

Linear Programming

Part - 3

ASSERTION-REASON QUESTIONS

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false and R is also false.

1. **Assertion (A):** The maximum value of $Z = 5x + 3y$, satisfying the conditions $x \geq 0$, $y \geq 0$ and $5x + 2y \leq 10$, is 15.

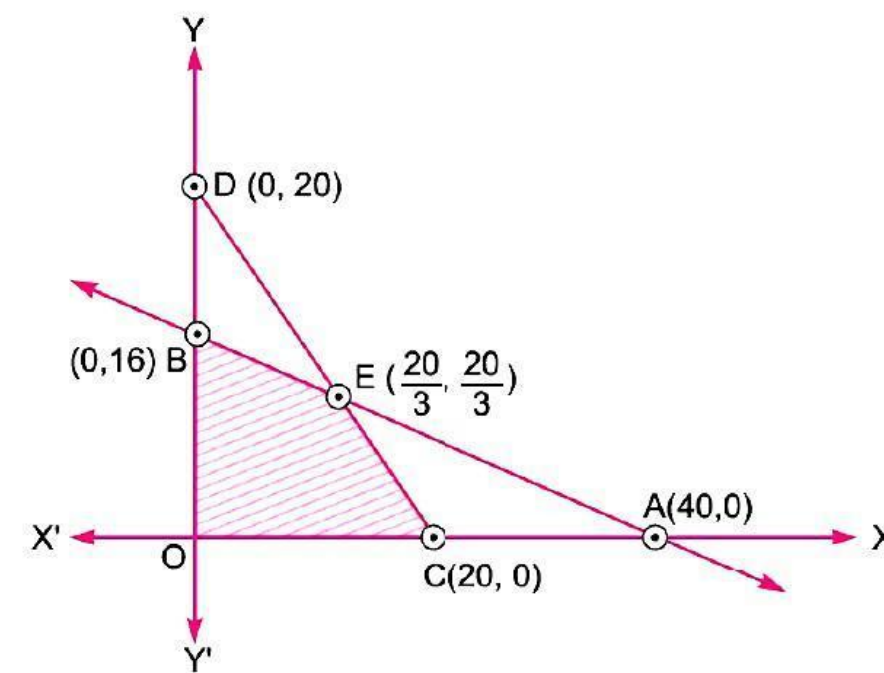
Reason (R): A feasible region may be bounded or unbounded.

2. **Assertion (A):** The maximum value of $Z = x + 3y$. Such that $2x + y \leq 20$, $x + 2y \leq 20$, $x, y \geq 0$ is 30.

Reason (R): The variables that enter into the problem are called decision variables.

3. **Assertion (A):** Shaded region represented by $2x + 5y \geq 80$, $x + y \leq 20$, $x \geq 0$, $y \geq 0$ is





Reason (R) : A region or a set of points is said to be convex if the line joining any two of its points lies completely in the region.

Answers

1. (b)
2. (b)
3. (d)