## GUJARAT TECHNOLOGICAL UNIVERSITY ME SEMESTER – I (NEW) EXAMINATION – SUMMER 2017

Subject Code: 2713107 Subject Name: Statistics for Biomodical Engineers										D	Date:08/05/2017					
Ti Inst	Time:02:30 p.m. to 05:00 p.m.												Total Marks: 70			
	1. 2. 3.	Attempt all quest Make suitable ass Figures to the rig	tions. sumpti sht indi	ions icat	wher e full	ever 1 marks	necess 5.	ary.								
Q.1	(a) (b)	<ul> <li>Consider the following data, which are a sample of amino acid concentration (mg/100ml) in arthropod hemolymph.</li> <li>240.6, 238.2, 236.4, 244.8, 240.7, 241.3, 237.9</li> <li>Calculate the below given terms <ol> <li>Range of a data 2) Sum of Squares 3)Variance 4) Standard Deviation</li> <li>Coefficient of variation</li> </ol> </li> <li>Statistics cannot be viewed as science? – Comment on this statement. 07</li> </ul>								07						
Q.2	(a) (b)	<ul> <li>2) state the minimum of statistics.</li> <li>Discuss the various modes of data consideration methods available in statistics.</li> <li>07 Calculate the Pearson's measure of skewness on the basis of mean, mode, standard deviation from the following data:</li> <li>The following table gives the size (Number of piglets surviving to 21 days) for each of the 36 sows</li> </ul>														
		No. of Piglets Frequency [No. of sows]	5 1	6 0	7 2	8 3	9 3	10 9	11 8	12 5	13 3	14 2	Total 36			
	(b)	Explain the variou	us type	es of	f corr	elatio	<b>OR</b> n with	ı an ap	opropi	riate e	xamp	le.		07		
Q.3	(a)	The chances that a doctor will diagnose a disease correctly are 60 %. The chances <b>07</b> that a patient will die by his treatment after correct diagnosis are 40% and the chances of death by wrong diagnosis are 70%. A patient of doctor, who had disease was died. What is the chances that his disease was diagnosed correctly?							07							
	(b)	What is Poisson Distribution? Explain the properties of Poisson Distribution.								07						
Q.3	(a) (b)	Explain the Baye's Theorem with a case study,07What is Binomial Distribution? Explain the properties of Binomial Distribution.07								07 07						
Q.4	(a) (b)	Explain the definition and significance of continuous probability distribution.07Write a brief note on Point Estimate and Internal Estimate.07								07 07						
Q.4	(a) (b)	OK07What are types of hypothesis? Compare and construct them.07What do you mean by sampling? What are the types of sampling?07								07 07						
Q.5	(a)	Define below given terms with a proper case. <b>0</b>						07								
	<b>(b)</b>	Discuss the meaning of parametric and non-parametric test help of case study.							07							
Q.5	(a) (b)	Oraw and explain the methodology of statistical testing.07Two Random samples gave the following results.07Assuming normal population, test for the equality of population means at 5%5%level of significance.10							07 07							

Sample	Size	Sample Mean	Sum of squares of deviations from mean
1	10	15	90
2	12	14	108

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