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MBA - SEMESTER - I – EXAMINATION – SUMMER 2016Subject Code : 810007Date : 21/05/2016Subject Name: Quantitative Analysis (QA)Time : 10.30 am to 01.30 pmTotal Marks : 70Instructions :11.Attempt all questions.2.Make suitable assumption wherever necessary.3.Figure to the right indicate full marks.Q.1. (a) Define Statistics and give the Functions and Importance of Statistics.07(b) Two dice (Pasaa) are thrown simultaneously, represent the sample space.07What is a probability of getting a total score less than 11.07.Q.2. (a) Explain in brief the types of sampling and advantages and disadvantages of sampling. (only two points)07(b) The mean and variance of a binomial distribution are 15 and 6 respectively.07Find the value of n and p.OR07Q.3. (a) Define the hypothesis. What is null hypothesis and alternate hypothesis?07Explain with an example.0707Q.3. (a) Define the hypothesis. What is null hypothesis and alternate hypothesis?07Explain with an example.07(b) The following yields are obtaining by using three fertilizers in different plots.07Image: Color of the state of	Seat No.: Enrolment No.: GUJARAT TECHNOLOGICAL UNIVERSITY						
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(a) Explain the ANOVA (Analysis of variance – one way) technique. 07	_		-	-			
(b) To access the significance of possible variation in performance in a certain 07 test between the English schools of a city, a common test was given to a							

test between the English schools of a city, a common test was given to a number of 5 students taken at random from the senior fifth class of each of the four schools concerned. The results are given below. Make an analysis of Variance of data. (Given that $F_{0.05}$ for $v_1 = 3$, $v_2 = 16$ is 3.24, at 5% level of significance).

Schools	Marks of the Students						
Α	8	8 10 12 8 7					
В	12	11	9	14	4		
С	18	12	16	6	8		
D	13	9	12	16	15		

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- Q.4. (a) Explain the uses and limitations of Chi-square (χ^2)
 - (b) Find the multiple regression equation of X_1 on X_2 and X_3 from the data 07 relating to three variation given below.

X1	9	13	15	7	6	4
X_2	6	4	3	8	12	15
X3	14	10	4	20	24	30

(Regression Equation of X_1 on X_2 and X_3 is

 $X_1 = a_{1.23} + b_{12.3} X_2 + b_{13.2} X_3)$ OR

- (a) What is a meaning of regression analysis ? Explain in detail.
- (b) From the following data obtain two regression equation.

Y	39	41	33	45	50	37	48	36	31
Z	19	20	15	22	26	21	24	19	14

- Q.5. (a) Write a note on index numbers. Briefly explain laspeyres and Paasche 07 price indices.
 - (b) Find the seasonal variation by the methods of three yearly moving average. 07

Year	Price of commodity				
1993	120	140	145		
1994	145	160	165		
1995	160	168	172		
1996	170	174	176		

OR C

(a) Explain the components of Time Series Analysis.

07

(b) Calculate laspeyre's and Paasche's index numbers from the following data. 07

Commodities	Base Year		Current year		
	Quantity	Price	Quantity	Price	
	(Kg)	(Rs.)	(Kg)	(Rs.)	
А	.12	10	15	12	
В	15	7	20	5	
C	24	5	20	9	
D	5	15	5	14	

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