

B.B.A. (CBCS Pattern) Semester-II
UCB2C07 - Statistical Methods for Business-II

P. Pages : 2

Time : Three Hours



GUG/W/24/10595

Max. Marks : 80

- Notes : 1. All questions are compulsory.
2. All questions carry equal marks.

1. a) Give the meaning and Definition Regression? Explain its objective and Function. **8**

b) Estimate most likely height of Father whose Son Height is 70 inches. **8**

Particular	Mean Height	Standard-Deviation
Father	67 inches	3.5 inches
Son	65 inches	2.5 inches

Coefficient of Correlation = 0.8

OR

c) For 52 students of a class the regression equation of Marks in Statistics (x) on the Marks in Accountancy (y) is $3y - 5x + 180 = 0$. Mean marks in Accountancy 44 variance of marks in statistics 9/16. Find out mean marks in statistics and coefficient of correlation. **16**

2. a) Calculate the 3 yearly moving average of the data given below: **8**

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sales (Millions of Rupees)	3	4	8	6	7	11	9	10	14	12

b) Assuming 5-yearly moving averages, calculate trend values from the data given below. **8**

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Production (in thousand tones)	105	107	109	112	114	116	118	121	123	124	125	127	129

OR

c) Fit the trend line by at least square method. **16**

Year	2007-08	2008-09	2009-10	2010-11	2011-12
Production (In lakhs)	427	612	521	495	490

3. a) Out of a sample of 120 person in a village 76 person were administered a new drug for preventing Influenza and out of them 24 person were attacked by Influenza. Out of those who were not administered the new drug 12 person were not attacked by Influenza. Use the Chi-square test for finding out whether the new drug is effective or not at he of significant for one degree of freedom the table value of x^2 is 3.841. **8**

- b) A drug is claimed to be effective in curing cold in an experiment on 164 persons with cold half of them were given the drug and half of them were given sugar pills. The patients reactions to the treatment are recorded in following table. 8

Particular	Helped	Harded	No effect	Total
Drug	52	10	20	82
Sugar pills	44	12	26	82
Total	96	22	46	164

Test by means of χ^2 the hypothesis that the drug is on better that the sugar pills in curing cold. The value of χ^2 for 2 degree of freedom at 5% level is 5.99.

OR

- c) Three hundred digit were chosen at random from a set of table. Following table given the frequencies of the digit. 16

Digit	0	1	2	3	4	5	6	7	8	9	Total
Frequency	28	29	33	31	26	35	32	30	31	25	300

Using χ^2 test asses the hypothesis that the digit were distributed in equal number in table 5% of value of χ^2 for 9 degree of freedom is 16.92.

4. a) What is probability that a year selected at random will contain a 53rd Sunday. 8
- b) A problem in statistics is given to three students Rahul, Rashi and Rudra. Whose chances of solving it are $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$. What is the probability that the problem will be solved. 8

OR

- c) 4 cards are drawn without replacement. What is probability that they are all Ace. 8
- d) In a Bag there where 9 Green Ball, 6 Yellow and 5 Blue Balls. Find out probability that one Ball will be Yellow. 2 Ball will be Green in at random drawn at 3 Balls. 8

5. Short note.

- a) Method of Regression. 4
- b) Use of Time series. 4
- c) Characteristics of Chi Square. 4
- d) Binomial Distribution. 4
