SSC CPO Previous Year Question Paper 2017

Reasoning Ability (Questions & Solutions)

Directions Q. (1 - 4): In the following questions, select the related word from the given alternatives.

Q. (1) Person : Biography : : ? : ?

1. World: Encyclopedia
2. Nation: History
3. Place: Economy
4. Country: Constitution

Answer: 2

Solution: Expression = **Person : Biography : : ? : ?**

The course of a person's life is his biography, similarly, the course of a country is its history.

Thus, the expression will be **Person : Biography : : Nation: History**

Q. (2) Ramanujan : Mathematician : : Sushruta : ?

1. Scientist
2. Architect
3. Physician
4. Astronomer

Answer: 3

Solution: Ramanujan was an Indian mathematician, similarly Sushruta was an ancient Indian physician.

Q. (3) Smoke : Pollution : : Fire : ?

1. Death
2. Sound
3. Ash
4. Cold

Answer: 3

Solution: Pollution comes from smoke, and ash is thereby product of fire.

Q. (4) Players : Team : : ? : ?

1. Car: Group

2. Ship: Fleet

3. Aeroplane: Flight

4. Pen: Heap

Answer: 2

Solution: The collection of first is called second, a group of players form a team, similarly a group of sheep is called fleet.

Directions Q. (5 - 9): In the following questions, select the related letters from the given alternatives.

Q. (5) EKMR : VPNI : : SJWG : ?

1. HQTD

2. HMQT

3. HDTQ

4. HQDT

Answer: 4
Solution:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓	⇓
Z	Y	X	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A

Q. (6) MTBO : KRZM : : RJMD : ?

1. PHKB
2. PHKA
3. HPKA
4. PHBK

Answer: 1

Solution: The pattern followed is:

- M - 2 = K
- T - 2 = R
- B - 2 = Z
- O - 2 = M

Similarly, R - 2 = **P**

J - 2 = **H**

M - 2 = **K**

D - 2 = **B**

Q. (7) GLOR : FJLN : : TWQK : ?

1. SUNG
2. SUMG
3. SUGN
4. SUGM

Answer: 1

Solution: The pattern followed is:

- G - 1 = F
- L - 2 = J
- O - 3 = L
- R - 4 = N

Similarly, T - 1 = **S**

W - 2 = **U**

Q - 3 = **N**

K - 4 = **G**

Q. (8) GHI : DFH : : LMN : ?

1. IMK
2. JLM
3. ILM
4. IKM

Answer: 4

Solution: The pattern followed is:

- G - 3 = D
- H - 2 = F
- I - 1 = H

Similarly, L - 3 = **I**

M - 2 = **K**

N - 1 = **M**

Q. (9) In the following question, select the related number from the given alternatives.

8 : 512 : : 6 : ?

1. 216
2. 312
3. 408
4. 512

Answer: 1

Solution: The pattern followed is n: n^3

Therefore, 8^3 = 512

Similarly, 6^3 = 216

Q. (10) In the following question, select the related number from the given alternatives.

122 : 145 : : 226 : ?

1. 255
2. 256
3. 257

4. 259

Answer: 3

Solution: The pattern followed is = $[(n)^2 + 1] : [(n +1)^2 + 1]$

Therefore, $(11)^2 + 1 = 122$ and $(11 + 1)^2 + 1 = 121 + (2 \times 11 \times 1) + 1 = 145$

Similarly, $(15)^2 + 1 = 226$ and $(15 + 1)^2 + 1 = 225 + (2 \times 15 \times 1) + 1 = 257$

Directions Q. (11 - 12): In the following question, select the odd letters from the given alternatives.

Q. (11)

1. GJM
2. PSV
3. MPR
4. KNQ

Answer: 3

Solution:

- G (+3 letters) = J (+3 letters) = M
- P (+3 letters) = S (+3 letters) = V
- M (+3 letters) = P (+2 letters) = R
- K (+3 letters) = N (+3 letters) = Q

Q. (12)

1. MT
2. CJ
3. SZ
4. FN

Answer: 4

Solution:

- M (+7 letters) = T
- C (+7 letters) = J

- S (+7 letters) = Z
- F (+8 letters) = N

Directions Q. (13 - 14): In the following question, select the odd number pair from the given alternatives.

Q. (13)

1. 11 - 44
2. 12 - 72
3. 13 - 52
4. 14 - 48

Answer: 4

Solution: The pattern given is:

- 44/11 = 4
- 72/12 = 6
- 52/13 = 4

But 48/14 = 3.42

Hence, **14 - 48** is the odd pair

Q. (14)

1. 5 - 30
2. 12 - 84
3. 11 - 66
4. 8 - 48

Answer: 2

Solution:

- 30/5 = 6
- 84/12 = 7
- 66/11 = 6
- 48/8 = 6

Hence, **8 - 48** is the odd pair.

Directions Q. (15 - 16): Arrange the given words in the sequence in which they occur in the dictionary.

Q. (15)

1. Rangle
2. Regal
3. Royal
4. Room
5. Rested

1. 15432
2. 45312
3. 12543
4. 13542

Answer: 3

Solution: As per the order of the dictionary, we get the following sequence:

Rangle - Regal - Rested - Room - Royal

Hence, **12543** is the correct sequence.

Q. (16)

1. Soul
2. Strain
3. Syrup
4. Sand
5. Strained

1. 41253
2. 42153
3. 54312
4. 45312

Answer: 1

Solution: As per the order of the dictionary, we get the following sequence:

Sand - Soul - Strain - Strained - Syrup

Hence, the correct sequence is **41253**

Directions Q. (17 - 18): A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

Q. (17) GD, DI, AP, XY, ?

1. UH
2. IU
3. ST
4. UJ

Answer: 4

Solution:

Expression: **GD, DI, AP, XY, ?**

The pattern followed in each letter of the terms is:

1st letter: G (-3 letters) = D (-3 letters) = A (-3 letters) = X (-3 letters) = U

2nd letter: D (+5 letters) = I (+7 letters) = P (+9 letters) = Y (+11 letters) = J

Thus, the missing term is **UJ**

Q. (18) WVU, TSR, QPO, ?

1. NML
2. LMN
3. LMK
4. KLM

Answer: 1

Solution:

Expression: **WVU, TSR, QPO, ?**

The pattern followed in each letter of the terms is:

1st letter: W (-3 letters) = T (-3 letters) = Q (-3 letters) = N

2nd letter: V (-3 letters) = S (-3 letters) = P (-3 letters) = M

3rd letter: U (-3 letters) = R (-3 letters) = O (-3 letters) = L

Thus, the missing term is **NML**

Q. (19) In the following question, select the missing number from the given series.

1, 1, 3, 4, 5, 9, 7, 16, 9, 25, 11, ?

1. 17
2. 36
3. 49
4. 37

Answer: 2

Solution:

Given Series: **1, 1, 3, 4, 5, 9, 7, 16, 9, 25, 11, ?**

It is a combination of two series at alternate positions.

Numbers at the odd position are consecutive odd numbers, while numbers at even position are squares

of consecutive natural numbers.

1st series: 1, 3, 5, 7, 9, 11

2nd series: 1, 4, 9, 16, 25, 36

Q. (20) In the following question, select the missing number from the given series.

?, 5, 15, 45, 113

1. 1
2. 2
3. 3
4. 4

Answer: 3

Solution: If we reverse the series as: **113, 45, 15, 5, ?**

Then number of the form = $(n^3 + n)$ are subtracted, where n is a natural number.

- $113 - (4^3 + 4) = 45$
- $45 - (3^3 + 3) = 15$
- $15 - (2^3 + 2) = 5$
- $5 - (1^3 + 1) = 3$

Q. (21) 6 people are sitting in a row. A is sitting towards the immediate left of B and immediate right of C. C is sitting to immediate right of F. D is immediate right of E who is to the left of F, then which two people are sitting in the centre?

1. D and B
2. A and B
3. F and C
4. E and D

Answer: 3

Solution:

A is sitting towards the immediate left of B and immediate right of C.

Therefore, we get the possible arrangement as **CAB**

Also, C is sitting to the immediate right of F

Thus, the arrangement is **FCAB**

Given, D is immediate right of E who is to the left of F

Therefore, **EDF** is another possible arrangement.

Thus, the final arrangement is:

E	D	F	C	A	B

Hence, **F** and **C** are sitting in the centre.

Q. (22) Sunil's position from the left in a row of boys is 20th and Deepak's position from the right is 36th. After interchanging their position, Sunil becomes 28th from the left. How many boys are there in the row?

1. 52
2. 63
3. 59
4. 48

Answer: 2

Solution: Deepak's initial position = 36th from right

Sunil final position = 28th from left

Also, after interchanging, Deepak's initial position = Sunil's final position
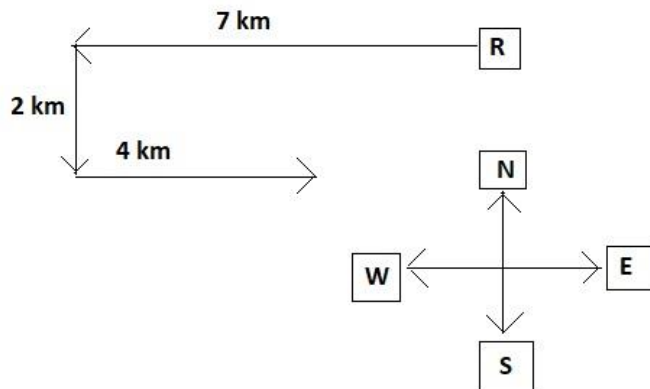
Thus, the number of boys = (36 + 28) - 1 = 63

Q. (23) Vikram started from point R and walked straight 7 km west, then turned left and walked 2 km and again turned left and walked straight 4 km. In which direction is he from R?

1. North-East
2. South-West
3. South-East
4. North-West

Answer: 2

Solution:

Therefore, he is in the south-west direction from R.

Directions Q. (24 - 25): In the following question, select the word which cannot be formed using the letters of the given word.

Q. (24) Liberation

1. Ratio
2. Aion
3. Bear
4. Liberal

Answer: 4

Solution: The word LIBERATION does not contain two 'L', thus the term Liberal cannot be formed.

Q. (25) Deliberate

1. Dilate
2. Tail
3. Betray
4. Elated

Answer: 3

Solution: The word DELIBERATE does not contain any 'Y', thus the term Betray cannot be formed.

Q. (26) In a certain code language, **"SATURN"** is written as **"JVQXWW"** and **"URANUS"** is written as **"OYJENY"**. How is **"JUITER"** written in that code language?

1. NIPMQN
2. NIPMYF
3. NQMPIN
4. FYLMPI

Answer: 1

Solution: The pattern followed is:

S + 4 = **W**

A - 4 = **W**

T + 4 = **X**

U - 4 = **Q**

R + 4 = **V**

N - 4 = **J**

Also, U + 4 = **Y**

R - 4 = **N**

A + 4 = **E**

N - 4 = **J**

U + 4 = **Y**

S - 4 = **O**

Similarly, for **"JUITER"**,

J + 4 = **N**

U - 4 = **Q**

I + 4 = **M**

T - 4 = **P**

E + 4 = **I**

R - 4 = **N**

Q. (27) In a certain code language, **"CAGES"** is written as **"NADYB"** and **"SILVER"** is written as **"LZRIGR"**. How is **"WATER"** written in that code language?

1. MAQYV
2. SGWEB
3. QCPVR
4. VYQAM

Answer: 1

Solution: The pattern followed is:

- C - 1 = **B**
- A - 2 = **Y**
- G - 3 = **D**
- E - 4 = **A**
- S - 5 = **N**

Also,

S - 1 = **R**

I - 2 = **G**

L - 3 = **I**

V - 4 = **R**

E - 5 = **Z**

R - 6 = **L**

Similarly,

W - 1 = **V**

A - 2 = **Y**

T - 3 = **Q**

E - 4 = **A**

R - 5 = **M**

Hence, the code for **"WATER"** is **"MAQYV"**

Q. (28) If "-" denotes "divided by", "+" denotes "subtracted from", "×" denotes "added to" and "÷" denotes "multiplied by", then **4 ÷ 16 × 5 + 4 - 2 = ?**

1. 2
2. 43
3. 22
4. 67

Answer: 4

Solution: Expression : **4 ÷ 16 × 5 + 4 - 2 = ?**

Therefore, according to the given condition,

4 × 16 + 5 − 4 ÷ 2

= (4 × 16) + 5 − 2

= 64 + 3

= 67

Q. (29) If **38 # 49 = 24** and **96 # 51 = 21**, then **87 # 78 = ?**

1. 26
2. 21
3. 28
4. 30

Answer: 4

Solution:

The pattern followed is that the sum of digits of both the numbers is equal to the number at the right.

- (3 + 8) + (4 + 9) = 24
- (9 + 6) + (5 + 1) = 21

Similarly, (8 + 7) + (7 + 8) = 30

Q. (30) If **27 * 4 = 77** and **31 * 9 = 239**, then **21 * 6 = ?**

1. 94
2. 107
3. 99
4. 106

Answer: 3

Solution: Given : **27 * 4 = 77** and **31 * 9 = 239**

The pattern followed is:

a * b = a x (b - 1) - b

- 27 x (4 - 1) - 4 = (27 x 3) - 4 = 77
- 31 x (9 - 1) - 9 = (31 x 8) - 8 = 239

Therefore, 21 x (6 - 1) - 6 = (21 x 5) - 6 = 99

Directions Q. (31 - 32): In each of the following question below are given some statements followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusion logically follows the given statements.
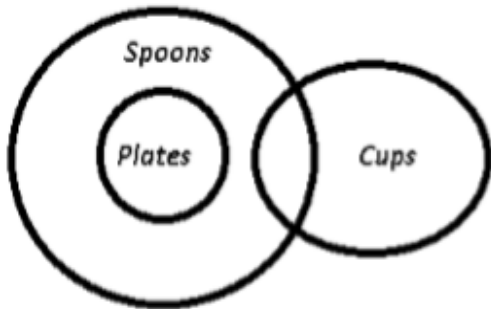
Q. (31)

Statements:

I. No cups are plate.
II. All plates are spoons.

Conclusions:

    I.   Some cups are not spoons.

   II.   Some spoons are plates.

  III.   Some plates are spoons.

    1.   Only conclusion (II) follows

    2.   Only conclusion (III) follows

    3.   Only conclusion (I) and (III) follow

    4.   Only conclusion (II) and (III) follow

Answer: 4

Solution:

Q. (32)

Statements:

    I.   All men are hardworking.

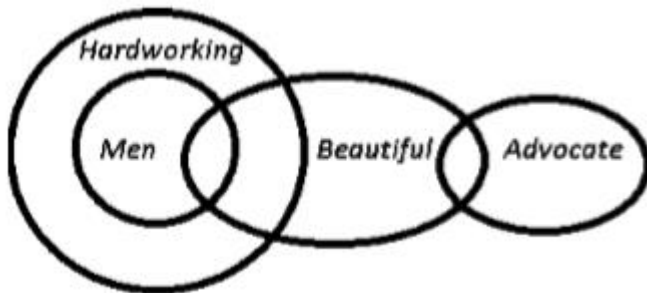   II.   No advocate is hardworking.

  III.   Some beautiful are men.

Conclusions:

    I.   Some beautiful are hardworking.

   II.   Some advocates are not beautiful.

  III.   Some beautiful are not advocate.

    1.   Only conclusion (I) follow

    2.   Only conclusion (I) and (III) follow

3. Only conclusion (II) and (III) follow

4. Only conclusion (I) and (II) follow

Answer: 1

Solution:

Thus, only conclusion (I) follows.

Q. (33) If **14 $ 8 = 91** and **18 $ 4 = 51**, then **21 $ 9 = ?**

1. 160

2. 155

3. 151

4. 168

Answer: 1

Solution: For the numbers of the form : **x $ y = (x − 1) × (y − 1)**

- (14 − 1) × (8 − 1) = (13 × 7) = 91
- (18 − 1) × (4 − 1) = (17 × 3) = 51
- (21 − 1) × (9 − 1) = (20 × 8) = 160

Q. (34) If **17 * 36 = 17** and **41 * 56 = 16**, then **41 * 32 = ?**

1. 6

2. 12

3. 10

4. 8

Answer: 3

Solution:

17 * 36 = 17 and 41 * 56 = 16

The number on the right is equal to the sum of digits of both the numbers on the left.

- (1 + 7) + (3 + 6) = 17
- (4 + 1) + (5 + 6) = 16

Similarly, 41 * 32 = (4 + 1) + (3 + 2) = 5 + 5 = 10

Directions Q. (36 - 37): In the following question, select the odd letters from the given alternatives.

Q. (36)

1. AD
2. QS
3. VX
4. EG

Answer: 1

Solution:

A (+3 letters) = **D**

Q (+2 letters) = **S**

V (+2 letters) = **X**

E (+2 letters) = **G**

Q. (37)

1. HJLN
2. LNPR
3. SUWY
4. EGIJ

Answer: 4

Solution:

H (+2 letters) = J (+2 letters) = L (+2 letters) = **N**

L (+2 letters) = N (+2 letters) = P (+2 letters) = **R**

S (+2 letters) = U (+2 letters) = W (+2 letters) = **Y**

E (+2 letters) = G (+2 letters) = I (+1 letter) = **J**

Directions Q. (38 - 39): A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

Q. (38) P, M, J, G, ?

1. E
2. C
3. F
4. D

Answer: 4

Solution: The pattern followed is:

P (-3 letters) = **M**

M (-3 letters) = **J**

J (-3 letters) = **G**

G (-3 letters) = **D**

Q. (39) AA, DB, IC, PD, ?

1. WF
2. XE
3. YE
4. WE

Answer: 3

Solution:

AA, DB, IC, PD, ?

The pattern followed in each letter of the terms is:

1st letter : **A** (+3 letters) = **D** (+5 letters) = **I** (+7 letters) = **P** (+9 letters) = **Y**

2nd letter : **A** (+1 letter) = **B** (+1 letter) = **C** (+1 letter) = **D** (+1 letter) = **E**

Thus, the missing term = **YE**

Directions Q. (40 - 41): In the following question, select the missing number from the given series.

Q. (40) 1, 8, 29, 92, 281, ?

1. 567
2. 628
3. 776
4. 848

Answer: 4

Solution: Numbers of the form (7×3^n) are added, where n is a whole number.

1. $1 + (7 \times 3^0) = 8$
2. $8 + (7 \times 3^1) = 29$
3. $29 + (7 \times 3^2) = 92$
4. $92 + (7 \times 3^3) = 281$
5. $281 + (7 \times 3^4) = 848$

Q. (41) 2, 7, 22, 67, ?

1. 197
2. 198
3. 200
4. 202

Answer: 4

Solution: Numbers of the form (5×3^n) are added, where n is a whole number.

$2 + (5 \times 3^0) = 7$

$7 + (5 \times 3^1) = 22$

$22 + (5 \times 3^2) = 67$

$67 + (5 \times 3^3) = 202$

Q. (42) In a row of cars Maruti is 20th from the left end of row. Honda is 10th to the right from Maruti and is at the exact center of the row. How many cars are there in the row?

1. 54
2. 59
3. 57
4. 56

Answer: 2

Solution: Position of Honda car from left (or from right as it is in the center) = 20 + 10 = 30th

Total number of cars = (30 + 30) - 1 = 59

Q. (43) Kunal is elder to Rohit. Vivek is younger to Sushma, and Kunal is elder to Vivek. Who is the youngest?

1. Sushma
2. Rohit
3. Vivek
4. Cannot be determined

Answer: 4

Solution: Kunal is elder to Rohit and also, Kunal is elder to Vivek

Therefore, Kunal > Rohit, Vivek.
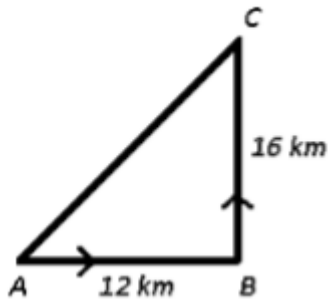
Also, Vivek is younger to Sushma.

Thus, either Rohit or Vivek is the youngest, hence it cannot be determined.

Q. (44) Sunny started running from his house, he first ran for 12 km towards east, then he turned towards north and ran 16 km in that direction. How far Sunny is from his house and in which direction?

1. 13 km South
2. 13 km North
3. 15 km West
4. 20 km North-East

Answer: 4

Solution:

$(AC)^2 = (AB)^2 + (BC)^2$

$\Rightarrow (AC)^2 = (12)^2 + (16)^2$

$\Rightarrow (AC)^2 = 144 + 256$

$\Rightarrow AC = 400$

$\Rightarrow AC = 20$ km

Therefore, Sunny is 20 km from his house and in north-east direction.

Q. (45) If **"P"** denotes **"multiplied by"**, **"Q"** denotes **"subtracted from"**, **"S"** denotes **"added to"** and **"R"** denotes **"divided by"**, then which of the following equation must be true?

1. 7 S 56 P 2 R 28 = 11
2. 36 R 6 P 2 S 4 = 19
3. 64 R 8 P 3 S 6 = 72
4. 36 R 9 S 4 P 2 = 14

Answer: 1

Solution:

7 S 56 P 2 R 28 = 11

Therefore, 7 + 56 × 2 ÷ 28 = 11

L.H.S. = 7 + [(56 x 2)/28]

= 7 + (112/28)

= 7 + 4 = 11

= R.H.S.

Q. (46) If "θ" denotes "added to", "δ" denotes "subtracted from", "β" denotes "divided by" and "α" denotes "multiplied by", then 5 β 1 δ 9 α 7 θ 142 = ?

1. 114
2. 98
3. 84
4. 125

Answer: 3

Solution:

Expression: **5 β 1 δ 9 α 7 θ 142 =?**

Therefore, 5 ÷ 1 − 9 × 7 + 142

= (5/1) - (9 x 7) + 142

= 5 - 63 + 142

= 84

Directions Q. (47 - 48): In each of the following questions below are given some statements followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusion logically follows the given statements.

Q. (47)

Statements:

  I.   All cups are glasses.
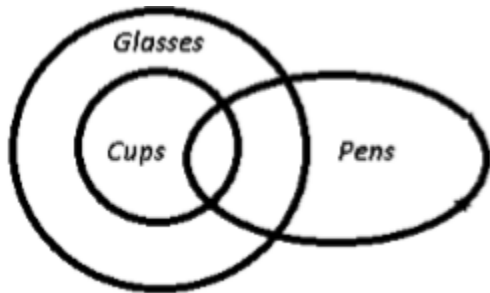 II.   Some cups are pens.

Conclusions:

  I.   Some pens are cups.
 II.   Some pens are glasses.
III.   Some pens are not cups.

1. Only conclusion (I) and (III) follow.
2. Only conclusion (II) and (III) follow.

3. Only conclusion (I) and (II) follow.

4. All conclusions follow.

Answer: 3

Solution:

Hence, only conclusion (I) and (II) follow.

Q. (48)

Statements:

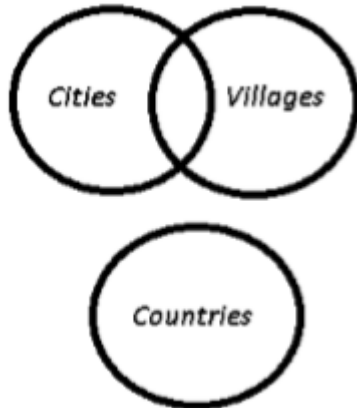I. No cities are countries.

II. No countries are villages.

Conclusions:

I. Some countries are city.

II. No villages are city.

1. Only conclusion (I) follows.

2. Only conclusion (II) follows.

3. Both conclusion follow.

4. Neither conclusion (I) nor conclusion (II) follows.

Answer: 4

Solution:

Hence, neither conclusion (I) nor conclusion (II) follows.

Q. (49) In a row of people, there are 12 people before Q. There are 4 people between P and Q. There are 15 people between Q and S. If there are 8 people between S and R, then how many minimum people are there in the row ?

1. 29
2. 32
3. 36
4. 37

Answer: 1

Solution:

There are 12 people before Q.

Let us assume Q is at 13th position from left end.

There are 15 people between Q and S.

Therefore, S is at 29th position.

Also, there are 4 people between P and Q.

Hence, P can be either at 8th or 18th position from left.

There are 8 people between S and R.

Therefore, R is at 20th position.

Thus, there are minimum of 29 people in the row.

Q. (50) If 'P 3 Q' means 'Q is daughter of P', 'P 5 Q' means 'Q is son of P', 'P 7 Q' means 'P is sister Q', 'P 9 Q' means 'P is brother of Q'. Which of the following expression indicates A is the nephew of D ?

1. B 9 D 5 C 5 A
2. B 7 D 9 C 5 A
3. B 7 D 7 C 3 A
4. B 7 D 9 C 3 A

Answer: 2

Solution:

- **B 9 D 5 C 5 A**

B is brother of D and D is son of C.

Also, C is the son of A.

Hence, A is either grandfather or grandmother of D.

- **B 7 D 9 C 5 A**

 B is the sister of D and D is the brother of C.

Also, A is the son of C.

Hence, A is the nephew of D.