

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

P. Pages : 2
 Time : Three Hours



GUG/S/24/10595
 Max. Marks : 80

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

1. a) Write the difference between correlation and g-regression. **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 50 student of class regression equations of marks in statistics (y) and marks in accountancy (x) are $4y - 5x - 80 = 0$. Average marks in accountancy are 40 & ratio of two standard deviation $S_y:S_x = 5:2$ **16**
- Find out:
- i) Mean marks of statistics.
- ii) Coefficient of correlation.
2. a) Compute the 4 yearly moving average's from the following data along with centered moving average or trend values. **8**

Year:	2001	2002	2003	2004	2005	2006	2007	2008
Annual sales:	36	43	43	34	44	54	34	24

- b) Find the trend for the following series using a three year weight moving averages with weights 1:2:1 **8**

Year:	1991	1992	1993	1994	1995	1996	1997
Values:	2	4	5	7	8	10	13

OR

- c) Compute the Trend Line by least square method from the data given below" **16**

Months:	Jan	Feb	March	April	May	June	July	August
Production:	120	135	138	125	141	147	140	132

3. a) Following data relates to the sales in a time of trade depression of a certain proprietary articles in white demand. Do the data suggest that the sales are significantly affected by the depression. **8**

Sales	Hits by depression	Not Hits by depression	Total
Satisfactory	250	80	330
Not satisfactory	140	30	170
Total	390	110	500

Table value of χ^2 for one degree of freedom at 5% level of significance in 3.841.

- b) Two treatment A & B were tried to control a certain type of plant disease. The following result were obtained. 8
 A = 200 plant were examined & 40 were found infected.
 B = 200 plants were examined & 10 found infected.

If Treatment B superior to treatment A. Table value of χ^2 for one degree of Freedom at 5% level of significance is 3.841

OR

- c) Following table represents the number of boy's and girls who chose the five possible. Answer to an item of an attitude scale. 16

	Strong approved	Approved	Indifferent	Dis approved	Strongly disapproved
Boy	50	60	15	50	25
Girls	20	30	10	30	30

Do these data indicated a significant sex different in the attitude towards this item.

The table value of χ^2 for 4 degree of freedom is 5% level of significance is 9.49.

4. a) What is the chance that a year 1980 in the month of January should have 5th Monday. 8
- b) A cards is drawn from a pack of cards find the probability that it is. 8
- A black card
 - A Red card
 - A club
 - An Ace
 - A Red Ace
 - An Ace of spade
 - Not a spade
 - A king or a Queen

OR

- c) A sub-committee of G member is to be formed out of a group of 7 men and 4 ladies. Calculate the probability that the sub committee will consist of 8
- Exactly two ladies.
 - At least two ladies
- d) One bag contain 4 white balls and 2 black balls. Another consists of 3 white balls and 5 black balls if one ball is drawn from each bag. Find the probability that 8
- Both are white
 - Both are black
 - One is white & one is black

5. Short note.
- Explain the objective of regression line 4
 - What are the element of a decision problem. 4
 - Discuss the characteristics of chi-square test. 4
 - Uses of time series. 4
