B.B.A.(with Credits)-Regular-Semester 2012 Sem II 0202 - Statistical Methods for Business-II

P. P Tim	ages : e : Thi	3 ee Hours $* 0 2 1 1 *$	GUG/W/16/5113 Max. Marks : 80
	Note	 s: 1. All questions are compulsory. 2. All questions carry equal marks. 	
1.	a)	Write the meaning of regression analysis. Explain the importance of	its. 8
	b)	From the data given below estimate the most likely height of a father 70 inches.	whose son's height is 8
		Father : Mean height is 67 inches with a standard deviation of 3 Son's : Mean height is 65 inches with a standard deviation of 2.5 Co-efficient of correlation between the height of father and son's OR	.5 inches. 5 inches. s is +0.8.
	c)	The height of fathers and son's are given in the following table-	16
		Height of Father: 65, 66, 67, 67, 68, 69, 71, 73 Height of Son : 67, 68, 64, 68, 72, 70, 69, 70 Form the two equations of regression and calculate the expected the son when the height of the father is 67.5.	l average height of
2.	a)	By semi-average method determine the trend values. Year Production In Rs. (000) 1980 15 1981 17 1982 10	

b) Find the trend values of the following data, using the moving average method by taking 3 **8** yearly cycle.

Year - 1982 1983 1984 1985 1986 1987 1988 1989 Production - 300 310 340 350 360 380 400 410 (00,000)

OR

c) From the data given below calculate monthly indices by simple average method and calculate the seasonal variations.

	Production in metric tons.		
Month	1988	1989	1990
January	112	115	116
February	111	114	115
March	110	113	114
April	140	116	116
May	115	116	115
June	115	115	117
July	116	117	116
August	113	112	113
September	111	113	110
October	110	112	110
November	112	113	111
December	115	114	115

3. a) Two treatments 'A' and 'B' were tired to control a certain type of plant disease. The following results were obtained.

'A': 200 plants were examined and 40 were found infected.

'B': 200 plants were examined and 10 found infected.

It treatment 'B' superior to treatment 'A'? (Degree of freedom at 5% level of significance the value of $x^2 = 3.841$)

b) The table given below shows the data obtained during epidemic of cholera.

	Attacked	Not attacked
Inoculated	35	465
Not inoculated	181	1319

Test the effectiveness of inoculation in preventing the attack of cholera. 5% value of x^2 for

J% value of X 101	
1 d.f = 3.481	3 d.f. = 7.815
2 d.f. = 5.991	4 d.f. = 9.448

OR

c) The following table shows the association among 1000 school-boys, between their general 16 ability and mathematical ability. calculate x^2 from the following information.

	General ability		
Mathematical ability	Good	Fair	Poor
Good	44	22	4
Fair	265	257	178
Poor	41	91	98
	350	370	280

8

4. a) A man wants to marry a girl having qualities: white complexion: the probability of getting **8** such a girl is one in twenty.

Handsome dowry: Probability of getting this is one in fifty.

Westernised manners and etiquettes: The probability here is one in hundred.

Find out the probability of his getting married to such a girl when the possession of these three attributes in independent.

b) A University has to select an examiner from list of 50 persons, 20 of them women and 30 men, 10 of them knowing Hindi and 40 not, 15 of them being teachers and the remaining 35 not. What is the probability of university selecting a Hindi knowing women teacher?

OR

- c) A can solve 90 percent of problems given in a book and B can solve 70 percent. What is the probability that at least one of them will solve a problem selected at random.
- d) A problem in statistics is given to two students A and B. The odds in favour of 'A' solving the problem are 6:9 and odd against 'B' solving the problem 12:10. If A and B attempt a problem, find the probability of the problem being solved.

5. Write short note.

a)	Advantages of regression analysis.	4
b)	Object of time series.	4
c)	Importance of chi-square test.	4
d)	Uses of probability.	4
