SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under section 3 of the UGC Act 1956)
Re-accredited by NAAC with 'A' Grade

वसुधैव कुटुम्बकम्

Institute: (0301)SYMBIOSIS INSTITUTE OF COMPUTER STUDIES & RESEARCH, PUNE

Programme: (030122) BACHELOR OF BUSINESS ADMINISTRATION (INFORMATION TECHNOLOGY)

Batch: 2014-17,2015-18,2016-19,2017-20
Semester: I
Course: IT Tools for Statistics-I
Course Code: 0301220105

Date: 13/04/2018 **Maximum Marks:** 30

Day: Friday **Time:** 09:30 am - 10:30 am

Instructions:

1. **Question 1 and 2 are compulsory.**
2. **Attempt any 2 questions from Q3 to Q5.**
3. **Use of simple calculators is allowed.**
4. **Graph papers will be given on request.**

Q1 Define the following terms with one example: [6 Marks]

a. Discrete variable
b. Simple Random Sampling
c. Primary data

Q2 Solve any four of the following: [16 Marks]

a. Following data are related to retail food price index number and wholesale food price index number for 5 years.

Retail food price index (x)	86	74	65	65	63
Wholesale food price index number	91	84	75	74	72

Find the correlation coefficient between retail food price index number and wholesale food price index number. Interpret the value of correlation coefficient.

b. The following are the mean and standard deviation of the expenditure on advertising and sales of a particular firm:

	Advertisement Expenditure (x)	Sales (Rs. Lakhs) (y)
Mean	10	90
Standard Deviation	3	12

(i) Calculate the regression equation of y on x

(ii) Estimate the advertisement expenditure required to attain a sales target of Rs 120 lakhs.

c. In a Composition Writing competition 10 competitors are ranked by two judges. Find the rank correlation coefficient and comment on the approaches of judges.

Competitors	1	2	3	4	5	6	7	8	9	10
Ranks given by Judge A	1	5	4	8	9	6	10	7	3	2
Ranks given by Judge B	4	8	7	6	5	9	10	3	2	1

d. Calculate Fisher's ideal price index number and interpret the value.

Commodities	Price		Quantity	
P	9	11	20	12
Q	10	12	25	13
R	7	9	41	41
S	13	14	40	40
T	11	13	30	21

e. Calculate Karl Pearson's coefficient of skewness for the following data and interpret the value.

Marks	0-5	5-10	10-15	15-20	25-25	25-30
No. of Students	5	12	18	24	16	7

Q.3 Match the following: [4 Marks; 1 each]

SrNo	A	B
1	Eating habit	Index number
2	Q_3	Prediction
3	Regression	Nominal level of measurement
4	SENSEX	Upper Quartile

Q4 The following is the frequency distribution of the weights of 30 students of class IX. Draw the histogram and find the mode graphically. [4 Marks]

Weights (kg) :	30-40	40–50	50-60	60-70	70-80
Number of Students	5	8	10	15	7

Q.5 The mean for the given data is 1.46. Calculate the missing frequencies [4 Marks]

No. of Accidents	0	1	2	3	4	5	Total
No. of Days	46	?	?	25	10	5	200

****