college, 350 play cricket, 125 play kabaddi, 75 neither play cricket nor play kabaddi. Find the percentage of the number of the students who play both kabaddi and cricket.**

A. 15%
B. 12%
C. 10%
D. 20%

Answer: C

Sol: **Given:**
Total number of students: 500
Number of students who play cricket : 350
Number of students who play kabaddi: 125
Number of students who play neither cricket nor kabaddi: 75

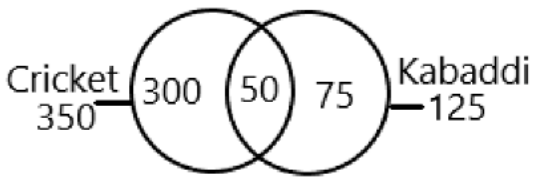
Solution:

Total students who play cricket and kabaddi = 500 - 75 = 425

Both (cricket and kabaddi) = (325 + 125) - 425

Both = 475 - 425

Both = 50



Percentage of both = $\frac{50}{500} \times 100$

Percentage of both = 10%

So, the percentage of students who play both cricket and kabaddi is 10%.

Thus, the correct answer is (c).

Q.95 **Who among the following is the author of the book Kitab-ul-Hind?**

A. Al Masudi
B. Al-Biruni
C. Shihabuddin al-Umari
D. Ibn Battuta

Answer: B

Sol: Correct Answer is: **(b) Al-Biruni**
Al-Biruni (973–1048) was a renowned Persian scholar, polymath, and traveler known for his contributions to various fields like astronomy, mathematics, history, and anthropology. He traveled extensively and gained immense knowledge of diverse cultures, particularly during his time in India under Mahmud of Ghazni's reign. His most famous work, **"Kitab-ul-Hind"**, is a detailed study of Indian society, religion, philosophy, and science.
Here are the famous books written by each of the mentioned scholars:
Al-Masudi:
· **Muruj al-**Dhahab (The Meadows of Gold)

· **Kitab al-**Tanbih wa al-Ishraf (The Book of Admonition and Revision)

Al-Biruni:

· **Kitab-ul-**Hind (Researches on India)

· **Al-Qanun al**-Mas'udi (The Mas'udi Canon)

· Tahdid Nihayat al-Amakin (Determination of the Coordinates of Places)

Shihabuddin al-Umari:

· **Masalik al-Absar fi Mamalik al-**Amsar (The Pathways of Vision in the Realms of the Metropolises)

Ibn Battuta:

· **Rihla (The Journey)**, also known as "A Gift to Those Who Contemplate the Wonders of Cities and the Marvels of Travelling"

Q.96 **In the month of July in India, at what latitude is the Inter-Tropical Convergence Zone typically situated?**

A. Near the equator
B. Between 5°N and 10°N
C. Around 20°N-25°N
D. South of the equator

Answer: C

Sol: **The Correct Answer Is: (C) Around 20°N-25°N**

Explanation:

The **Inter-Tropical Convergence Zone (ITCZ)** is a low-pressure belt near the equator where **northeast and southeast trade winds converge**, causing heavy rainfall. In India, during the **monsoon season (July)**, the ITCZ shifts **northward** due to the intense heating of the Indian subcontinent. This movement plays a crucial role in the **onset and intensity of the southwest monsoon**.

In **July**, the ITCZ is typically positioned around **20°N-25°N**, close to the **Gangetic plains and the foothills of the Himalayas**. This shift is responsible for drawing the **moisture-laden southwest monsoon winds** deep into the Indian subcontinent, bringing **heavy rainfall to North and Central India**.

Information Booster:

- **Monsoon trough formation**– In July, the ITCZ extends over the**northern plains of India**, causing intense rainfall.
- **Tibetan Plateau effect**– The heating of the**Tibetan Plateau**strengthens the low-pressure system, further pulling the monsoon winds inland.
- **Seasonal migration of ITCZ**– During**January**, the ITCZ moves**south of the equator**, influencing the retreat of the monsoon and the onset of dry winter conditions.
- **Influence on cyclones**– The shifting ITCZ can also influence the formation of tropical cyclones in the Bay of Bengal and Arabian Sea.

Additional Knowledge:

- **Near the equator** – ITCZ is near the equator in **March and September**,
- **Between 5°N and 10°N** – This position is observed in regions like the equatorial oceanic belt.
- **South of the equator** – The ITCZ moves south only during **winter months** (December-January).

Q.97 **Fundamental Duties of the Indian Constitution are mentioned in which Article?**

A. Article 42 A
B. Article 51
C. Article 51 A
D. Article 42

Answer: C

Sol: The correct answer is **(c) Article 51 A**.

· **Article 51 A**: This article of the Indian Constitution outlines the Fundamental Duties of Indian citizens. It was added by the 42nd Amendment in 1976 and specifies a set of duties that citizens are expected to uphold in order to promote a spirit of patriotism and to support the unity and integrity of the nation.

List of Fundamental Duties under Article 51 A

1. To abide by the Constitution and respect its ideals and institutions.
2. To cherish and follow the noble ideals that inspired our national struggle for freedom.
3. To uphold and protect the sovereignty, unity, and integrity of India.
4. To defend the country and render national service when called upon to do so.
5. To promote harmony and the spirit of common brotherhood among all the people of India.
6. To value and preserve the rich heritage of our composite culture.
7. To protect and improve the natural environment.
8. To develop the scientific temper, humanism, and the spirit of inquiry and reform.
9. To safeguard public property and to abjure violence.
10. To strive towards excellence in all spheres of individual and collective activity.

Q.98 **The speed of a boat when travelling downstream is 33 km/h, whereas when travelling upstream it is 27 km/h. What is the speed of the boat in still water?**

A. 30 km/h
B. 60 km/h
C. 12 km/h
D. 6 km/h

Answer: A

Sol: **Given:**
Downstream speed = 33 km/h
Upstream speed = 27 km/h

Formula used:

Speed of boat in still water = $= \frac{\text{Downstream speed} + \text{Upstream speed}}{2}$

Solution:

Speed in still water = $\frac{33 + 27}{2} = \frac{60}{2} = 30\text{km/h}$

The correct answer is **option (A)** 30 km/h.

Q.99 **TKM-6 rice variety is tolerant to:**

A. Salinity
B. Drought
C. Bacterial leaf blight (BLB)
D. Waterlogging

Answer: C

Sol: **The correct answer is: C) Bacterial leaf blight (BLB)**
Explanation :
TKM-6 is a popular **rice variety** known for its **tolerance to Bacterial Leaf Blight (BLB)**, a serious disease in rice caused by the bacterium *Xanthomonas oryzae pv. oryzae*.
This variety is widely cultivated in different regions due to its resistance to this disease and stable yield performance.
Key Points:

- TKM-6 is a **semi-dwarf, high-yielding** rice variety.
- It exhibits **resistance to BLB** and good adaptability in various agro-climatic conditions.

Knowledge Booster (Option Related Information):

- **Salinity** – Some rice varieties tolerant to salinity include **CSR 30**, **FL 478**, and **Pokkali**.
- **Drought** – Varieties like **Sahbhagi Dhan** and **DRR Dhan 42** are bred for drought tolerance.
- **Waterlogging** – Varieties like **Swarna Sub1** and **IR64-Sub1** have submergence tolerance traits and are suitable for flood-prone areas.

Q.100 **Where is the Kalpakkam Nuclear Power Plant located?**

A. Gujarat
B. Rajasthan
C. Uttar Pradesh
D. Tamil Nadu

Answer: D

Sol: · The **Kalpakkam Nuclear Power Plant**, officially known as the **Madras Atomic Power Station (MAPS)**, is located in **Tamil Nadu**, near the town of Kalpakkam, about 70 kilometers south of Chennai.

· This plant is operated by the **Nuclear Power Corporation of India Limited (NPCIL)** and plays a significant role in India's nuclear energy program.

· Kalpakkam is also home to the **Indira Gandhi Centre for Atomic Research (IGCAR)** and is a hub for advanced nuclear research, including work on **fast breeder reactors (FBRs)**, which aim to enhance energy efficiency in the nuclear power sector.

Additional Information:

- The Kalpakkam facility hosts India's first **prototype fast breeder reactor (PFBR)**, a significant step toward utilizing thorium reserves and achieving self-sufficiency in energy.
- It contributes to India's effort to increase reliance on clean and renewable energy sources.

Other Options:

- **Gujarat:** Gujarat has the Kakrapar Atomic Power Station, not the Kalpakkam Nuclear Power Plant.
- **Rajasthan:** Rajasthan is home to the Rajasthan Atomic Power Station (RAPS).
- **Uttar Pradesh:** Uttar Pradesh has the Narora Atomic Power Station, not the Kalpakkam facility.