

- Q.26 Explain SMPS in details?
  - Q.27 Discuss Physiological effects due to 50hz current passage?
  - Q.28 Explain Micro-current & Macro-current Hazards?
  - Q.29 What is UPS Classify it?
  - Q.30 Explain various types of electrical hazards in hospitals?
  - Q.31 Differentiate between Preventive & Corrective Maintenance?
  - Q.32 Explain Emergency power system in hospitals?
  - Q.33 Write a note on Medical Gas supply system in Hospital
  - Q.34 Write a note on operation theatre instrumentation.
  - Q.35 Discuss various classification of UPS as per their application.

## **Section-D**

**Note:** Long answer Questions. Attempt any two Questions out of three Questions. (2x10=20)

- Q.36 Explain X-Ray machine in details.

Q.37 Explain ECG and its Measurements. Explain ECG machine with Block Diagram?

Q.38 Explain EEG Machine with Diagram?

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**6th Sem, Branch : Medical Electronics**  
**Subject : Installation, Maintenance & Servicing of**  
**Medical Equipments (IMME)**

**Time : 3 Hrs.**

M.M. : 100

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory. (10x1=10)

- Q.1 CT stands for

  - Controlled Tomography
  - Computerized Tomography
  - Converted Tomography
  - Conversion Tomography

Q.2 Thermocouple refers to measurement of

  - Temperature
  - Current
  - Capacitance
  - None of the above

Q.3 The most commonly used semiconductor material is

  - Silicon
  - Germanium
  - Mixture of Silicon & Germanium
  - None of above

Q.4 Which of the following is a radiology instrument?

- a) PH Meter              b) CT Scan  
 c) Blood cell counter    d) None of the above
- Q.5** Efficiency of half wave rectifier is  
 a) 100%                  b) 75%  
 c) 50%                  d) 25%
- Q.6** LED converts electric energy into \_\_\_\_\_ energy  
 a) Heat                  b) Chemical  
 c) Sound                d) Light
- Q.7** Which is called Natural Pacemaker?  
 a) Aorta                b) Bundle of HIS  
 c) AVNode              d) SANode
- Q.8** How many wavelength is used by pulse oximetry techniques  
 a) 2                    b) 3  
 c) 4                    d) None of above
- Q.9** Any unwanted signal present in circuit other than required called  
 a) Noise                b) Interference  
 c) Distortion            d) All of above
- Q.10** What is the frequency range for electro surgery techniques?  
 a) 10-500 KHz          b) 1-50Hz  
 c) 1-3 Hz                d) None of the above

### Section B

**Note:** Objective types Questions. All Questions are compulsory. (10x1=10)

- Q.11 Notch Filter.  
 Q.12 Troubleshooting.  
 Q.13 Radiology.  
 Q.14 Fibrillation.  
 Q.15 Expand ECG.  
 Q.16 Colorimeter.  
 Q.17 Draw normal waveform pattern of ECG.  
 Q.18 Expand MRI.  
 Q.19 What is Spo2.  
 Q.20 Expand NIBP.

### Section-C

**Note:** Short answer type Questions. Attempt any twelve Questions out of fifteen Questions. (12x5=60)

- Q.21 Explain construction and working of Defibrillator.  
 Q.22 Write a note on bed side monitoring system.  
 Q.23 Explain the role of Biomedical Engineer in servicing & maintenance of hospital equipments.  
 Q.24 Explain Auto-Analyzer with diagram?  
 Q.25 What is ESU. Explain it?