NTS GAT General Past Paper

Analytical – Exam No. 15 (PP)

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Ten persons will sit around a table. The ten persons will be seated in two rows of five chairs that face each other along the two long sides of the rectangular table. The chairs are numbered consecutively from 1 to 10 with chairs 1 through 5 on one side of the table and chairs 6 through 10 on the other side, with chair 6 opposite chair 5. Five of the ten persons are men F, G, H, J, and L and five of the persons are women M, R, S, T, and Y. The seating is governed by the following rules:

On each long side of the table, no more than two consecutive chairs can be occupied by men.

T cannot sit beside H.

F cannot sit beside G.

M must sit beside R.

H must sit beside J.

Solution:

Men = F, G, H, J, L

Women = M, R, S, T, Y

R1: Men $\not>$ 2 consecutively

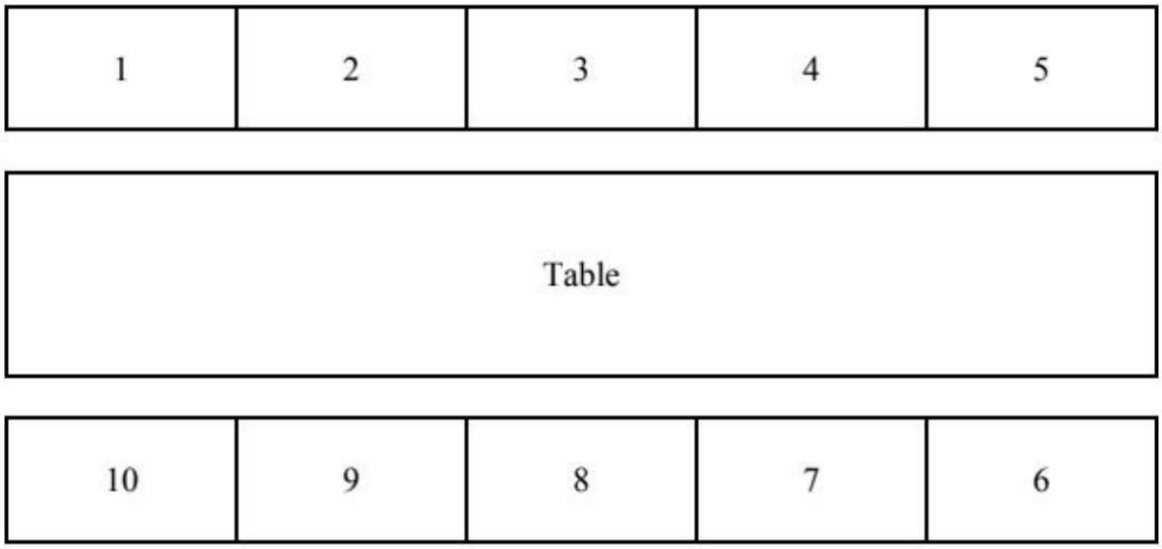
R2: $T \neq H \pm 1$

R3: $F \neq G \pm 1$

R4: $M = R \pm 1$

R5: $H = J \pm 1$

Table arrangement:



Questions:

1. Which of the following can be the arrangement of people in chairs 1 through 5?

	Chair 1	Chair 2	Chair 3	Chair 4	Chair 5
(A)	F	H	J	M	R
(B)	F	G	M	T	L
(C)	L	M	R	J	H
(D)	M	G	R	Y	L
(E)	S	F	T	H	J

Solution:

Apply excluding rule:

R1 Option A is wrong.

R2 Option E is wrong.

R3 Option B is wrong.

R4 Option D is wrong.

So, option C is correct.

2. If J is in chair 7, H is in chair 8, and F is in chair 10, which of the following can be in chair 9?

(A) L

(B) M

(C) R

(D) T

(E) Y

Solution:

Rules	6	7	8	9	10
Q		J	H		F

Apply excluding rule. As chair 7 and chair 8 both are occupied by men, so chair 9 must be occupied by a woman as R1, so option A is wrong. M and R want to sit together as R4, hence none of them can sit on chair 9, so option B and option C are wrong. T cannot sit in chair 9 as R2, so option D is wrong. Just one option is left. So, option E is correct.

3. If G, Y, and J are in chairs I through 3, respectively, which of the following must be in chair 5?

(A) F

(B) L

(C) R

(D) S

(E) T

Solution:

Rules	1	2	3	4	5
Q	G	Y	J		
R5	G	Y	J	H	

Apply excluding rule. As chair 3 and chair 4 both are occupied by men, so chair 5 must be occupied by a woman as R1, so option A and option B are wrong. M and R want to sit together as R4, hence none of them can sit on chair 5, so option C is wrong. T cannot sit in chair 5 as R2, so option E is wrong. Just one option is left. So, option D is correct.

4. If T, S, F, L, and Y are in chairs 1 through 5, respectively, then G must be either in chair

(A) 6 or in chair 8

(B) 6 or in chair 10

(C) 7 or in chair 10

(D) 8 or in chair 9

(E) 8 or in chair 10

Solution:

As we know that T, S, F, L, and Y have been seated. The remaining men are G, H and J; and remaining women are M and R. We have to arrange these five people from chair 6 to chair 10. R1 states that G, H and J cannot be placed together. R4 states that M and R must be placed together. R5 states that H and J must be placed together. Now, we will arrange all of these together at once. We can make the following two possibilities i.e., P1 and P2.

Rules	**6**	**7**	**8**	**9**	**10**
P1	G	R/M	R/M	J/H	J/H
P2	J/H	J/H	R/M	R/M	G

So, option B is correct.

5. If as many women as possible are seated on the side that has chairs numbered 1 through 5, which of the following statements must be true?

(A) Chair 3 is occupied by a man

(B) Chair 8 is occupied by a woman

(C) Chairs 1 and 2 are each occupied by a woman

(D) Chairs 4 and 5 are each occupied by a woman

(E) Chairs 5 and 6 are each occupied by a woman

Solution:

It is stated that if as many women as possible are seated on the side that has chairs numbered 1 through 5, which means we have to place as many men as possible on the side that has chairs numbered 6 through 10. Following is the possible arrangements of the people from chair 6 to chair 10.

Rules	**6**	**7**	**8**	**9**	**10**
R1	M	M	W	M	M

Following are the possible arrangements of the people from chair 1 to chair 5.

Rules	**1**	**2**	**3**	**4**	**5**
P1	M	W	W	W	W
P2	W	M	W	W	W
P3	W	W	M	W	W
P4	W	W	W	M	W
P5	W	W	W	W	M

Option (A) Can be true.

Option (B) Must be true.

Option (C) Can be true.

Option (D) Can be true.

Option (E) Wrong.

So, option B is correct.