Reg. No. | | | | | | | | | |

ELE 510

Third Semester M.Sc. Degree Examination, Dec. 2018/Jan. 2019
(CBCS Scheme) (OE)
ELECTRONICS
Medical Electronics

Time : 3 Hours Max. Marks : 70

PART – A

Answer **all** questions. **(2×5=10)**

1. a) Define Bio-potential.

   b) Why the alcohol is not recommended in preparing a patient skin for ECG Electrode ?

   c) What is a transducer ? Briefly explain any one resistive transducer.

   d) Differentiate between CT images and MRI.

   e) What is the function of defibrillators ?

PART – B

Answer the following : **(20×3=60)**

2. a) With a neat block diagram describe the general medical instrumentation system.

   b) With a neat diagram explain the working of heart and the PQRST wave form. **(10+10)**

OR

3. a) With a neat block diagram explain the bio-telemetry system.

   b) Describe the basic component of a Doppler scanner. **(10+10)**

P.T.O.

4. a) Differentiate between invasive and non-invasive blood pressure measurement systems. Describe a typical non-invasive blood pressure monitor.
   b) Describe the different components and functioning of EEG machine. **(10+10)**

OR

5. a) Give an account on diagnostic devices for respiratory system.
   b) List the different types of endoscopes. Distinguish between rigid endoscopes and flexible endoscopes. **(10+10)**

6. a) Write a note on advantages of imaging systems for medical applications.
   b) With a neat diagram explain the generation of X-rays for medical applications.
   c) Write a note on ultrasound scanning for diagnostic applications. **(6+8+6)**

OR

7. a) Write a short on system components of a CT scan machine.
   b) Write a note on pacemaker.
   c) Briefly explain hemodialysis. **(10+5+5)**

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