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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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