

Section-2

## Assignment Problem

Ans-2

Jobs		Machines		
		M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>
1		8	7	6
2		5	7	8
3		6	8	7

I Subtract the smallest element from each corresponding element of each row.

		M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>
J <sub>1</sub>	1	2	1	0
J <sub>2</sub>	2	0	2	3
J <sub>3</sub>	3	0	2	1

II.

	$M_1$	$M_2$	$M_3$
$J_1$	2	0	0
$J_2$	0	1	3
$J_3$	0	1	1

III. make assignments

	$M_1$	$M_2$	$M_3$
$J_1$	2	0	<del>0</del>
$J_2$	0	1	3
$J_3$	<del>0</del>	1	1

IV. Mark the row which do not have assignment, mark the column which contains crossed zeroes in marked row and the rows which have assignment in marked column.

	$M_1$	$M_2$	$M_3$	
$J_1$	<del>2</del>	0	<del>0</del>	
$J_2$	0	1	3	✓
$J_3$	<del>0</del>	1	1	✓

V. Find the smallest element among unticked elements that in intersected element and subtract from remaining element keeping marked elements remaining same.

	$M_1$	$M_2$	$M_3$
$J_1$	3	0	0
$J_2$	0	0	2
$J_3$	0	0	0

VI. make assignment

	$M_1$	$M_2$	$M_3$
$J_1$	3	<del>0</del>	0
$J_2$	0	0	2
$J_3$	0	<del>0</del>	<del>0</del>

$J_1 = M_3$
$J_2 = M_2$
$J_3 = M_1$