Printed Pages: 4   EBT-061

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 154853   Roll No.

B.TECH.

Theory Examination (Semester-VIII) 2015-16

BIOMEDICAL INSTRUMENTATION

Time : 3 Hours   *Max. Marks : 100*

Section-A

Q.1. Attempt all parts. All parts carry equal marks. Write answer of each part in short.   (2×10=20)

(a)   Discuss the role of instrumentation in biomedical science.

(b)   What are signal transducers?

(c)   Write down about colored Doppler.

(d)   What are scintillations?

(e)   Write down the noninvasive instruments?

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(f) What do you understand by bioelectric potential?

(g) What are good laboratory practices?

(h) Explain the parameter of cardiac measurement?

(i) What do you understand by behavior change?

(j) Write a short note on patient care?

Section-B

Q.2. Attempt any five parts. All parts carry equal marks:

(5×10=50)

(a) What are the effective methods to monitor cardio-vascular parameters? Discuss the instrumentation which monitors the working of cardiovascular system.

(b) What do you understand by source of bioelectric potential? How does it help in biomedical instru-mentation?

(c) Describe the role of computer in biomedical instru-mentation with the help of suitable examples. Describe its role for monitoring and measurement intervention.

(2)

(d)   What do you understand by radioactive- tracers. Describe the emission of radiation from any radio nuclei used in radiotherapy and its measurement with the help of suitable example.

(e)   Describe the behavioral parameters. How does the instrumentation work for monitoring the behavioral changes change with the help of an example?

(f)   Write down the safety rule of medical equipment and their categorization.

(g)   Explain the principle, working and advantages of CT-SCAN and MRI.

(h)   Write down the principle and purpose of electrical safety of medical equipment?

Section-C

Note: Attempt any two questions from this section.

(2×15=30)

Q.3.   What do you understand by X-rays? Define its role in diagnostics and explain its advantages and disadvantages in medical field.

Q.4. Explain the principle of EEG. How does it help in estimating the nervous system?

Q.5. What is biotelemetry? Write down its principle, working and application with the help of an suitable diagram.