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| **Scheme of Valuation/Answer Key**  (Scheme of evaluation (marks in brackets) and answers of problems/key) | | | | | |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  SIXTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019 | | | | | |
| **Course Code: ME366** | | | | | |
| **Course Name: Advanced metal joining technology** | | | | | |
| Max. Marks: 100 | | |  | Duration: 3 Hours | |
| **PART A** | | | | | |
|  |  | ***Answer any three full questions, each carries 10 marks.*** | | | Marks |
| 1 | a) | Electron gun, power supply unit, vacuum pumping system, workpiece handling device | | | (2 ) |
|  | b) | Hard, medium and atmospheric vacuum | | | (3) |
|  | c) | Classification of electron beam gun | | | (5) |
| 2 | a) | Diagram (4 marks) parts mention (1mark) | | | (5) |
|  | b) | Any 5 hazards and its safety measures | | | (5) |
|  | c) |  | | | ( ) |
| 3 | a) | Definition of Diffusion welding | | | (2) |
|  | b) | Factors affecting cold pressure welding | | | (3) |
|  | c) | Any 5 applications | | | (5) |
| 4 | a) | Figure (2) Explanation (3) | | | (5) |
|  | b) | Different techniques employed in cold pressure welding | | | (5) |
|  | c) |  | | | ( ) |
| **PART B** | | | | | |
| ***Answer any three full questions, each carries 10 marks.*** | | | | | |
| 5 | a) | Diagram (3) Explanation (4) | | | (7) |
|  | b) | Types of explosives | | | (3) |
|  | c) |  | | | ( ) |
| 6 | a) | Diagram (3) Explanation (4) | | | (7) |
|  | b) | 3 Parameters (1 mark each) | | | (3) |
|  | c) |  | | | ( ) |
| 7 | a) | Any 5 adhesive bonding theories | | | (7) |
|  | b) | 3 conditions (1 mark each) | | | (3) |
|  | c) |  | | | ( ) |
| 8 | a) | Diagram (2) Explanation(3) | | | (5) |
|  | b) | 5 advantages, 5 disadvantages (0.5 marks each) | | | (5) |
|  | c) |  | | | ( ) |
| **PART C** | | | | | |
| ***Answer any four full questions, each carries 10 marks.*** | | | | | |
| 9 | a) | Any 5 differentiation | | | (5) |
|  | b) | Diagram(2) Explanation (3) | | | (5) |
|  | c) |  | | | ( ) |
| 10 | a) | Diagram(2) Explanation(4) | | | (6) |
|  | b) | 4 advantages & 4 disadvantages (0.5 marks each) | | | (4) |
|  | c) |  | | | ( ) |
| 11 | a) | Any 6 differentiation | | | (6) |
|  | b) | Explanation | | | (4) |
|  | c) |  | | | ( ) |
| 12 | a) | Any 5 modes and explanation | | | (5) |
|  | b) | Process parameters of friction welding | | | (5) |
|  | c) |  | | | ( ) |
| 13 | a) | Any 6 points and explanation | | | (6) |
|  | b) | Any 8 applications (0.5 each) | | | (4) |
|  | c) |  | | | ( ) |
| 14 | a) | Diagram(2) Explanation (3) | | | (5) |
|  | b) | Explanation | | | (5) |
|  | c) |  | | | ( ) |
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