Seat No.:			Enrolment No.:			
	GUJAR	AT TECHNOLOGI	CAL UNIVERSITY			
	ATION – SUMMER 2016					
<b>Subject</b>	Code: 810007		Date: 21/05/2016			
<b>Subject</b>	Name: Quantit	ative Analysis (QA)				
Time: 10.30 am to 01.30 pm Total Marks: 70						
Instruct						
1.	Attempt all o	•				
2.		e assumption wherever				
3.	Figure to the	right indicate full mark	KS.			
	Two dice (Pasa	•	and Importance of Statistics. usly, represent the sample space. core less than 11.	07 07		
Q.2. (a)	Explain in brief of sampling. (or		nd advantages and disadvantages	07		
(b)	The mean and v Find the value of		stribution are 15 and 6 respectively.	07		
		OR				
(b)	For a poisson v	ariate $P(1) = P(2)$ Find	the value of P (0)	07		
Q.3. (a)			thesis and alternate hypothesis?	07		
4.	Explain with an	-	1 0 11 1100			
(b)	The following yaplots.	ields are obtaining by usi	ng three fertilizers in different	07		
	Fertilizer		Yield			

Fertilizer	Yield				
A	1	4	3	3	
В	6	5	4	2	
С	7	3	5	6	

Test the hypothesis that there is no significance difference between the fertilizer.

OR

(a) Explain the ANOVA (Analysis of variance – one way) technique.

(b) To access the significance of possible variation in performance in a certain 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					
A	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  $(\chi^2)$ 

- 07 07
- (b) Find the multiple regression equation of  $X_1$  on  $X_2$  and  $X_3$  from the data relating to three variation given below.

$X_1$	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.

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(b) From the following data obtain two regression equation.

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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 price indices.

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(b) Find the seasonal variation by the methods of three yearly moving average. 07

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

OR

(a) Explain the components of Time Series Analysis.

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

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

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