Seat No.:	Enrolment No.
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Sub	oject	Code: 2160301 Date: 22/10/2016	
	-	Name: Diagnostic Instrumentation 0:30 AM to 01:00 PM Total Marks: 70	
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	1. 2. 3.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	Enlist and explain the types of hearing loss in detail.	07
	<b>(b)</b>	Which diagnostic test is referred for chronic bronchitis? Describe the instrumentation in detail.	07
Q.2	(a)	Describe the instrumentation of blood PCO2 measurement electrode.	07
	<b>(b)</b>	Draw and explain wedge type spirometer.	<b>07</b>
		OR	
	<b>(b)</b>	Draw and explain the windmill spirometer.	07
Q.3	(a)	Explain acoustic neuroma with necessary figure. Discuss the effectiveness of various diagnostic techniques and suggest best suitable method.	07
	<b>(b)</b>	Describe the coulter counter with necessary sketches.	07
		OR	
Q.3	(a)	Draw and explain the block diagram of multichannel EEG recording system.	07
	<b>(b)</b>	Contrast the applications of pico-scale counter over coulter counter.	07
Q.4	(a)	Explain Bruce protocol with necessary graphs. Enlist the CADs which can be diagnosed by Bruce protocol with indications.	07
	<b>(b)</b>	Briefly describe the application of beer-lamberts law in pulse-oximetry. <b>OR</b>	07
Q.4	(a)	List and explain the compression algorithms used for holter monitoring. Explain the requirement of analyzing algorithm for automated analysis.	07
Q.4	<b>(b)</b>	Describe the instrumentation of pulse oximeter with necessary figures.	07
Q.5	(a)	Explain various types of Chromatography with appropriate diagrams.	07
	<b>(b)</b>	Write a short note on gel electrophoresis.	<b>07</b>
		OR	
Q.5	(a)	Explain the construction of proximal and distal part of endosope with necessary diagrams.	07
	<b>(b)</b>	Write a short note on paper electrophoresis.	07

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