SVKM's NMIMS
School of Distance Learning

Programme: PGDBM/PGDITM/PGDSCM   Semester: III
Academic Year : 2012 - 2013   Course: New
Subject : Business Statistics   Marks: 70
Date: 8.7.2012   Time: 3:00p.m to 6:00p.m

Instructions:
Candidate should read carefully the instructions printed on the question paper and on the cover of the answer book which is provided for their use.

NB:

1. All 4 questions to be attempted
2. Candidates should attempt questions as per the internal options available.
3. Use of non programmable calculator, Statistical Tables (Area under Normal Curve) permissible

Q.1.   Answer **any two** questions out of four.   (10Marks)

a) Find Mean, Median and Mode for the following data.

Marks	30 – 34	35 – 39	40 – 44	45 – 49	50 – 54	55 – 59	60 – 64
Frequency	3	5	12	18	14	6	2

b) Draw a less than ogive for the following distribution of monthly salary of 250 families of a certain locality and also locate Median graphically.

Monthly Salary in Rs.	No. of Families
0 – 5000	50
5000 – 10000	80
10000 – 15000	40
15000 – 20000	25
20000 – 25000	25
25000 – 30000	15
30000 – 35000	10
35000 – 40000	5

c) Ram purchased equity shares of a company in 4 successive months as given below. Find the average price per share.

Month	Price per share in Rs.	Number of Shares
December 2011	1215	200
January 2012	1568	250
February 2012	2453	280
March 2012	525	300
April 2012	331	500

d) Calculate the Karl Pearson's coefficient of skewness from the following data.

Size	11	12	13	14	15	16	17
Frequency	10	18	30	25	12	3	2

Q.2   Attempt **any two** of the following.   (10 Marks)
       a) Distinguish between Diagrams and Graphs

       b)Explain Scatter Diagram and various types of Scatter Daiagram.

       c) Requisites of designing a good questionnaire

       d) Explain the properties of Normal Probability Curve

       e) Explain Bayes Theorem in Probability

Q.3   Attempt **any three** of the following.   (30 Marks)

   a) A group of 3 men and 5 ladies is to be selected from a group of 5 men and 8 ladies.
       What is the probability that a particular man will not be included in the group and that
       a particular lady will be included in the group ?

   b) A teacher wanted to decide which of the two method were effective in teaching. Ten
       students were taught by the two different methods and a test was conducted. If
       consistency in marks is assumed to be a positive factor. Use appropriate method of
       Variation to decide which of the two methods would be more effective.
       Method A :- 23, 29, 27, 22, 24, 21, 25, 26, 27, 24
       Method B :- 27, 34, 30, 29, 28, 30, 34, 35, 28, 29

   c) The average tuition fees in an educational institute is Rs.30,000 per semester with a
       standard deviation of Rs.5,000. Find the probability that fees charged is between
       Rs.28,000 and Rs.33,000. Find the percentage of students paying fees more than
       Rs.35,000. If 5000 students paid fees in this particular semester find the number of
       students who paid fess less than Rs. 28,000 (Table Value for Standard Normal
       Variate t between $t = 0$ to $t = 0.4$ is 0.1554 , $t = 0$ to $t = 0.6$ is 0.2257 and $t = 0$ to $t = 1$
       is 0.3413)

   d) The incidence of certain disease is such that on an average 20% of workers suffer
       form. If 5 workers are selected at random, find the probability that
       (i) exactly2 workers suffer from the disease,
       (ii) not more than 2 workers suffer from the disease.