B.B.A. DEGREE EXAMINATION,ODD SEMESTER 2020
III Year V Semester
Business Statistics - II

Max.marks :25

Answer any **FIVE** questions $(5 \times 5 = 25)$ Marks

1. Fit a straight line trend by the method of least squares to the following data. Assuming that the same rate of change continues, what would be the predicted earnings for the year 2021?

Year	2013	2014	2015	2016	2017	2018	2019	2020
Earnings(Rs.in lakhs)	38	40	65	72	69	60	87	95

2. Calculate Laspeyres, and Paaaches index numbers.

Commodity	p_0	q_0	p_1	q_1
A	12	20	15	25
B	10	8	16	10
C	15	2	12	1
D	60	1	65	1
E	3	2	10	1

3. Explain the causes of sampling errors.

4. In testing a process for generating random numbers, it is observed that in a run of 1000 the digit x occur with the following frequencies f:

X	0	1	2	3	4	5	6	7	8	9
f	1010	990	960	1020	990	1000	1000	1030	1020	980

Test whether or not there is significant deviation from randomness at 5% level of significance.

5. Students of different countries were randomly selected and their height(in meters) were recorded as below:

Countries	Heights(in meters)				
African	1.7	1.5	1.6	1.6	1.8
Asian	1.5	1.5	1.7	1.7	1.6
European	1.6	1.8	1.6	1.7	1.8

Use one-way ANOVA to test at 0.05 level of significant whether there is difference among the mean heights for the three nationalities. $(F_{0.05}(2, 12) = 3.89)$

6. Explain Simple Random sampling.

7. Calculate Fishers ideal index number from the following data:

Commodity	Price		Quantity	
	2002	2003	2002	2003
A	3	4	20	18
B	4	5	25	20
C	2	2	10	12
D	8	10	12	10
E	20	25	40	40