ST JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27

B.A. ECONOMICS- III SEMESTER

SEMESTER EXAMINATION: OCTOBER 2019

ECA 3118: STATISTICAL METHODS FOR ECONOMICS

Time: 2 ½ hrs **Max Marks: 70**

This paper contains 2 printed pages and three parts.

Graph sheets to be used for Ques No 8 and 11.

PART-A

I Answer any TEN of the following: **3X10=30**

1) Define statistics.
2) What are the methods of collecting primary data?
3) What are the methods of classification of data?
4) Calculate range and coefficient of range in the following distribution

Scores	2	3	4	5	6	7	8	9	10
f	6	7	3	11	4	2	5	8	3

5) Calculate Q3 from the following data: 47, 48, 51, 52, 56, 58, 60, 62, 63, 64, 66, 66, 68, 70, 73.
6) Define probability.
7) Prepare a discrete frequency distribution table for the following: 10,20,20,30,40,25,25,30,40,20,25,25,15,25,30,40,50,40,50,30,25,25,15,40.
8) Draw a histogram and frequency polygon for the following:

X	0-5	5-10	10-15	15-20	20-25	25-30
f	5	12	25	45	32	6

9) Calculate CV when Standard deviation=7.62 and Mean=50.
10) What is time reversal and factor reversal test?
11) Fit a trend line using the graphic method/free hand method:

Year	2006	2007	2008	2009	2010	2011	2012
Production	20	22	24	21	23	25	23

12) Mention the two regression equations.

PART B

II Answer any TWO of the following: **5X2=10**

13) Calculate median from the following data:

C-I	0-10	10-20	20-30	30-40	40-50	50-60
f	10	12	17	15	11	9

14) Calculate rank correlation coefficient from the following data:

R1	1	6	5	10	3	2	4	9	7	8
R2	3	5	8	4	7	10	2	1	6	9

15) Using the following information, construct index numbers using Laspeyer's method:

Commodity	P0	Q0	P1	Q1
A	2	20	5	15
B	4	4	8	5
C	1	10	2	12
D	5	5	10	6

PART C

III Answer any TWO of the following: **15X2=30**

16) Calculate the two regression equations for the following data:

X	1	2	3	4	5
Y	1	3	7	10	9

17) Calculate Bowley's coefficient of skewness for the following series:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
f	10	40	20	0	10	40	16	14	0

18) Calculate the mode using the grouping table:

X	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
f	4	2	18	22	21	19	10	3	1

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3 Marks:

1) Statistics collection of data, tabulation, analysis, presentation of data.
2) Personal interview, correspondents, questionnaires, schedules, indirect oral investigation.
3) Geographical, quantitative, qualitative classification of data.
4) Range=8. Coeff of range= 0.666
5) Q3= 12^{th} item=66
6) Probability is the chance of occurrences of an event.
7) 10-1, 15-2, 20-3, 25-7, 30-4, 40-5, 50-3
8) To be drawn on a graph sheet.
9) CV=15.24
10) Fisher's index number tests. Formulae to be given.
11) Trend line to be drawn in a graph sheet using free hand method.
12) The regression equations to be mentioned. X on Y and Y on X.

5 MARKS:

13) Median=28.82
14) R= -0.212
15) Laspeyer's index number= 221.98

15 MARKS:

16) X=0.383Y+0.702
    Y=2.3X-0.9
17) Q1=16.88, q3=58.13, Median=45, Sk=0.363
18) Mode is ill defined. 3median-2mean to be used.
    Median= 41.9, Mean=42.2, Mode= 41.3

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