38. For the maintenance section of an industry, the most suitable incentive plan would be

    (*a*) piece rate system   (*b*) group incentive plan

    (*c*) bonus plan   (*d*) profit sharing plan

Sol.   (*c*)   For the maintenance section, it is desirable that worker does the job assigned fast and is rewarded suitably. Thus bonus plan is best suited.

39. Interchangeability can be achieved by

    (*a*) standardisation   (*b*) better process planning

    (*c*) simplification   (*d*) better product planning

Sol.   (*a*)   Interchangeability can be achieved by standardisation.

40. Production scheduling is simpler, and high volume of output and high labour efficiency are achieved in the case of

    (*a*) fixed position layout   (*b*) process layout

    (*c*) product layout   (*d*) a combination of line and process layout

Sol.   (*c*)   The correct choice is (*c*).

41. Consider the following features/characteristics :

    1. Need for greater variety of skills in labour.

    2. Intemittent flow of materials and parts.

    3. Preference for flexible layout.

The characteristics of job order layout would include

    (*a*) 1, 2 and 3   (*b*) 1 and 2

    (*c*) 2 and 3   (*d*) 1 and 3

Sol.   (*a*)   All the three features/characteristics are correct.

42. Air cargo movements fall under

    (*a*) fixed path system   (*b*) continuous system

    (*c*) intermittent system   (*d*) variable path system

Sol.   (*a*)   Air cargo movements fall under fixed path system using conveyors.

43. Match List I with List II and select the correct answer using the codes given below the lists :

	List I		List II
	(Equipment)		*(Application)*
A.	Hoist	1.	For moving over a fixed route
B.	Conveyor	2.	For transporting material over a varying path
C.	Fork truck	3.	For vertically raising or lowering material in a fixed location
D.	Elevators	4.	For overhead lifting of loads in a fixed area

5. For moving persons up or down

Codes :	A	B	C	D
(a)	4	2	3	5
(b)	2	3	4	5
(c)	4	1	2	3
(d)	2	1	4	3

Sol. **(c)** Code (c) provides correct matching.

44. Consider the following statements :

In a transportation problem, North-West corner method would yield

1. an optimum solution.
2. an initial feasible solution.
3. Vogel's approximate solution.

Of these statements

(a) 1 alone is correct   (b) 2 alone is correct
(c) 3 alone is correct   (d) 2 and 3 are correct

Sol. **(a)** Statement 1 alone is correct.

45. Consider the following statements :

Linear programming model can be applied to

1. line balancing problem.
2. transportation problem.
3. project management.

Of these statements

(a) 1, 2 and 3 are correct   (b) 1 and 2 are correct
(c) 2 and 3 are correct   (d) 1 and 3 are correct.

Sol. **(b)** Linear programming model can be applied to line balancing problem and transportation problem but not to project management.

46. In a 6 × 6 transportation problem, degeneracy would arise, it the number of filled slots were

(a) equal to thirty six   (b) more than twelve
(c) equal to twelve   (d) less than eleven

Sol. **(a)** (a) is the correct solution.

47. For a $M/M/1 : \infty/FCFS$ queue, the probability of the queue size being greater than N is given $($\lambda$ = mean arrival rate and μ = mean service rate).

(a) $\left(\dfrac{\lambda}{\mu}\right)^N$

(b) $\left(\dfrac{\mu}{\lambda}\right)^N$

(c) $(\lambda\mu)^N$

(d) $\lambda\mu^N$

Sol. **(a)** (a) is the correct solution.