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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  FOURTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2019 | | | | | |
| **Course Code: ME220** | | | | | |
| **Course Name: MANUFACTURING TECHNOLOGY (IE, ME, MA)** | | | | | |
| Max. Marks: 100 | | |  | Duration: 3 Hours | |
| **PART A** | | | | | |
| ***Answer any three questions. Each question carries 10 marks.*** | | | | | |
|  |  |  | | |  |
| 1 | a) | Advantages of casting (any three)– 3 marks | | | 3 |
|  | b) | 2 marks each (sketch-1 mark and explanation-1 mark) | | | 4 |
|  | c) | Liquid shrinkage-1 mark, solid shrinkage-1 mark, including in design- 1 mark (1/2 mark each) | | | 3 |
| 2 | a) | Step by step procedure – 4 marks | | | 4 |
|  | b) | Sketch-2 marks, working- 2 marks | | | 4 |
|  | c) | Eight defects – 2marks (1/4 marks each) | | | 2 |
| 3 | a) | 3 marks each (Sketch-1.5 mark and explanation-1.5 marks) | | | 6 |
|  | b) | Reason for surface finish- 2 marks | | | 2 |
|  | c) | Equation-1 mark, substitution and answer- 1 mark | | | 2 |
| 4 | a) | Sketch- 2mark and explanation-2 marks | | | 4 |
|  | b) | Sketch- 2 marks and explanation-2 marks | | | 4 |
|  | c) | Any four factors-2 marks (1/2 mark each) | | | 2 |
| **PART B** | | | | | |
| ***Answer any three questions. Each question carries 10 marks*** | | | | | |
| 5 | a) | Sketch- 1.5 mark and explanation-1.5 mark | | | 3 |
|  | b) | Diagram- 2 marks and explanation-2 marks | | | 4 |
|  | c) | Sketch- 1.5 mark and explanation-1.5 mark | | | 3 |
| 6 | a) | 2 marks each (sketch-1 mark and explanation-1 mark) | | | 4 |
|  | b) | Sketch- 1.5 mark, explanation-1.5 mark and function of a stripper plate-1 mark | | | 4 |
|  | c) | Any four differences- 2 marks(1/2 mark each) | | | 2 |
| 7 | a) | Sketch-1 mark, explanation-2 marks | | | 3 |
|  | b) | 3-2-1 principle sketches- 3mark, explanation-4 marks | | | 7 |
| 8 | a) | Concentric locator-1.5 mark, explanation-1.5 marks | | | 3 |
|  | b) | Example-1 mark, explanation-2 mark | | | 3 |
|  | c) | Any two clamps 1 mark for sketch and 1 mark for explanation | | | 4 |
| **PART C** | | | | | |
| ***Answer any four questions. Each question carries 10 marks.*** | | | | | |
| 9 | a) | Sketch- 2 marks, explanation-2 marks and defect- 1mark | | | 5 |
|  | b) | Sketch- 2 marks and explanation-3 marks | | | 5 |
| 10 | a) | Reasons – 2 marks | | | 2 |
|  | b) | Bending- 3 marks, spring back- 1mark methods to eliminate spring back- 1mark | | | 5 |
|  | c) | Differences- 3 marks | | | 3 |
| 11 | a) | Guerin process- 2 marks and reason for reduced tool cost- 1 mark | | | 3 |
|  | b) | Definition- 2 mark and importance in producing a crack free weld- 1 mark | | | 3 |
|  | c) | 4 factors - 4 marks | | | 4 |
| 12 | a) | Sketch- 1.5 mark and differences – 1.5 mark | | | 3 |
|  | b) | Sketch- 2 marks and construction and working-2 marks | | | 4 |
|  | c) | Definition of flux -1 marks, types of flux- 2marks | | | 3 |
| 13 | a) | Differences- 2 marks and processes that require filler rod- 1 mark | | | 3 |
|  | b) | Sketch-2 marks, working-2 marks, advantages-2 marks, limitation-1 mark | | | 7 |
| 14 | a) | Operation-2 marks, equipment- 2 marks and applications- 2 marks | | | 6 |
|  | b) | Construction-2 marks, working – 2 marks | | | 4 |