1st Semester Regular / Back Examination: 2021-22
BUSINESS STATISTICS
BRANCH(S): IMBA
Time : 3 Hour
Max Marks : 100
Q.Code : OF700
Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1   Answer the following questions :   (2×10)
  a)   Find the standard deviation and variance of 9,9,9,9,9,9,9,9.
  b)   If C.V =70%,Mean =10.Find the value of Standard deviation.
  c)   The arithmetic mean of 50 observations is 30.Latter on it was found that one observation 35 is misread as 53.Find out corrected mean.
  d)   What is the probability of throwing a number greater than 2 with an ordinary die.?
  e)   Explain the limitation of tabulation.
  f)   What will happen to S.D and variance of a series if each term is increased by 3 and decreased by 3.Given S.D=2
  g)   Differentiate between dispersion and Skewness.
  h)   What are the various relative measures of skewness?
  i)   What are the difference between Diagrams and graphs?
  j)   What do you mean by equal likely events. Give an example.

Part-II

Q2   Only Focused-Short Answer Type Questions- (Answer Any Eight out of   (6×8)
      Twelve)
  a)   "Statistics are numerical statement of facts,but all facts numerically stated are not statistics".Explain the mening of statistics with reference to the above statement.
  b)   Find mode of the following data:

Mid Value	5	15	25	35	45	55	65	75	85
Frequency	11	14	22	40	43	46	20	13	11

  c)   The arithmetic mean of two observations is 127.5 and their geometric mean is 60.Find the two observations.
  d)   The arithmetic mean of two number is 16 and the standard deviation is 3.Find the two numbers.
  e)   The sum of 20 observations is 300 and its sum of square is 5000 and Median is 15.Find the coefficient of skewness and coefficient of variation.
  f)   What are essentials of good tabulation? Also mention its merits..
  g)   Calculate the first four central moments from the set of numbers:14,16,18,20,25,27.
  h)   Explain the properties of good average.

i) In a bolt factory .Machines A,B and C manufactures respectively,20%,35% and 45% of the total output. Of their output respectvily,4%,2% and 3% are known to be defective. Find the probability that -
- (i) It is produced by Machine C
- (ii) It is produced by Machine A or C.

j) What is Classification? Explain its merits and demerits.

k) From 25 tickets, marked with first 25 numerals, one is drawn at random. Find the probability that
- (i) it is multiple of 5 or 7
- (ii) it is a multiple of 3 or 7.

l) The Skewness for a frequency distribution based on quartile is 0.6.If the total of the lower and upper quartile were 100 and the value of median is 40.Find out the value of upper quartile.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3   Define Statistics. Explain the features of statistics in plural sense or numerical data.   (16)

Q4   What do you mean by primary data? What are the methods involved in collection of primary data with giving advantages and disadvantages.   (16)

Q5   A purchase agent has received samples of two company's electric bulbs and there life period in his laboratory: (16)

Life Period(In hours)	700-900	900-1100	1100-1300	1300-1500
Samples A company	10	16	26	8
Sample -B Company	3	42	12	3

Which Company bulbs is more consistent and why?

Q6   Calculate Bowley's coefficient of skewness from the following data: (16)

Marks(More than)	30	40	50	60	70	80	90	100
No of students	125	113	97	77	56	38	23	10