

Roll No _____

Total No of pg: 2

Examination May-2014

BUSINESS STATISTICS

Subject Code : BBA-304

Paper Id : C1167

Time : 03 Hrs.

Max. Marks:60

*Instruction to candidates: (1). Section - A is compulsory.**(2). Attempt any one question from each unit in Section B.***SECTION – A****(10x2=20)**

1.
 - a) Define multiple bar diagrams
 - b) Show that the weighted arithmetic mean of the square of 10 natural numbers whose weights are equal to the corresponding numbers is equal to 55.
 - c) Find out harmonic mean of following individual series 10, 20, 30, 40, 60, 120
 - d) Differentiate between Correlation and Regression.
 - e) What is index number? What are its types
 - f) A can solve 90% of the problems of a book and B can solve 70%. What is the probability that at least one of them will solve a problem selected at random.
 - g) Two random variables have the regression equations $3x - 2y = 26$, $6x - y = 31$ find out mean values of x and y.
 - h) Find S. D. of set of observations which are all equal.
 - i) Write Components of Time Series.
 - j) Calculate co-efficient of correlation when Covariance of x and y is 488 and variance of x is 824 and variance of y is 325.

SECTION - B**(Unit - 1)****4x10=40**

2. The median and mode of the following wage distribution are known to be Rs. 33.5 and Rs. 34 respectively. Three frequency values from the table are however missing. Find out the missing frequencies when sum of frequencies is 230.

Wages (Rs.) :	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of persons :	4	16	—	—	—	6	4

3. Calculate S. D. and its Coefficient from following data.

Classes	0-5	5-10	10-20	20-30	30-40	40-60
Frequency	4	8	10	15	9	7

Unit - II

4. From the following data, calculate coefficient of correlation between the age of students and their playing habits.

Age (yrs.)	15	16	17	18	19	20
No. of Student	250	200	150	120	100	80
Regular players	200	150	90	48	30	12

5. Give two regression equations $x = 2y + 5$, $2x = 3y + 8$ and variance of $x = 12$ calculate variance of y , coefficient of correlation between x and y . Also estimate y when $x = 1$

Unit - III

6. Below are given the production figures (in thousand quintals) of sugar factory. Fit a straight line trend and plot the figures on graph.

Year	1981	1982	1983	1984	1985	1986	1987
Production in ooo quintals)	80	90	92	83	94	99	92

7. Calculate Fisher's ideal index number for following data and show that it satisfies (1) Time Reversal Test and (11) Factor Reversal test.

<u>Base year</u>			<u>Current year</u>	
<u>Commodity</u>	<u>Price</u>	<u>Quantity</u>	<u>Price</u>	<u>Quantity</u>
A	65	500	108	560
B	28	124	29	148
C	47	69	82	78
D	109	38	134	24
E	86	49	108	17

Unit - IV

8. A husband and wife appear in an interview for two vacancies in the same post. The probability of husband's selection is $\frac{1}{7}$ and that of wife's selection is $\frac{1}{5}$, What is the probability that
- at least one of them is selected
 - both of them are selected
 - only one of them will be selected
 - None of them will be selected
9. Explain the following terms
- Mutually exclusive and equally likely events
 - Independent and dependent events
 - Simple and compound events.
 - Exhaustive and Complementary events.

.....End.....