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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) |