BBA

SECOND SEMESTER

QUANTITATIVE TECHNIQUE

BBA-205

Duration: 3 Hrs.   **Marks: 70**

$$\left\{ \begin{array}{l} \text{PART : A (OBJECTIVE)} \;= 20 \\ \text{PART : B (DESCRIPTIVE)} = 50 \end{array} \right\}$$

Duration: 2 Hrs. 40 Mins.   **Marks: 50**

[PART-B : Descriptive]

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

1. A furniture dealer deals only in two items, tables and chair. He has Rs. 5000 to invest and a space to store at most 60 pieces. A table costs him Rs. 250 and a chair Rs 50. He can sell a table at a profit of Rs.50 and a chair at a profit of Rs. 15. How should he invest his money in order that he may maximize his profit? Formulate LPP and solve by Graphical method.   10

2. **a.** Mention four scopes of statistics   2+3+5=10
   b. Distinguish between sample and population.
   c. What do you mean by mail questionnaire method? Mention its advantage and disadvantage. Why measures of central tendency is called measures of location?

3. Evaluate the following: 3+3+4=10

   a. $\lim_{x \to 3} \frac{\sqrt{x} - \sqrt{3}}{x - 3}$

   b. $\lim_{x \to 1} \frac{x^2 + 2x + 5}{x^2 + 1}$

   c. Does $\lim_{x \to 0} \frac{1}{x^2}$ exist?

4. ind the value of the derivatives   5+5=10

   a. (i). $\frac{d}{dx}(x + \sqrt{x})$ (ii). $\frac{d}{dx}(\log x + \log e^x + e^x)$

   b. (i). $\frac{d}{dx} x^2 \log x$ (ii). $\frac{d}{dx} x^{10} e^x$

5. Integrate the following   5+5 =10

    a. $\int (4x^2 - 5x + 1)dx$

    b. $\int (x^{\frac{1}{2}} + x^{\frac{-1}{2}}) \, dx$

6. Find out the relative extreme of the following functions.   5+5= 10

    a. $Y = 20X - 2X^2$

    b. $2X^2 - 16x + 50$

7. a. Define equally likely and exhaustive events with example.   2+2+6=10

   b. A die is thrown. Find the probability of getting an even number greater than or equal to 4.

   c. Write addition theorem of probability.

     Two die are thrown simultaneously. What is the probability getting either a sum of 7 or at least one 3 of the face of the two die.

8. a. Define additively and linearity in context of LPP .   4+6=10

   b. Discuss briefly three features of operation research.

<center>= = *** = =</center>

BBA

SECOND SEMESTER

QUANTITATIVE TECHNIQUE

BBA-205

Duration: 20 Mnts.

Marks: 20

[PART-A : Objective]

Choose the correct answer from the following: *1×20=20*

1. According to Croxton and Cowden "Statistics may be defined as the science of collection, presentation, analysis and _____ of numerical data"
   - a. Interpretation
   - b. tabulation
   - c. representation
   - d. None of these

2. Schedule is the method of getting answers to the questions in a form which are filled by
   - a. the interviewers
   - b. the respondents
   - c. local correspondents
   - d. None of these

3. Mode is the value that has the greatest_____.
   - a. frequency
   - b. cumulative frequency
   - c. percentile
   - d. none of these.

4. Using ogive we can determine a particular measure of central tendency, namely
   - a. mean
   - b. median
   - c. mode
   - d. All of these

5. The difference between the upper limit and the lower limit of a class is known as _____.
   - a. Class limits
   - b. Class boundaries
   - c. Width of a class
   - d. None of these

6. Geometric Mean is the _____ root of the product of 3 observations.
   - a. 2nd
   - b. 3rd
   - c. nth
   - d. None of these.

7. If $U=\dfrac{x-a}{h}$ then $\bar{x}$ = ?
   - a. $\bar{u}$
   - b. a+ h $\bar{u}$
   - c. h $\bar{u}$
   - d. None of these

8. The standard deviation is affected by the change of
   - a. origin
   - b. scale
   - c. both origin and scale
   - d. None of these

9. Quartiles are measures of
   - a. location
   - b. position
   - c. both a) & b)
   - d. None of these

10. In drawing histograms the class intervals should be
    - a. Continuous
    - b. discrete
    - c. both a) 1& b)
    - d. None of these

11. $\dfrac{d}{dx} x^1$ = ?
    - a. 0
    - b. 1
    - c. 2
    - d. 3

12. $\int \dfrac{1}{x} dx$ = ?
    - a. x^{-1}
    - b. log x
    - c. 0
    - d. none of these

13. There are ____ % observations on the LHS of the third quartile of a frequency curve
    - a. 25
    - b. 50
    - c. 75
    - d. None of these

14. If A and B are mutually exclusive events then P(AUB) = ?
    - a. P(A) + P(B)
    - b. P(A) - P(B)
    - c. P(A) + P(B) – P(AB)
    - d. None of these

15. If A & B are two events associated to a random experiment such that ACB then
    - a. $P(A) \leq P(B)$
    - b. $P(A) \geq P(B)$
    - c. P(A)=P(B)
    - d. None of these

16. A bag contains 3 red ,2white and 4 black balls. What is the probability of drawing 2 black balls?
    - a.1/6
    - b. 1 /9
    - c. 0
    - d. None of these

17. Two events A and B are said to be independent if
    - a. P(AB) = p(A) +P(B)
    - b. P(AB) = P(A) – P(B)
    - c. P(AB) = P(A).P(B)
    - d. None of these.

18. The distinguishing feature of an LP model is the relationship among all variables is_____.

a. Non linear
b. Linear
c. Additive
d. None of these

19. Every linear programming problem includes _____ which relates variables in the problem to the goal of the firm.

a. Constraints
b. Objective function
c. Inequalities
d. None of these

20. Most of the constraints in the linear programming problem are expressed as

a. Equations
b. Inequalities
c. Both a) and b)
d. None of these

==***==

UNIVERSITY OF SCIENCE & TECHNOLOGY, MEGHALAYA

Question Paper CUM Answer Sheet

[PART (A) : OBJECTIVE]

Serial no. of the main
Answer sheet

Course : ....

Semester : .... Roll No : ....

Enrollment No : .... Course code : ....

Course Title : ....

Session : .... 2016-17 Date : ....

****

Instructions / Guidelines

➤ The paper contains twenty (20) / ten (10) questions.

➤ The student shall write the answer in the box where it is provided.

➤ The student shall not overwrite / erase any answer and no mark shall be given for such act.

➤ Hand over the question paper cum answer sheet (Objective) within the allotted time (20 minutes / 10 minutes) to the invigilator.

Full Marks	Marks Obtained	Remarks
20		

------------------------------ ------------------------------ ------------------------------
Scrutinizer's Signature *Examiner's Signature* *Invigilator's Signature*