Q1. Lead time consumption is 500 units. Annual consumption is 8000 units. Company maintains safety stock of 200 units. Recorder point is

(a) 500 units (b) 700 units

(c) 200 units (d) none of these

Q2. If the earliest starting time for an activity is 8 weeks, latent finish time is 37 weeks & duration of activity is 11 weeks, total float is

(a) 18 weeks (b) 14 weeks

(c) 56 weeks (d) 40 weeks

Q3.

$$Min\ Z = 12x_1 + 20x_2$$
$$6x_1 + 8x_2 \geq 100$$
$$7x_1 + 12x_2 \geq 120$$
$$x_1 \geq 0,\ x_2 \geq 0$$

Find minimum Z

(a) 150 (b) 110

(c) 205 (d) 410

Q4. Consider following LP problem

$$Max\ Z = 3x_1 + 2x_2$$
$$x_1 \leq 4$$
$$x_2 \leq 6$$
$$3x_1 + 2x_2 \leq 18$$
$$x_1 \geq 0, x_2 \geq 0$$

a) It has unique optimal solution

b) It is infeasible solution

c) Unbound solution

d) Multiple optimal solution

Common data for (4) & (5)

$$Min\ Z = -x_1 + 2x_2$$
$$x_1 - x_2 \leq -1$$
$$-0.5x_1 + x_2 \leq 2$$
$$x_1 \geq 0, x_2 \geq 0$$

Q5. Find minimum Z

(a) 2 (b) 0

(c) 4 (d) 5

Q6. Find coordinates (x_1, x_2) corresponding to min Z

(a) (1, 0) (b) (0, 1)

(c) (0, 2) (d) (2, 3)

Q7.

$$Max\ Z = 4x_1 + 3x_2$$
$$x_1 - x_2 \leq 0$$
$$x_1 \leq 4$$
$$x_1 \geq 0,\ \ x_2 \geq 0$$

a) Solution is unbound

b) Infeasible

c) Unique optimal

d) Multiple optimal

COMMON DATA (8)

Optimal simplex table is shown below

Basic	x_1	x_2	s_1	s_2	s_3	b
s_1	1.6	0	1	-0.2	0	6
x_2	0.4	1	0	0.2	0	4
s_3	0.8	0	0	-0.6	1	6
z_i	4	10	0	2	0	40
$c_j - z_j$	0	0	0	-2	0	

Q8. Which of following is true

a) It is minimization problem
b) It has unbound solution
c) It has unique solution
d) It has multiple optimal solution

COMMON DATA (9) & (10)

Optimum simplex table is shown below

	c_j	2	5	0	0	0	
c_B	Basic	x_1	x_2	s_1	s_2	s_3	b
5	x_2	0	1	$1/3$	0	$-1/3$	5
0	s_2	0	0	$2/3$	1	$-11/3$	4
2	x_1	1	0	$-1/3$	0	$4/3$	4
	NER	0	0	-1	0	-1	

Q9. Find optimal solution

a) $Z_{\max} = 33$
b) $Z_{\min} = 33$
c) $Z_{\max} = 40$
d) $Z_{\min} = 40$

Q10. Optimal solution is obtained at (x_1, x_2)

(a) (1,0) (b) (0,1)

(c) (4,5) (d) (5,4)