Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Statistics-I

Subject Code : 4CO03STA2 **Branch: B.Com (English)**

Semester : 3 **Date :10/12/2018** **Time : 02:30 To 05:30** **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 correlation coefficient being -1 if the slope of the straight line in a scatter diagram is 1
A) Positive C) Zero
B) Negative D) None

b) Rank correlation coefficient was developed by … 1
A) Karl Pearson C) Spearman
B) R.A. Fisher D) Bowley

c) The sum of the difference of ranks is … 1
A) 1C) 0
B) -1 D) None

d) In regression analysis the variable to be predicated is called … 1
A) Independent variable C) Known Variable
B) Dependent variable D) None

e) Two regression lines always cut each other at…… 1
A) Mean C) Co-efficient
B) Median D) Mode

f) If two variables are perfectly correlated then one regression coefficient is….. of other regression coefficient. 1
A) Correlation C) Both
B) Reciprocal D) None

g) What is the probability of an impossible event ? 1
A) 1C) -1
B) 0 D) None

h) If events A and B cannot occur at the same time it is known as…. 1
A) Complementary event C) Independent events
B) Mutually exclusive events D) None

i) Probability of any event always lies between ….. 1
A) -1 to 0 C) -1 to +1
B) 0 to +1 D) None

j) The Expected value of a constant K is ….. 1

A) K B) K-1 C) K+1 D) None

k) If V(X) for a discrete random variable X is 1 then V(3x+2) = ……. 1

A) 5 C) 3

B) 9 D) None

l) Binomial distribution was first given by .. 1

A) Mathematician Simon Penis C) A.L. Bowler

B) Mathematician James Bernoulli D) R.A. Fisher

m) Binomial distribution is … 1

A) A continuous probability distribution C) Can't say

B) A discrete probability distribution D) None of these

n) The Normal distribution is …. 1

A) A discrete probabilitydistribution C) Can't say

B) A continuous probability distribution D) None

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

Q-2 **Attempt all questions** **(14)**

(A) Two judges have given ranks to ten students for their honesty. Find the rank correlation coefficient. **07**

1st judges	3	5	8	4	7	10	2	1	6	9
2nd judges	6	4	9	8	1	2	3	10	5	7

(B) What is correlation ? Explain scatter diagram method. **07**

Q-3 **Attempt all questions** **(10)**

(A) Calculate correlation coefficient from the following data. **07**

Age of Husbands	23	27	28	29	30	31	33	35	36	39
Age of Wives	18	22	23	24	25	26	28	29	30	32

(B) The following information is obtained for two variables X and Y. Find regression equation of Y on X. **07**

N= 10 ; $\sum x$= 130 ; $\sum y$= 220, $\sum X^2$ = 2288 ; $\sum xy$ = 3467

Q-4

Obtain equation of regression lines from the following data. Estimate the value of Y when X = 0.42 and X when Y = 100 **14**

X	0.36	0.32	0.37	0.34	0.35	0.33	0.38
Y	85	84	84	83	85	81	82

Q-5 **Attempt all questions** **(14)**

(A) **Explain the following terms :** **07**

1) Mutually exclusive events

2) Independent events

(B) Explain concept of probability. **07**

Q-6 **Attempt all questions** **(14)**

(A) Two cards are drawn from a well shuffled pack of 52 cards. Find the probability that both are kings. **07**

(B) **Find the values of the following :** **07**

1) $12C_4$ 2) $25C_{23}$ 3) $8C_2$ 4) $7C_7$

Q-7		**Attempt all questions**	**(14)**
	(A)	There are 3 black and 2 white balls in a box. Two balls are taken at random from it, find the expected number of white balls.	**07**
	(B)	State the characteristics of mathematical expectation.	**07**
Q-8		**Attempt all questions**	**(14)**
	(A)	State the properties of binomial distribution.	**07**
	(B)	There are two defective pencils in a pack of dozen pencils. If three pencils are taken at random, find the probabilities that **(i)** at the most one pencil is defective , **(ii)** two pencils are defective	**07**