

BACHELOR OF BUSINESS ADMINISTRATION  
SECOND SEMESTER [REPEAT]  
QUANTITATIVE TECHNIQUES  
BBA – 204

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

**(Objective)**

Choose the correct answer from the following:

1 × 20 = 20

- In LPP, if the constraints are in the form of  $\leq$ , then
  - We add slack variables
  - We subtract slack variables
  - We add surplus variable
  - We subtract surplus variable
- If each unit of a sample has an equal probability selection included in the population, is called
  - Convenient sampling
  - Systematic sampling
  - Stratified sampling
  - Simple random sampling
- Lockdown of Country due to the growth of infection due to COVID-19, is an example of
  - Secular trend
  - Seasonal variation
  - Irregular movement
  - Cyclical variation
- In a bivariate distribution, if the change of one variable may affect the other variable in opposite direction, then the two variables are said to have
  - Positive correlation
  - Negative correlation
  - Zero correlation
  - None of the above
- In a bivariate distribution, there is / are
  - At most two regression lines
  - Two regression lines
  - At least one regression line
  - One regression line
- For any two events A and B, if  $P(A \cap B) = 0$ , then the events A and B are
  - Independent
  - Mutually exclusive
  - Dependent
  - Exhaustive
- If  $P(A) = \frac{2}{3}$ ,  $P(A^c) = ?$ 
  - $\frac{1}{3}$
  - $\frac{1}{2}$
  - $\frac{2}{3}$
  - None of the above
- Which of the following statement(s) is (are) true for Operations Research (OR)?
  - A decision making process by optimizing the problems
  - The techniques are always able to save us from worse situations of practical life.
  - A interdisciplinary team of research
  - All of the above

9. The certainty in LPP assumes that
- The number of variables in LPP are constants
  - The coefficients in LPP are not constants
  - The coefficients in LPP are known and constants.
  - The numbers of variables in LPP are not constants.
10. In LPP, the objective function must be
- Non-linear function
  - Linear function
  - Either a or b
  - Neither a nor b
11. \_\_\_\_\_ can be determined graphically.
- AM
  - median
  - HM
  - GM
12. The best measure of dispersion is
- Standard deviation
  - Mean deviation
  - Coefficient of variation
  - None of the above
13. If CV = 32%, mean = 25, what is SD?
- 6
  - 8
  - 9
  - None of the above
14. SD of a number 25 is \_\_\_\_\_
- 25
  - 5
  - 0
  - None of the above
15. The probability of an event A i.e., P(A) lies
- From 0 to 1
  - Between 0 and 1
  - Any positive real number
  - None of the above
16. Which of the following quantitative technique uses sampling methods?
- Mathematical QT
  - Statistical QT
  - Programming QT
  - None of the above
17. LPP is a
- Mathematical QT
  - Statistical QT
  - Programming QT
  - None of the above
18. If the data are classified according to the attributes, it is called
- Geographical classification
  - Chronological classification
  - Quantitative classification
  - Qualitative classification
19. \_\_\_\_\_ contains actual and original data.
- Original table
  - Derived table
  - Simple table
  - None of the above
20. Which of the following averages, is not a good average in comparison with others?
- Mean
  - Median
  - Mode
  - None of the others.

-- --- --

**( Descriptive )**

Time : 2 Hr. 30 Mins.

Marks : 50

[ Answer question no.1 & any four (4) from the rest ]

1. Calculate mean, median, mode and the coefficient of variation of wages of labourers an enterprise from the following distribution. 2+2+2+4=10  
Wages (in Rs): 15 - 25      25 - 35    35 - 45    45 - 55    55- 65    65 - 75  
No. of labourers: 5            12        19        15        6            3
2. (a) Distinguish between probability sampling and non-probability sampling. 5+5=10  
(b) What is business cycle? How is it measured in Time Series analysis?
3. Solve the following LPP 10  
Maximize  $Z = 20x_1 + 30x_2$   
Subject to  
$$3x_1 + 3x_2 \leq 36$$
$$5x_1 + 3x_2 \leq 50$$
$$2x_1 + 6x_2 \leq 60$$
$$x_1 \geq 0, x_2 \geq 0$$
4. (a) Discuss the different phases of Operations Research. 5+5=10  
(b) Differentiate Correlation and Regression.
5. (a) Discuss the scope and role of LP in solving management problem. 5+5=10  
(b) Give a general statement of a linear programming problem. What are its major components? What do the linearity and non-linearity restriction mean?
6. (a) Write the classical definition of probability. Mention its limitations 4+6=10  
(b) In a bag, there are 5 white and 3 black balls. If two balls are drawn at random without replacement, what is the probability that the balls drawn are of same colours?
7. (a) Write in brief the applications of Quantitative Techniques in managerial decision making process. 6+4=10  
(b) Explain the classification and tabulation of data.
8. (a) Why Standard deviation is considered to be the best measure of dispersion? 5+5=10  
(b) A dice and an unbiased coin are thrown, write the sample space.

= = \*\*\* = =