MAHARISHI UNIVERSITY OF MANAGEMENT AND TECHNOLOGY

MAHARISHI ROAD, MANGLA, BILASPUR (CHHATTISGHAR)-495001
FINAL EXAM : SEMESTER-I, SESSION 2021-22

COURSE – MBA, PAPER – V, SUBJECT CODE – MBA105

SUBJECT – QUANTITATIVE TECHNIQUES

Max Marks : 70   **Min Pass Marks : 28**

➢ All questions are compulsory.
➢ Be precise in your answers.

Que 1   Multiple choice : Read the following questions carefully and choose the suitable answer: 10X1=10

(i)   **In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?**
   A 1/3.
   B. 3/4.
   C. 7/19.
   D. 9/21.

(ii)   **Correlation analysis is a _____analysis.**
   A. univariate.
   B. bivariate.
   C. game theory.
   D. queuing theory.

(iii)   **Spearman's coefficient of correlation is usually denoted by _____.**
   A   r.
   B.   k.
   C.   β.
   D.   α.

(iv)   **_____ has two or more outcomes which vary in an unpredictable manner from trial to trial when conducted under uniform conditions.**
   A. experiment.
   B. random experiment.
   C. probability.
   D. none of these.

(v)   **Binomial distribution is originated by_____.**
   A. prof. karl pearson.
   B. simeon dennis poisson.
   C. james bernoulli.
   D. de-moivre.

(vi)   **In Poisson distribution, the value of 'e' =_____**
   A. 2.178.
   B. 2.817.
   C. 2.718.
   D. 2.871.

(vii)   **The average of 1,2,3,4,5 is _____.**
   A. 3
   B. 5
   C. 4
   D. 2

(viii) _____ **is the reverse process of differentiation**

    A. Differential equation
    B. Integration
    C. Determinant
    D. None of these

(ix) **If N= 9 and Variance= 169,Standard Deviation will be-**
    A.13
    B.13/2
    C.169/9
    D.13/3

(x) **Karl Pearson was a famous-**
    A.Economist
    B.Statistician
    C.Biologist
    D.Scientist

Que 2 Short Answer (Any Five) –　　　　　　　　　　　　　　　5x4=20

  (a)   Explain Mean Deviation with suitable examples.
  (b)   Find the mean and median marks for the following distribution:

Classes	0-10	10-20	20-30	30-40	40-50
Frequency	2	12	22	8	6

  (c) Two players, Sangeet and Rashmi, play a tennis match. The probability of Sangeet winning the match is 0.62. What is the probability that Rashmi will win the match?
  (d) What are the different types of Graphical representation?
  (e) Write a note on the Chi-square test.
  (f) What is average? Which average do you consider best and why?
  (g) Define Sampling and what are its advantages?

Que 3 Long Answer (Any Five) –　　　　　　　　　　　　　　　5X8=40

Find out Karl Pearson's coefficient of correlation :

Capital Units (in '000)	10	20	30	40	50	60	70	80	90	100
Profit Receipt	2	4	8	5	10	15	14	20	22	30

  (a) What is hypothesis testing? What are the seven steps of Hypothesis testing?
  (b) What is the role of Quantitative technique in management? How graphical representation helps management to figure out the data.
  (c) Calculate the mean, variance and standard deviation for the following data:

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	27	10	7	5	4	2

  (d) What is Regression Analysis? How is it different from correlation?
  (e) Explain the characteristics of an ideal measurement of Dispersion.
  (f) Write a short note on Binomial Distribution.
  (g) The manufacturer of a certain make of LED bulb claims that his bulbs have a mean life of 20 months.A random sample of 7 such bulbs have the following values
    Life of bulbs in months :19　21　25　16　17　14　21
    Can you regard the producer;'s claim to be valid at 1% level of significance?
    By using the **Student's t-tes**t (Random Sample).
    Tablulate Value at 1% significance level is 3.707

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