

Solutions

Reasoning Ability

1. Ans. A.



Answer is option A

2. Ans. A.

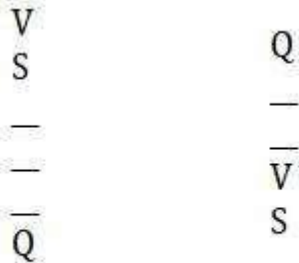
P	R	O	A	C	T	I	V	E
A	C	E	I	O	P	R	T	V

Hence, option A is correct.

3. Ans. B.

One box is between P and Q.

Three boxes are between Q and S. Box V is immediately above box S.

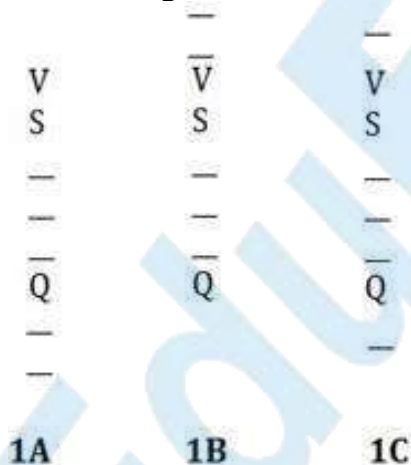


Case 1

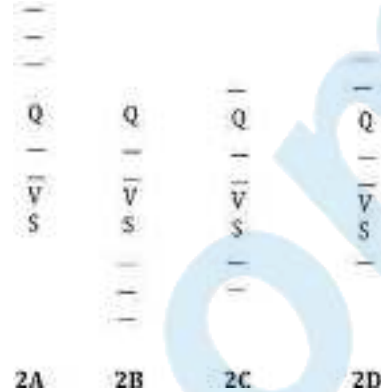
Case 2

Now we can see that there is no direct information so we have to create diagram for every possibilities.

Case 1 diagram:



Case 2 diagram:



Take Case 1:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P.



There are as many boxes between R and W as W and S. But no diagram is follow this condition so all cases 1 gets rejected.

Take case 2:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P. As U is below V so case 2A already gets rejected.



There are as many boxes between R and W as W and S. Only case 2D satisfy this condition.

Here is the final arrangement:

R
T
Q
W
P
V
S
U

4. Ans. A.

Box R is at the top position.

Three boxes are between Q and S. Box V is immediately above box S.

V
S
—
—
—
Q

Q
—
—
V
S

Case 1

Case 2

Now we can see that there is no direct information so we have to create diagram for every possibilities.

Case 1 diagram:

V
S
—
—
Q
—
—

V
S
—
—
Q
—
—

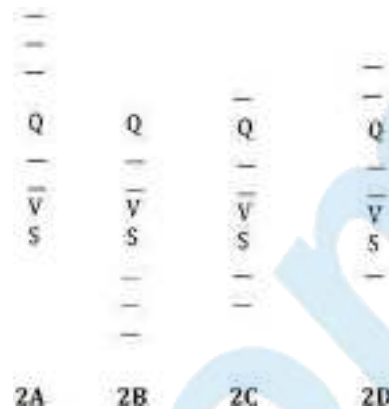
V
S
—
—
Q
—
—

1A

1B

1C

Case 2 diagram:



Take Case 1:

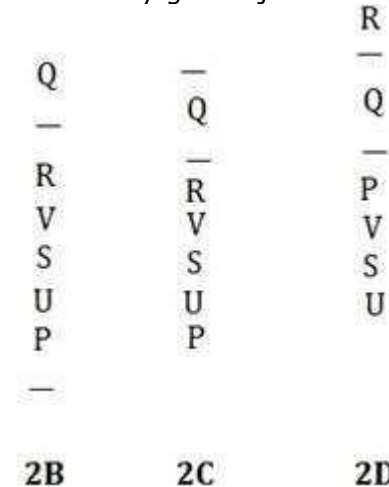
One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P.



There are as many boxes between R and W as W and S. But no diagram is follow this condition so all cases 1 gets rejected.

Take case 2:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P. As U is below V so case 2A already gets rejected.



There are as many boxes between R and W as W and S. Only case 2D satisfy this condition.

Here is the final arrangement:

R
T
Q
W
P
V
S
U

5. Ans. B.
S is at the 2nd last position.
Three boxes are between Q and S. Box V is immediately above box S.

V
S
—
—
—
Q

Q
—
—
V
S

Case 1

Case 2

Now we can see that there is no direct information so we have to create diagram for every possibilities.

Case 1 diagram:

V
S
—
—
Q
—
—

V
S
—
—
Q
—
—

V
S
—
—
Q
—
—

1A

1B

1C

Case 2 diagram:

Q
—
V
S
—
—

Q
—
V
S
—
—

Q
—
V
S
—
—

Q
—
V
S
—
—

2A

2B

2C

2D

Take Case 1:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P.

V
S
U
R
Q
P

R
V
S
U
P
Q

R
V
S
U
P
Q

1A

1B

1C

There are as many boxes between R and W as W and S. But no diagram is follow this condition so all cases 1 gets rejected.

Take case 2:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P. As U is below V so case 2A already gets rejected.

Q
—
R
V
S
U
P

Q
—
R
V
S
U
P

R
Q
—
P
V
S
U

2B

2C

2D

There are as many boxes between R and W as

W and S. Only case 2D satisfy this condition.

Here is the final arrangement:

R
T
Q
W
P
V
S
U

Last but one position - 2nd from the bottom.
So, that box is S.

6. Ans. D.

Box T is above box W.

Three boxes are between Q and S. Box V is immediately above box S.

V
S
—
—
—
Q

Q
—
—
V
S

Case 1

Case 2

Now we can see that there is no direct information so we have to create diagram for every possibilities.

Case 1 diagram:

V
S
—
—
—
Q
—
—

V
S
—
—
—
Q
—
—

V
S
—
—
—
Q
—
—

1A

1B

1C

Case 2 diagram:

Q
—
—
V
S
—
—
—

Q
—
—
V
S
—
—
—

Q
—
—
V
S
—
—
—

Q
—
—
V
S
—
—
—

2A

2B

2C

2D

Take Case 1:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P.

V
S
U
R
—
Q
—
P

R
V
S
U
P
—
Q
—
—

R
V
S
U
P
—
Q
—
—

1A

1B

1C

There are as many boxes between R and W as W and S. But no diagram is follow this condition so all cases 1 gets rejected.

Take case 2:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P. As U is below V so case 2A already gets rejected.

Q
—
—
R
V
S
U
P
—
—

Q
—
—
R
V
S
U
P
—
—

R
—
—
Q
—
—
P
V
S
U

2B

2C

2D

There are as many boxes between R and W as W and S. Only case 2D satisfy this condition.

Here is the final arrangement:

R
T
Q
W
P
V
S
U

7. Ans. A.
No box is below U.
Three boxes are between Q and S. Box V is immediately above box S.

V
S
—
—
—
Q

Q
—
—
V
S

Case 1

Case 2

Now we can see that there is no direct information so we have to create diagram for every possibilities.

Case 1 diagram:

V
S
—
—
Q
—
—

V
S
—
—
Q
—
—

V
S
—
—
Q
—
—

1A

1B

1C

Case 2 diagram:

Q
—
V
S
—
—

Q
—
V
S
—
—

Q
—
V
S
—
—

Q
—
V
S
—
—

2A

2B

2C

2D

Take Case 1:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P.

V
S
U
R
Q
P

R
V
S
U
P
Q

R
V
S
U
P
Q

1A

1B

1C

There are as many boxes between R and W as W and S. But no diagram is follow this condition so all cases 1 gets rejected.

Take case 2:

One box is kept between V and U. Box U is below box V. 3 boxes are kept between R and P. Box R is above P. As U is below V so case 2A already gets rejected.

Q
—
R
V
S
U
P

Q
—
R
V
S
U
P

R
Q
—
P
V
S
U

2B

2C

2D

There are as many boxes between R and W as W and S. Only case 2D satisfy this condition.

Here is the final arrangement:

R
T
Q
W
P
V
S
U

8. Ans. C.
Either conclusion I or conclusion II is true
Explanation:
 $A \geq J = N$; $H > Y > I < S = N$
From the statements we have,
 $A \geq J = N$. So, $A \geq N$
Conclusions:
I. $A = N$
II. $A > N$
So, I and II are complementary
9. Ans. B.
Only conclusion II is true
Explanation:
 $U > J \leq H = S$; $T \leq J > F$
From the statements we have,
 $U > J > F$. So, $U > F$.
Also, $U > J \geq T$. So, $U > T$
Conclusions:
I. $F \leq U$: it is FALSE
II. $U > T$: it is TRUE
10. Ans. A.
Only conclusion I is true.
Explanation:
 $Y > U \leq H = Q$; $R \leq U > M$
From the statements we have,
 $R \leq U \leq H = Q$. So, $R \leq Q$
Also, $M < U \leq H = Q$. So, $Q > M$
Conclusions:
I. $R \leq Q$: It is TRUE
II. $Q \geq M$: It is FALSE
11. Ans. D.
Neither conclusion I nor conclusion II is true
Explanation:
 $H < S = L \geq F > G \leq Q$
From the statements we have,
 $H < L > G$. So, relation between H and G cannot be established.
Also, $L > G \leq W$. So, relation between L and W cannot be established.

Conclusions:

- I. $H > G$: It is FALSE
II. $W \leq L$: It is FALSE

12. Ans. B.
Statements: $T > U \geq V \geq W$; $X < Y = W > Z$
After combining both statements:
 $T > U \geq V \geq W = Y > X$; $W = Y > Z$
Conclusions: I. $Z > U$ (not true) $\{W > Z \text{ \& } W \Rightarrow U > Z\}$
II. $W < T$ (true) $\{U > W \text{ \& } T > U \Rightarrow T > W\}$
Therefore only conclusion II is true.
13. Ans. B.
Given number - 8367284
As per the question - 2' is subtracted from each even digit and '1' is added to each odd digit
- $8 - 2 = 6$
 $3 + 1 = 4$
 $6 - 2 = 4$
 $7 + 1 = 8$
 $2 - 2 = 0$
 $8 - 2 = 6$
 $4 - 2 = 2$
- New number formed - is 6448062
- Only two digits appear twice in the new number thus formed which is 6 & 4.
14. Ans. D.
Before rearranging as descending order: 935126
After rearranging as descending order: 965321
9, 5 and 2 are on the same place as before.
So, there are 3 digits
15. Ans. E.
1 2 3 4 5 6 7 8 9 10 11
S P O N T A N E O U S
Meaningful words = NEST, SENT, NETS, TENS
16. Ans. B.
The code for 'mind' is - dh
- The codes are given below -
- Intellectual - ga
bright - pa/la
and - la/pa

- mind - dh
students - mt
Fresh - ni
Clear - mi
thoughts -pz/ma
17. in - ma/pz
Ans. C.
The code for 'bright and clear' - la pa mi
The codes are given below -
Intellectual - ga
bright - pa/la
and - la/pa
mind - dh
students - mt
Fresh - ni
Clear - mi
thoughts -pz/ma
18. in - ma/pz
Ans. A.
The code 'ni' stand for fresh
The codes are given below -
Intellectual - ga
bright - pa/la
and - la/pa
mind - dh
students - mt
Fresh - ni
Clear - mi

- thoughts -pz/ma
in - ma/pz
19. Ans. D.
The code for 'thoughts' is either - pz/ma
The codes are given below -
Intellectual - ga
bright - pa/la
and - la/pa
mind - dh
students - mt
Fresh - ni
Clear - mi
thoughts -pz/ma
20. in - ma/pz
Ans. A.
The code 'ga' stand for - Intellectual
The codes are given below -
Intellectual - ga
bright - pa/la
and - la/pa
mind - dh
students - mt
Fresh - ni
Clear - mi
thoughts -pz/ma
21. in - ma/pz
Ans. B.
R bought car in August.
Case 1: If U bought car in June-
U bought a car in a month which was having 30 days but not in September. So U bought

car either in June or November.

Three persons bought cars between U and T. So T bought car in October. Two persons bought cars between T and Q so Q bought car in July. P bought car one of the months before Q so this case gets rejected.

Month	Person
June(30)	U
July(31)	Q
August(31)	
September(30)	
October(31)	T
November(30)	
December(31)	

Case 2: If U bought car in November-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in July. Two persons bought cars between T and Q so Q bought car in October. Three persons bought cars between Q and P. Two persons bought cars between P and V so V bought car in September. S bought car one of the months after V so S bought car in December and R bought car in August.

Here is the final table:

Month	Person
June(30)	P
July(31)	T
August(31)	R
September(30)	V
October(31)	Q
November(30)	U
December(31)	S

22. Ans. D.

All the persons bought the car in a month which was having 31 days except P

Case 1: If U bought car in June-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in October. Two persons

bought cars between T and Q so Q bought car in July. P bought car one of the months before Q so this case gets rejected.

Month	Person
June(30)	U
July(31)	Q
August(31)	
September(30)	
October(31)	T
November(30)	
December(31)	

Case 2: If U bought car in November-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in July. Two persons bought cars between T and Q so Q bought car in October. Three persons bought cars between Q and P. Two persons bought cars between P and V so V bought car in September. S bought car one of the months after V so S bought car in December and R bought car in August.

Here is the final table:

Month	Person
June(30)	P
July(31)	T
August(31)	R
September(30)	V
October(31)	Q
November(30)	U
December(31)	S

23. Ans. A.

Only one person bought car between P and R.

Case 1: If U bought car in June-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in October. Two persons bought cars between T and Q so Q bought car in July. P bought car one of the months before Q so this case gets rejected.

Month	Person
June(30)	U
July(31)	Q
August(31)	
September(30)	
October(31)	T
November(30)	
December(31)	

Case 2: If U bought car in November-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in July. Two persons bought cars between T and Q so Q bought car in October. Three persons bought cars between Q and P. Two persons bought cars between P and V so V bought car in September. S bought car one of the months after V so S bought car in December and R bought car in August.

Here is the final table:

Month	Person
June(30)	P
July(31)	T
August(31)	R
September(30)	V
October(31)	Q
November(30)	U
December(31)	S

24. Ans. E.
None is correct.

Case 1: If U bought car in June-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in October. Two persons bought cars between T and Q so Q bought car in July. P bought car one of the months before Q so this case gets rejected.

Month	Person
June(30)	U
July(31)	Q
August(31)	
September(30)	
October(31)	T
November(30)	
December(31)	

Case 2: If U bought car in November-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in July. Two persons bought cars between T and Q so Q bought car in October. Three persons bought cars between Q and P. Two persons bought cars between P and V so V bought car in September. S bought car one of the months after V so S bought car in December and R bought car in August.

Here is the final table:

Month	Person
June(30)	P
July(31)	T
August(31)	R
September(30)	V
October(31)	Q
November(30)	U
December(31)	S

25. Ans. B.
2 persons bought car after Q.

Case 1: If U bought car in June-

U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in October. Two persons bought cars between T and Q so Q bought car in July. P bought car one of the months before Q so this case gets rejected.

Month	Person
June(30)	U
July(31)	Q
August(31)	
September(30)	
October(31)	T
November(30)	
December(31)	

Case 2: If U bought car in November-

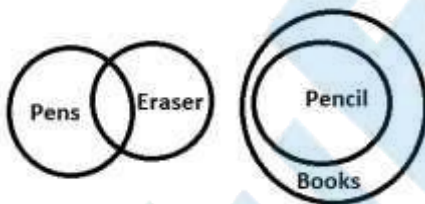
U bought a car in a month which was having 30 days but not in September. So U bought car either in June or November.

Three persons bought cars between U and T. So T bought car in July. Two persons bought cars between T and Q so Q bought car in October. Three persons bought cars between Q and P. Two persons bought cars between P and V so V bought car in September. S bought car one of the months after V so S bought car in December and R bought car in August.

Here is the final table:

Month	Person
June(30)	P
July(31)	T
August(31)	R
September(30)	V
October(31)	Q
November(30)	U
December(31)	S

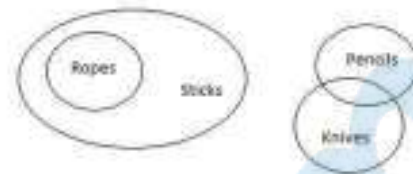
26. Ans. D.



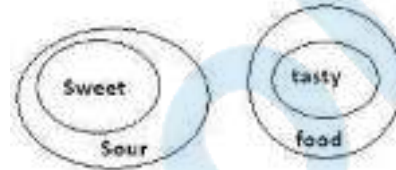
Conclusion I is false

Conclusion II is false

27. Ans. D.



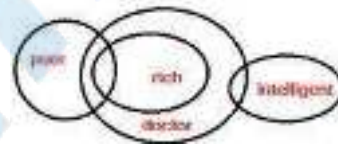
if neither Conclusion I nor II follows.
28. Ans. E.



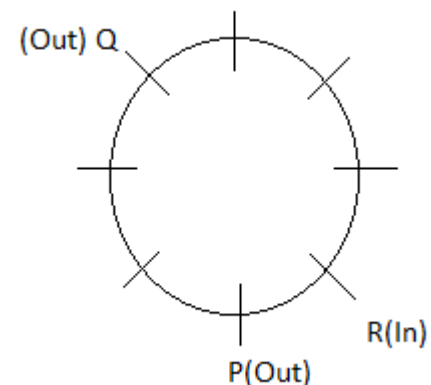
29. Ans. A.



Only **Conclusion I** follows
30. Ans. E.

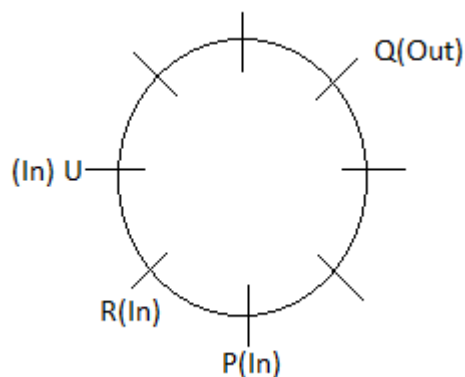


Some intelligent are doctor. So, All intelligent being doctors is a possibility.
31. Ans. C.
According to first clue, P is either facing inside or outside
Scenario I: P is facing outside

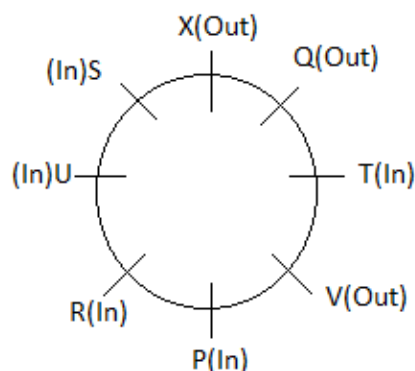


U sits immediate left of R which is not possible in this scenario.

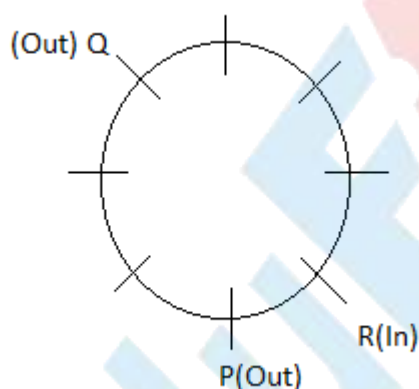
Scenario II: P is facing inside



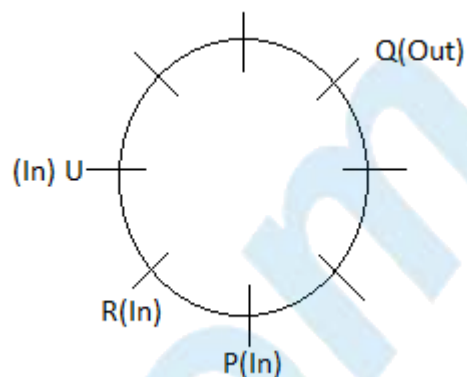
Using the other clues, we get



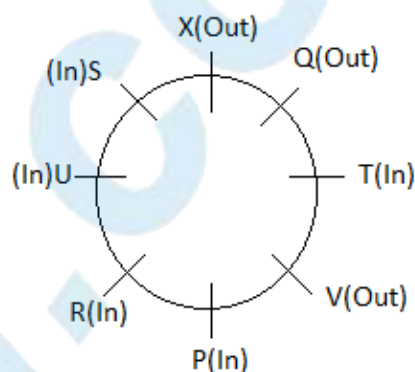
32. Ans. D.
According to first clue, P is either facing inside or outside
Scenario I: P is facing outside



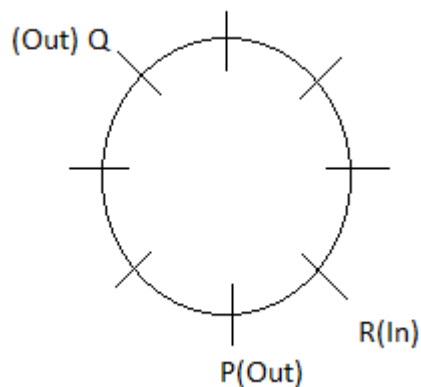
U sits immediate left of R which is not possible in this scenario.
Scenario II: P is facing inside



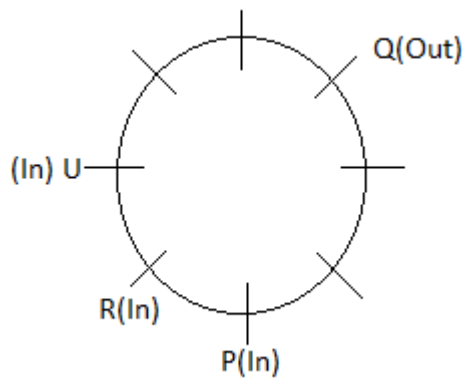
Using the other clues, we get



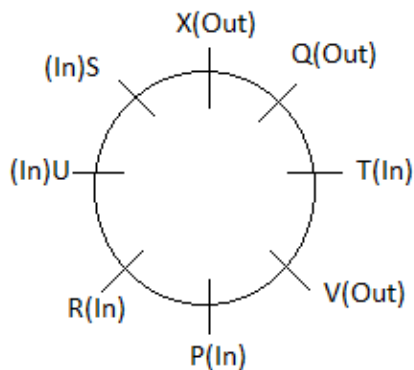
33. Ans. D.
According to first clue, P is either facing inside or outside
Scenario I: P is facing outside



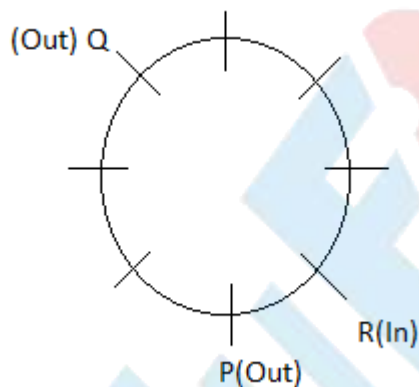
U sits immediate left of R which is not possible in this scenario.
Scenario II: P is facing inside



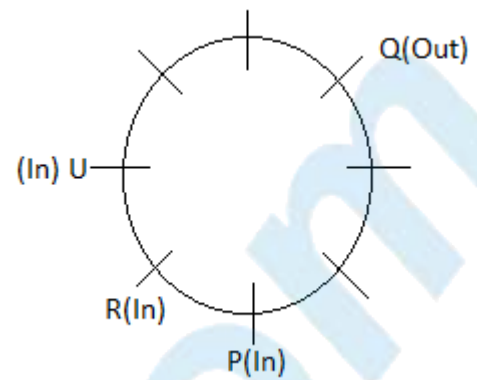
Using the other clues, we get



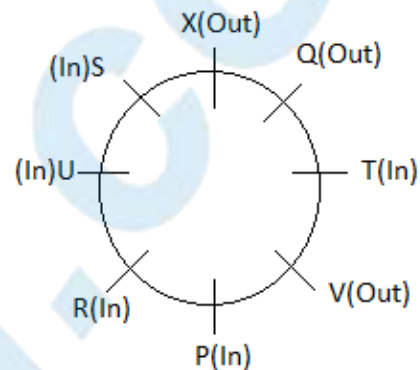
34. Ans. B.
According to first clue, P is either facing inside or outside
Scenario I: P is facing outside



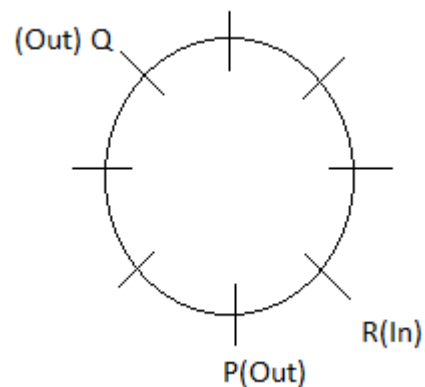
U sits immediate left of R which is not possible in this scenario.
Scenario II: P is facing inside



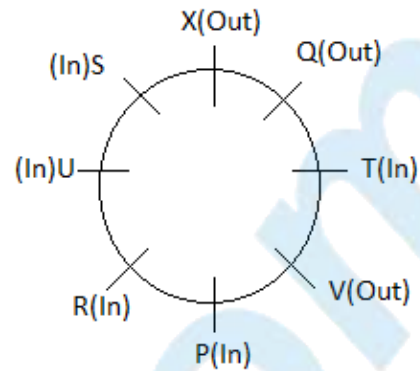
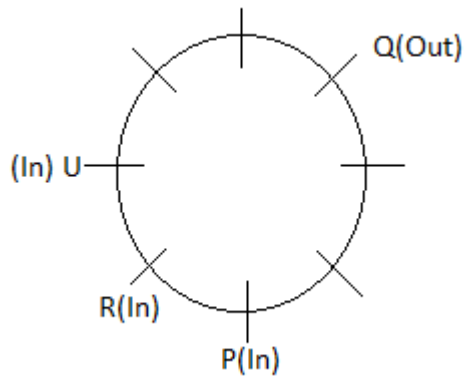
Using the other clues, we get



35. Ans. B.
According to first clue, P is either facing inside or outside
Scenario I: P is facing outside



U sits immediate left of R which is not possible in this scenario.
Scenario II: P is facing inside



Using the other clues, we get

36. Ans. C.

All the persons are at the end except B.

- Two persons are sitting between M and N. Neither of them is at corner. The one who is facing D is neighbor of N.

Case 1A:

Row 1		N			M	
Row 2	D					

Case 1B:

Row 1		N			M	
Row 2			D			

Case 2A:

Row 1		M			N	
Row 2						D

Case 2B:

Row 1		M			N	
Row 2				D		

Take case 1A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	D					F

Take case 1B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the left end. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	E		D			F

Take case 2A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M it means 3 people are between them but from this

cannot be possible so this case gets rejected.

Row 1	O	M	Q		N	
Row 2			F			D

Take case 2B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the right end. More than two people sit between C and B it means at least 3 people sit between C and B so either C or B at the left end. P is not at any corner so P is facing D and R must be at the end. The immediate neighbor of R is facing B it means N is facing B and C must be at the end and A is facing M.

Here is the final arrangement:

Row 1	O	M	Q	P	N	R
Row 2	C	A	F	D	B	E

37. Ans. D.

D is facing P.

- Two persons are sitting between M and N. Neither of them is at corner. The one who is facing D is neighbor of N.

Case 1A:

Row 1		N			M	
Row 2	D					

Case 1B:

Row 1		N			M	
Row 2			D			

Case 2A:

Row 1		M			N	
Row 2						D

Case 2B:

Row 1		M			N	
Row 2				D		

Take case 1A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	D					F

Take case 1B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the left end. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	E		D			F

Take case 2A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than

2 people sit between E and the one who is facing M it means 3 people are between them but from this cannot be possible so this case gets rejected.

Row 1	O	M	Q		N	
Row 2			F			D

Take case 2B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the right end. More than two people sit between C and B it means at least 3 people sit between C and B so either C or B at the left end. P is not at any corner so P is facing D and R must be at the end. The immediate neighbor of R is facing B it means N is facing B and C must be at the end and A is facing M.

Here is the final arrangement:

Row 1	O	M	Q	P	N	R
Row 2	C	A	F	D	B	E

38. Ans. D.

3 persons sit between O and N.

- Two persons are sitting between M and N. Neither of them is at corner. The one who is facing D is neighbor of N.

Case 1A:

Row 1		N			M	
Row 2	D					

Case 1B:

Row 1		N			M	
Row 2			D			

Case 2A:

Row 1		M			N	
Row 2						D

Case 2B:

Row 1		M			N	
Row 2				D		

Take case 1A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	D					F

Take case 1B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the left end. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	E		D			F

Take case 2A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than

2 people sit between E and the one who is facing M it means 3 people are between them but from this cannot be possible so this case gets rejected.

Row 1	O	M	Q		N	
Row 2			F			D

Take case 2B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the right end. More than two people sit between C and B it means at least 3 people sit between C and B so either C or B at the left end. P is not at any corner so P is facing D and R must be at the end. The immediate neighbor of R is facing B it means N is facing B and C must be at the end and A is facing M.

Here is the final arrangement:

Row 1	O	M	Q	P	N	R
Row 2	C	A	F	D	B	E

39. Ans. B.

R is 3rd to the left of Q.

- Two persons are sitting between M and N. Neither of them is at corner. The one who is facing D is neighbor of N.

Case 1A:

Row 1		N			M	
Row 2	D					

Case 1B:

Row 1		N			M	
Row 2			D			

Case 2A:

Row 1		M			N	
Row 2						D

Case 2B:

Row 1		M			N	
Row 2				D		

Take case 1A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	D					F

Take case 1B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the left end. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	E		D			F

Take case 2A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than

2 people sit between E and the one who is facing M it means 3 people are between them but from this cannot be possible so this case gets rejected.

Row 1	O	M	Q		N	
Row 2			F			D

Take case 2B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the right end. More than two people sit between C and B it means at least 3 people sit between C and B so either C or B at the left end. P is not at any corner so P is facing D and R must be at the end. The immediate neighbor of R is facing B it means N is facing B and C must be at the end and A is facing M.

Here is the final arrangement:

Row 1	O	M	Q	P	N	R
Row 2	C	A	F	D	B	E

40. Ans. C.

A and M are facing each other.

- Two persons are sitting between M and N. Neither of them is at corner. The one who is facing D is neighbor of N.

Case 1A:

Row 1		N			M	
Row 2	D					

Case 1B:

Row 1		N			M	
Row 2			D			

Case 2A:

Row 1		M			N	
Row 2						D

Case 2B:

Row 1		M			N	
Row 2				D		

Take case 1A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	D					F

Take case 1B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the left end. More than two people sit between C and B it means at least 3 people sit between C and B from this cannot be possible so this case gets rejected.

Row 1		N		O	M	Q
Row 2	E		D			F

Take case 2A:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than

2 people sit between E and the one who is facing M it means 3 people are between them but from this cannot be possible so this case gets rejected.

Row 1	O	M	Q		N	
Row 2			F			D

Take case 2B:

O is 2nd to the right of Q. O is not neighbor of N. The one who is facing O is 2nd to the left of F. More than 2 people sit between E and the one who is facing M so E must be at the right end. More than two people sit between C and B it means at least 3 people sit between C and B so either C or B at the left end. P is not at any corner so P is facing D and R must be at the end. The immediate neighbor of R is facing B it means N is facing B and C must be at the end and A is facing M.

Here is the final arrangement:

Row 1	O	M	Q	P	N	R
Row 2	C	A	F	D	B	E

Quantitative Aptitude Solutions

1. Ans. B.
 $131 - 64 = 67$
 $67 - 32 = 35$
 $35 - 16 = 19$
 $19 - 8 = 11$
 $11 - 4 = 7$

2. Ans. C.
 $25 + 3 = 28$
 $28 - 6 = 22$
 $22 + 9 = 31$
 $31 - 12 = 19$
 $19 + 15 = 34$

3. Ans. A.
 $7 \times 0.5 + 1 = 4.5$
 $4.5 \times 1 + 1.5 = 6$
 $6 \times 1.5 + 2 = 11$
 $11 \times 2 + 2.5 = 24.5$

4. Ans. B.
 $1 + 3 = 4$
 $4 + 5 = 9$
 $9 + 9 = 18$
 $18 + 17 = 35$
 Again we have to check here -
 $3 + 2 = 5$
 $5 + 4 = 9$
 $9 + 8 = 17$
 $17 + 16 = 33$
 We will add 33 in 35 = 68

5. Ans. D.
 $3.5 \times 2 - 3 = 4$
 $4 \times 3 - 4 = 8$
 $8 \times 4 - 5 = 27$
 $27 \times 5 - 6 = 129$
 $129 \times 6 - 7 = 767$

6. Ans. E.
 $2x^2 + 11x + 14 = 0$
 $2x^2 + 4x + 7x + 14 = 0$
 $2x(x+2) + 7(x+2) = 0$
 $(x+2)(2x+7) = 0$
 i.e. $x = -2$ or $-7/2$
 $2y^2 + 13y + 21 = 0$
 $2y^2 + 6y + 7y + 21 = 0$
 $2y(y+3) + 7(y+3) = 0$
 $(2y+7)(y+3) = 0$
 i.e. $y = -3$ or $-7/2$
 Thus, Relationship cannot be established.

7. Ans. B.
 $x^2 - 9x + 20 = 0$
 $x^2 - 5x - 4x - 20 = 0$
 $(x-5)(x-4) = 0$
 i.e. $x = 4$ or 5
 $y^2 = 16$
 $y = (16)^{1/2}$
 $y = 4$ or -4
 Thus, $x \geq y$

8. Ans. C.
 $x^2 - 7x + 12 = 0$
 $x^2 - 4x - 3x + 12 = 0$
 $x(x-4) - 3(x-4) = 0$
 i.e. $x = 3$ or 4
 $y^2 - 11y + 30 = 0$
 $y^2 - 5y - 6y + 30 = 0$
 $y(y-5) - 6(y-5) = 0$
 i.e. $y = 5$ or 6
 Thus, $y > x$

9. Ans. C.
 $x^2 - 8x + 15 = 0$
 $x^2 - 5x - 3x + 15 = 0$
 $x(x-5) - 3(x-5) = 0$

i.e. $x = 5$ or 3

$$y^2 - 12y + 36 = 0$$

$$y^2 - 6y - 6y + 36 = 0$$

$$y(y-6) - 6(y-6) = 0$$

$$\text{i.e. } y = 6$$

Thus, $y > x$

10. Ans. E.

$$2x^2 + 9x + 7 = 0$$

$$2x^2 + 7x + 2x + 7 = 0$$

$$x(2x+7) + 1(2x+7) = 0$$

$$\text{i.e. } x = -1 \text{ or } -7/2$$

$$y^2 + 4y + 4 = 0$$

$$y^2 + 2y + 2y + 4 = 0$$

$$y(y+2) + 2(y+2) = 0$$

$$\text{i.e. } y = -2$$

Thus, Relationship cannot be established between X & Y.

11. Ans. A.

Required Average =

$$(3750+3000+2500+3750+3500)/5 = 3300$$

12. Ans. B.

Total number of students (males and females together) in University P = $(3000 + 3750) = 6750$

Total number of students (males and females together) in University R = $2500+4250 = 6750$

Ratio = 1:1

13. Ans. B.

$$\text{Required ratio} = (3750 + 3000) : (4250 + 2750) = 27 : 28$$

14. Ans. D.

Required percentage =

$$[4000/(3750+3000+2500+3750+3500)] \times 100 \\ = (4000/16500) \times 100 = 24\% \text{ (approx)}$$

15. Ans. C.

$$\text{Required number} = 2750 + 50\% \text{ of } 2750 + 3500 = 7625$$

16. Ans. A.

Number of teachers in physics subject = 1800

$$\times \frac{17}{100}$$

$$= 306$$

Number of female teachers in physics = $306 \times$

$$\frac{2}{9}$$

$$= 68$$

Number of male teachers in physics = $306 - 68$

$$= 238$$

Number of teachers in chemistry subject =

$$1800 \times \frac{23}{100} \\ = 414$$

$$\text{Required percentage} = \frac{238}{414}$$

= 57 % (approx).

17. Ans. B.

Number of teachers in Chemistry subject =

$$1800 \times 23\% = 414$$

Number of teachers in English subject = $1800 \times 27\% = 486$

Number of teachers in Biology subject = $1800 \times 12\% = 216$

$$\text{Required number} = 414 + 486 + 216 = 1116$$

18. Ans. B.

Total number of teachers English and Physics = $486 + 306 = 792$

Total number of teachers Mathematics and Biology = $234 + 216 = 450$

$$\text{Required difference} = 792 - 450 = 342$$

19. Ans. E.

Number of teachers in Mathematics subject = $1800 \times 13\% = 234$

Number of teachers in Hindi subject = $1800 \times 8\% = 144$

$$\text{Required ratio} = 234 : 114 \\ = 13 : 8$$

20. Ans. C.

Number of increased Mathematics teachers = $234 + 234 \times 50\% = 351$

Number of decreased Hindi teachers = $144 - 144 \times 25\% = 108$

$$\text{Required total number} = 351 + 108 \\ = 459$$

21. Ans. A.

Average number of students, who appeared for Physics from the year, 2011 to 2015 = $(650 + 250 + 350 + 600 + 350)/5 = 440$

22. Ans. D.

Total number of students who appeared for Physics from 2013 to 2015 = $(350 + 600 + 350) = 1300$

Total number of students, who appeared for Chemistry from 2011 to 2013 = $(800 + 630 + 550) = 1980$

$$\text{Required ratio} = 1300 : 1980 = 65:99$$

23. Ans. B.
Students who did not pass in Physics in the year 2011 = $70/100 \times 650 = 455$
Students who did not pass in Physics in the year 2015 = $30/100 \times 350 = 105$
Average = $(455 + 105)/2 = 280$
24. Ans. D.
Total number of students, who passed in Chemistry in 2011 = $50/100 \times 800 = 400$
Total number of students who did not pass in Physics in 2015 = $30/100 \times 350 = 105$
Difference = $400 - 105 = 295$
25. Ans. B.
Total number of students who did not pass Physics in 2013 = $50/100 \times 350 = 175$
Total number of students who did not pass Chemistry in 2013 = $80/100 \times 550 = 440$
Percentage = $175/440 \times 100 = 39.77\% = 40\%$
26. Ans. A.
Take nearest values
 $21.003 \times 39.998 - 209.91 = 126 \times ?$
 $630 = 126 \times ?$
 $? = 5$ (approx)
27. Ans. C.
 $(\frac{47}{100} \times 1442 - \frac{36}{100} \times 1412) : 63$
 $= (677.74 - 508.32) \div 63 = 169.42/63 = 2.689 = 3$ (Approx)
Hence option C is correct
28. Ans. D.
 $? = 2418.065 + 88 \div 14.2 \times 6$
 $? = 2418.065 + 88 \times \frac{1}{14.2} \times 6$
 $? = 2418.065 + 6.197 \times 6$
 $? = 2418.065 + 37.18$
 $? = 2455.25$
 $? = 2455$ (Approx.)
29. Ans. E.
 $1200 \div 15 \times 20 + 400 = 80 \times 20 + 400$
 $= 1600 + 400 = 2000$ (Approx)
Hence option E is correct
30. Ans. E.
 $? = 726 \times \frac{15.2}{100} \times 643 \times \frac{12.8}{100}$
 $= 110.352 \times 82.304$
 $= 9082.41$
 ≈ 9082 (approx)
31. Ans. A.

$$\text{Third Number} = (128 \times 5) - (118 \times 2) - (126 \times 2) = 152$$

32. Ans. A.
Let present age of Anita = 'x' years
And present age of Bablu = 'y' years

$$\frac{x-4}{2} = 5/12$$

$$\text{Now, } 12x - 48 = 40y - 160$$

$$3x - 10y + 28 = 0 \quad \dots\dots\dots(i)$$

And,

$$\frac{1}{2}(x+8) = (y+8) - 2$$

$$x+8 = 2y+12$$

$$x - 2y = 4 \quad \dots\dots\dots(ii)$$

Now, from eqn. (i) & (ii)
Bablu present age, Y = 10 years

33. Ans. B.
Let 100 (CP)
80 (SP) 110 (SP)
Diff. 30

$$30 \text{ units} \rightarrow 24$$

$$1 \text{ unit} \rightarrow \frac{24}{30}$$

$$100 \text{ units} \rightarrow \frac{24}{30} \times 100 = \text{Rs. } 80$$

$$\text{CP} = \text{Rs. } 80$$

34. Ans. A.
A started a business with investing Rs. 8000 and after some months, B joined with investing Rs. 5000.
Equivalent capital of A
= Rs. 8000 \times 12
= Rs. 96000
Let B joined after x months.
So, equivalent capital of B
= Rs. 5000 \times (12 - x)
= Rs. 60000 - 5000x
Total profit after one year = Rs. 4250
Share of A = Rs. 3000. Then, the share of B = Rs. 4250 - 3000 = Rs. 1250
So, the ratio of their share;
A : B = 3000 : 1250 = 12 : 5
Now, we can write,
 $96000 / (60000 - 5000x) = 12/5$
 $\Rightarrow 60000 - 5000x = 96000 \times (5/12)$
 $\Rightarrow 60000 - 5000x = 8000 \times 5$
 $\Rightarrow 5000x = 60000 - 40000$
 $\Rightarrow x = 20000/5000 \Rightarrow x = 4$
 \therefore After 4 months, B joined in the business.

35. Ans. D.

Let the length of train P and Q are $5a$ and $4a$.
speed of train P = $5a/6$

therefore,

$$(5a/6 + 21) \cdot 4 = 5a/3 + 4a$$

$$-5a/3 + 4a = 84$$

$$a = 36$$

$$\text{speed of train P} = 36 \cdot 5/6 = 30 \text{ m/s}$$

36. Ans. D.

$$\text{Total no of balls} = 8 + 7 + 6 = 21$$

Let, E be the event where the ball can be selected which is neither yellow nor black

Number of events where the ball can be selected which is neither yellow nor black = 7

$$P(E) = 7/21 = 1/3$$

37. Ans. D.

Ratio of days of B and C = 2:1

$$\frac{1}{A} + \frac{1}{B} = \frac{1}{60} \dots\dots 1)$$

$$\frac{1}{A} + \frac{1}{C} = \frac{1}{45} \dots\dots 2)$$

$$\frac{1}{A} + \frac{2}{B} = \frac{1}{45} \dots\dots 3)$$

1) and 2)

$$\frac{1}{B} - \frac{1}{180} \Rightarrow B = 180 \text{ days}$$

From equation 1) A = 90 days, and C = 90 days

One day work of A, B and C

$$\frac{1}{90} + \frac{1}{90} + \frac{1}{180} = \frac{2+2+1}{180} = \frac{1}{36}$$

Days = 36 days.

38. Ans. B.

First and second varieties of pulses are mixed in equal proportions

∴ Their average price = INR $(32+45)/2$ = INR 38.5/kg

Let the price of third variety pulse be INR x/kg

The mixture is formed by mixing two varieties becomes one at INR 38.5/kg

By the rule of allegation:

Cost of 1 kg of 1st + 2nd variety
INR 38.5

Cost of 1 kg of 3rd variety
INR x

Mean price INR 38

$$\frac{(x-38)}{38-49.5} = \frac{1}{1}$$

49.5

$$\Rightarrow x - 38 = 49.50$$

$$\Rightarrow x = 137.50$$

Hence, the price of the third variety per kg will be INR 137.50/kg

39. Ans. D.

The time required to travel a certain distance upstream is five times than that of downstream for the same distance.

Let the speed of the boat in upstream be x km/hr. and in downstream be $5x$ km/hr.

We know that if the speed of the downstream is x km/hr and the speed of the upstream is y km/hr, then the speed in still water = $1/2 \times (x + y)$ km/hr.

So, the speed of the boat in still water

$$= 1/2 \times (x + 5x) \text{ km/hr.}$$

$$= 1/2 \times 6x \text{ km/hr.}$$

$$= 3x \text{ km/hr.}$$

Given, the speed of a boat in still water is $(27/4)$ km/hr.

So, we can write now,

$$3x = 27/4$$

$$\Rightarrow x = 9/4$$

So, the speed of the boat in upstream = $9/4$ km/hr.

And the speed of the boat in downstream = $5 \times (9/4)$ km/hr. = $45/4$ km/hr.

Again, we know that if the speed of the downstream is x km/hr and the speed of the upstream is y km/hr, then the speed of the stream = $1/2 \times (x - y)$ km/hr.

∴ The speed of the stream = $1/2 \times [(45/4) - (9/4)]$ km/hr.

$$= 1/2 \times 9 \text{ km/hr.}$$

$$= 9/2 \text{ km/hr.}$$

$$= 4.5 \text{ km/hr.}$$

40. Ans. C.

Curved Surface Area of Cylinder = $2\pi rh$

Total Surface Area of Cylinder = $2\pi r(h+r)$

According to question, $2\pi rh : 2\pi r(h+r) = 3:5$

$$\text{i.e. } h/(h+r) = 3/5$$

$$\text{i.e., } 2h = 3r - (a)$$

Also, Curved surface area of the cylinder = 1848 metre square

$$\text{i.e. } 2\pi rh = 1848$$

$$\text{From (a), } 2\pi (2/3h) \cdot h = 1848$$

On solving the above equation, $h = 21\text{m}$