Enrollment No: _____   Exam Seat No:_____

C.U.SHAH UNIVERSITY
Summer Examination-2017

Subject Name :Statistics-II

Subject Code : 4CO04STA1   **Branch:B.Com (English)**

Semester :4   **Date :20/04/2017**   **Time : 10:30 To 01:30**   **Marks : 70**

Instructions:
  (1) Use of Programmable calculator & any other electronic instrument is prohibited.
  (2) Instructions written on main answer book are strictly to be obeyed.
  (3) Draw neat diagrams and figures (if necessary) at right places.
  (4) Assume suitable data if needed.

Q-1   **Attempt the following questions:**   (14)

a) The normal distribution is   (1)
a)A discrete probability distribution b)A continuous probability distribution
c)can't say d) None

b) The normal distribution is known as standard normal distribution when.   (1)
a)$\mu = 1$ and $\sigma = 0$ b) $\mu = 0$ and $\sigma = 1$ c) $\mu = 1$ and $\sigma = 1$ d) $\mu = 0$ and $\sigma = 0$

c) In a normal distribution .   (1)
a) mean > median > mode b) mean < median < mode
c)mean = median = mode d) None

d) The term constraints in L.P. problem is also called…   (1)
a)Limitations b)Constants c) Variables d) Solution

e) Slack variable is …..LHS of inequality of $\leq$ type.   (1)
a)added b)subtracted c)multiplied d)divided

f) Optimal feasible solution ….. the objective function.   (1)
a)Maximize b)Minimize c)maximize or minimize d) None of these

g) If all units under the field of inquiry are examined and information is collected then it is called..   (1)
a)sample survey b) Population survey c)Exact Survey d)none of these

h) A doctor take only a few drops of blood to examine and to prepare a report is an example of …   (1)
a)Sample survey b) Population survey c)Complete Survey d)None of these

i) All the units of the sample should be selected under conditions.   (1)
a)Identical b)True c) Proper d)None.

j) Systematic sampling method can be used only when…..population is available.   (1)
a)group b)system c)list of units d)cluster

k) When a population is heterogeneous ……. Sampling method can be used.   (1)
a)simple random b)stratified random c)cluster d)systematic

l) By using samplinf methods , we can save…..   (1)

a)Information b) Population c) time and Energy d) None

m) When the study is of destructive nature, we can not use.. (1)
a)Sample study b) population study c) Proper study d)None

n) In systematic sampling , K =… (1)
a)n/N b) N.n c) N2/n d)n2/N

Attempt any four questions from Q-2 to Q-8

Q-2 | **Attempt all questions** | **(14)**
a) | Write the properties of normal distribution. | (7)
b) | For a normal distribution of 100 items Q1 = 70 & σ = 15, Find median and limits for central 50% of the items. | (7)

Q-3 | **Attempt all questions** | **(14)**
a) | Write a note on least square method. | (7)
b) | Explain the uses of linear programming. | (7)

Q-4 | **Attempt all questions** | **(14)**
a) | Solve the following L.P. problem. | (10)
Find x1, x2 such that
$5x1 + 10x2 \leq 50$
$x1 + x2 \geq 1$
$x2 \leq 4$, x1, x2 ≥ 0 and Z = 4 + x2 is minimum.
b) | Explain Slack and Surplus variable. | (4)

Q-5 | **Attempt all questions** | **(14)**
a) | Differentiate between Population study and Sample study. | (8)
b) | Write merits and demerits of Random Sampling. | (6)

Q-6

For studying variable characteristics the observations of the population are 2,3,5,6. How many different random samples of size two without replacement can be taken from this population? Verify what mean of the sample means is equal to the population mean. Also find the variance of sample mean. (14)

Q-7

Test the following data at 5% level of significance. (14)

Student	1	2	3	4	5	6	7	8	9
Before	15	15	9	3	7	12	16	17	4
After	12	17	8	5	6	11	18	20	3

Q-8 | **Attempt all questions** | **(14)**
a) | Write a note on Hypothesis. | (7)
b) | Write a note on Type I and Type 2 Error. | (7)