



**B.Tech - Odd Sem : End Semester Exam
Academic Year:2020-2021**

18EC3017 - Biomedical Electronics & IOT for Healthcare

Set No: 4

Time:		Max.Marks: 100					
S.NO	Answer All Questions	Choice	Options	Marks	CO	CO BTL	COI BTL
1.	Discuss the performance requirements of pH meters used for pCo2 measurement with necessary calculations.	choice Q-2		10Marks	CO1	2	1
2.	Describe the Single beam photoelectric Colorimeter with neat sketch.			10Marks	CO1	2	2
3.	Discuss the Electromyography (EMG) Technique for the assessment of motor impairments in detail.	choice Q-4		15Marks	CO1	2	1
4.	Elaborate the blood chemistry analysis using Autoanalyzer with a block diagram and also discuss its application in Blood group analysis.			15Marks	CO1	2	2
5.	Explain the significance of biotelemetry in medical instrumentation	choice Q-6		10Marks	CO2	2	1
6.	Discuss the role of telemedicine in medical instrumentation in detail.			10Marks	CO2	2	2
7.	Describe the working function of heart-lung machine in clinical uses with a suitable diagram.	choice Q-8		15Marks	CO2	2	1
8.	Explain about working of Microwave and shortwave type Diathermy.			15Marks	CO2	2	2
9.	Develop a contactless body temperature measuring module for an IoT health care application.	choice Q-10		10Marks	CO3	2	1
10.	Discuss about sensors swarm technologies is used in implementation of low cost Healthcare monitoring system.			10Marks	CO3	2	2
11.	Discuss about biomedical pressure sensor with a case study.	choice Q-12		15Marks	CO3	2	1
12.	Discuss how Polytronics is used in biosensors and mention its applications in detail.			15Marks	CO3	2	2
13.	Categorize wearable technologies adopted for human physiology and explain measurement of each biological parameters in detail.	choice Q-14		10Marks	CO4	3	1
14.	Discuss the data acquisition system for continuous heart rate monitoring using MQTT protocol with a case study.			10Marks	CO4	3	3
15.	Categorize the textile sensors for health care and explain each Smart textile sensor function in detail.	choice Q-16		15Marks	CO4	3	2
16.	Develop a method for elderly fall detection and explain with a flowchart to detect a fall.			15Marks	CO4	3	3

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