

Reg No.: _____

Name: _____

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Sixth Semester B.Tech Degree (R,S) Examination May 2024 (2019 Scheme)

Course Code: MRT322**Course Name: BIOMEDICAL INSTRUMENTATION****Max. Marks: 100****Duration: 3 Hours****PART A***Answer all questions, each carries 3 marks.*

Marks

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| 1 | Define Absolute Refractory Period and Relative Refractory Period. | (3) |
| 2 | Draw the Wave form of the resting and action potential. | (3) |
| 3 | Draw the 10 -20 Electrode system of EEG | (3) |
| 4 | What is Preamplifier? | (3) |
| 5 | What is meant by mean arterial pressure | (3) |
| 6 | Differentiate between tidal volume and residual volume | (3) |
| 7 | Discuss about diagnostic still picture. | (3) |
| 8 | What is angiography? | (3) |
| 9 | Differentiate micro shock and macro shock. | (3) |
| 10 | List the elements of biotelemetry system. | (3) |

PART B*Answer any one full question from each module, each carries 14 marks.***Module I**

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| 11 | a) Describe with neat diagram about the cardio Vascular system in detail | (14) |
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OR

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| 12 | a) Classify the types of fiber optic temperature sensors in detail. | (14) |
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Module II

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| 13 | a) Sketch the normal ECG wave and explain in detail about PQRST wave segments and its deviations. | (14) |
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OR

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| 14 | a) Compile short notes on Limb electrodes, floating electrodes, pre-gelled disposable electrodes | (14) |
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Module III

- 15 a) Explain the techniques used in measurement of respiration. (14)

OR

- 16 a) Describe and interpret the working principle of electromagnetic blood flow meter and ultrasonic blood flow meter (14)

Module IV

- 17 a) Compile short notes about Nuclear medicine system and its applications. (14)

OR

- 18 a) Explain with neat diagram about the principle and working of Heart Lung Machine. (14)

Module V

- 19 a) Describe in detail the safety parameters for testing biomedical equipments. (14)

OR

- 20 a) Discuss in detail about telemedicine and how it is useful. (14)
