

Total No. of Questions : 8]

SEAT No. :

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P1867

[4859]-1052

B.E. (Electronics)

BIOMEDICAL INSTRUMENTATION

(2012 Course) (Elective - I) (404204 C) (End Sem.) (Semester - I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right side indicate full marks.*
- 4) Use of Calculator is allowed.*
- 5) Assume Suitable data if necessary.*

- Q1)** a) Explain Electro conduction system of heart with neat diagram. [8]
b) Explain fiber optic sensor for Temperature measurement. [6]
c) Write short note on nervous system. [6]

OR

- Q2)** a) Explain: [8]
i) Accuracy
ii) S/N ratio
iii) Sensitivity
iv) Hysteresis in relation to medical instruments
b) Explain the effect of various artifacts on recording of biomedical signal. [6]
c) What is electro cardiography? Explain in detail cardiac cycle. [6]

- Q3)** a) Explain basic requirement of implantable pacemaker. List the type of pacemaker. Explain any one in detail. [8]
b) Explain finger plethysmography with diagram and graph. [8]

OR

P.T.O.

- Q4)** a) Write short note on DC Defibrillator. [8]
b) Draw block diagram of central monitoring system & explain in detail. [8]

- Q5)** a) Explain grounding & shielding techniques used in hospital. [8]
b) Describe the working of flame photometer. [8]

OR

- Q6)** a) Discuss various issues of noise pollution around hospital. [8]
b) Explain in detail the working of dialysis system. [8]

- Q7)** a) Explain CT scanner working principle and scanning system. [10]
b) Explain how laser are used in vision correction. [8]

OR

- Q8)** a) What is biotelemetry? Explain the component of biotelemetry system. [10]
b) Explain merits and demerits of MRI system. [8]

