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| **Scheme of Valuation& Answer Key** (Additional suggestion for scheme and answer key) |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**SIXTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019 |
| **Course Code: EE372** |
| **Course Name: BIOMEDICAL INSTRUMENTATION** |
| Max. Marks: 100 |  | Duration: 3 Hours |
| **PART A** |
|  |  | ***Answer all questions, each carries5 marks.*** | Marks |
| 1 |  | Explanation of biochemical transducers and classification (5 marks) | ( 5) |
| 2 |  | Figure of Einthoven triangle (3 marks) + explanation (2marks) | ( 5) |
| 3 |  | Figure of ultrasonic method(3 marks) + explanation (2marks) | ( 5) |
| 4 |  | Internal and external pacemaker differentiate.......5 points (5 x 1= 5 marks) | (5 ) |
| 5 |  | Uses and applications of X rays( 5 marks) | (5 ) |
| 6 |  | Explanation of Chemical tests (5 marks) | (5 ) |
| 7 |  | Figures .....( 2 marks), Explanation........(3 marks) | ( 5) |
| 8 |  | Block diagram of ultrasonic imaging system (3 marks) + explanation (2marks) | ( 5) |
| **PART B** |
| ***Answer any twofull questions, each carries10 marks.*** |
| 9 | a) | Block diagram of man instrument system (3 marks) + explanation (4marks) | ( 7) |
|  | b) | 5 bands (3 marks) | (3 ) |
| 10 | a) | Equivalent circuit of bioelectric potential (3 marks) + explanation (2marks) | ( 5) |
|  | b) |  Resting and action potential explanation with figure (2.5 marks each) | ( 5) |
| 11 | a) | Explain different bio electrode ( 2 marks each) | ( 6) |
|  | b) | Sketches of ECG wave (2 marks) + explanation of ECG wave (2marks) | ( 4) |
| **PART C** |
| ***Answer any twofull questions, each carries10 marks.*** |
| 12 | a) | Figure (3 marks) + explanation (2marks) | (5 ) |
|  | b) | Figure of impedance plethysmograph (3 marks) + explanation (2marks) | ( 5) |
| 13 | a) | Explanation of BP and measurement methods (2+3 marks) | ( 5) |
|  | b) | Figure ofDCdefibrillator (3 marks) + explanation (2marks) | (5) |
| 14 | a) | Figure (3 marks) + explanation (2marks) | (5) |
|  | b) | Working of Spirometer: figure ( 2marks)+ explanation ( 3 marks) | (5) |
| **PART D** |
| ***Answer any twofull questions, each carries 10 marks.*** |
| 15 | a) | Figure of heart lung machine(3 marks) + explanation (4marks) | (7) |
|  | b) | Infant incubator working and details ( 1+2 marks) | ( 3) |
| 16 | a) | CT block diagram (3marks) + explanation (2marks) | (5) |
|  | b) | electric accident prevention methods(5) | (5) |
| 17 | a) | different blood test with figures ( 10 marks) | (10) |