



**MANIPAL INSTITUTE OF TECHNOLOGY**

**MANIPAL**

*(A constituent unit of MAHE, Manipal)*

**SEVENTH SEMESTER B. TECH (ELECTRONICS AND INSTRUMENTATION)**

**PROCTORED ONLINE MAKE-UP EXAMINATION - Feb/March. 2022**

**SUBJECT: BIOMEDICAL INSTRUMENTATION & EQUIPMENT'S (ICE 4064)**

**TIME: 2.20-3:35 PM**

**DATE: 19/02/2022**

**MAX MARKS 20**

**Note: Answer All questions**

1	A	Normally resting membrane potential is negative in various cells. What is the reason behind it? How we can generate the action potential in nerve cells? Explain	4M
	B	Explain with the help of a block diagram, the working of MRI instrumentation system. List two application of MRI imaging system	3M
	C	What is the principle of working of 'Pulse Oximeter'? What type of transducer is used for pulse oximetry?	3M
2	A	Explain how the electromagnetic induction principle is used in the measurement of blood flow. Drive the relationship between blood flow rate and induced e.m.f	4M
	B	Describe the various scanning techniques used in computed tomography. Explain how the progressive developments in scanning techniques have helped to reduce the scanning time?	4M
	C	Differentiate between external and internal defibrillator with suitable diagrams	2M