



**ST. LAWRENCE HIGH SCHOOL**  
A JESUIT CHRISTIAN MINORITY INSTITUTION



**SOLUTIONS OF WORKSHEET-31**  
**SUBJECT – MATHEMATICS**  
**Final - Term**

**Chapter: LPP**

**Class: XII**

**Topic: Miscellaneous**

**Date: 25.01.2021**

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**Choose the correct option** **(1 x 15=15)**

1. The objective function of an LPP is ?
  - a) Irrational function of decision variables
  - b) Linear function of decision variables**
  - c) Trigonometric function of decision variables
  - d) Exponential function of decision variables
  
2. The number of feasible solutions (if exists) is ?
  - a) One , b) Finite , **c) Infinite** , d) None of these.
  
3. Any solution to an LPP which satisfy the non-negative restrictions , is called –
  - a) Optimal solution
  - b) Basic solution
  - c) Feasible solution**
  - d) None of these.

4. If the value of the objective function of an LPP can be increased or decreased indefinitely, then the LPP is said to have -

a) A bounded solution  
b) An unbounded solution  
c) An infinite solution  
d) No solution.

5. Given LPP is as follows –

$$\text{Maximize} = x + y;$$

$$\text{Subject to the constraints: } x + 2y \leq 4; x + 2y \geq 6; x \geq 0; y \geq 0$$

The given LPP has -

a) Unique feasible solution  
b) Infinite number of feasible solutions  
c) No feasible solution  
d) None of these.

6. An unbiased coin is tossed 3 times in succession, then the probability of getting exactly one head is ?

a)  $\frac{3}{8}$ , b)  $\frac{1}{8}$ , c)  $\frac{5}{8}$ , d)  $\frac{1}{2}$

7. The probability of getting 11 when an ordinary die is thrown twice is ?

a)  $\frac{1}{8}$ , b)  $\frac{1}{12}$ , c)  $\frac{5}{36}$ , d)  $\frac{1}{18}$

8. Two events A and B are mutually exclusive; if  $P(A) = \frac{1}{2}$ ,

$P(A \cup B) = \frac{2}{3}$  then the value of  $P(B)$  is ?

a)  $\frac{1}{3}$ , b)  $\frac{1}{5}$ , c)  $\frac{1}{4}$ , d)  $\frac{1}{6}$

9. Two events A and B are stochastically independent ; if  $P(A) = \frac{3}{5}$ ,  $P(A \cap B) = \frac{4}{9}$  then the value of  $P(B)$  is ?  
 a)  $\frac{5}{9}$  , b)  $\frac{8}{9}$  , c)  $\frac{4}{27}$  , d) None of these.
10.  $P(A) = \frac{3}{7}$  ,  $P(B) = \frac{4}{7}$  and  $P(A \cap B) = \frac{2}{9}$ . Then the value of  $P(A/B)$  is ?  
 a)  $\frac{7}{18}$  , b)  $\frac{5}{18}$  , c)  $\frac{14}{27}$  , d)  $\frac{4}{9}$
11.  $P(A \cap B) = \frac{5}{13}$ , then the value of  $P(A^c \cup B^c) = ?$   
 a)  $\frac{4}{13}$  , b)  $\frac{9}{13}$  , c)  $\frac{8}{13}$  d) None of these.
12. If the odds in favour of an event are 9 : 4 , then its probability of occurrence is ?  
 a)  $\frac{4}{13}$  , b)  $\frac{9}{13}$  , c)  $\frac{8}{13}$  d) None of these.
13. If the odds against an event are 4 : 5 , then its probability of occurrence is ?  
 a)  $\frac{4}{9}$  , b)  $\frac{5}{9}$  , c)  $\frac{8}{9}$  d) None of these.
14.  $P(A \text{ or } B) = 0.85$  ,  $P(B) = 0.35$  and  $P(A \text{ and } B) = 0.15$   
 Find  $P(A)$  ?  
 a) 0.56 , b) 0.65 , c) 0.75 , d) None of these.

15. If  $\vec{a} = 3\hat{i} - 2\hat{j} + m\hat{k}$  and  $\vec{b} = -2\hat{i} + \hat{j} + 4\hat{k}$  are perpendicular to each other, then the value of  $m$  is –
- a) 0 , b) 3 , c) 4 , d) 2

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