



H1131

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Scheme for Valuation/Answer Key

Scheme of evaluation (marks in brackets) and answers of problems/key

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: ME474

Course Name: Micro and Nano Manufacturing

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks.

Marks

- | | | |
|---|-------------------------|------|
| 1 | a) Sketch – 2 marks | (6) |
| | Description – 4 marks | |
| | b) Advantages – 2 Marks | (4) |
| | Applications – 2 Marks | |
| 2 | a) Sketch -2 | (7) |
| | Structure of CNT – 2 | |
| | Properties of CNT -3 | |
| | b) Applications 3 | (3) |
| 3 | a) Sketch – 4 | (10) |
| | Description - 6 | |
| 4 | a) Sketch – 3 | (7) |
| | Description -4 | |
| | b) Application -3 | (3) |

PART B

Answer any three full questions, each carries 10 marks.

- | | | |
|---|----------------------|-----|
| 5 | a) Sketch -3 | (6) |
| | Description -3 | |
| | b) Advantages – 1 | (4) |
| | Disadvantages -1 | |
| | Applications – 2 | |
| 6 | a) Sketch – 3 | (7) |
| | Description - 4 | |
| | b) Applications - 3 | (3) |
| 7 | a) Carbonil iron – 1 | (5) |
| | MR finishing – 1 | |

- Role - 3
- b) Process parameters and influence - 5 (5)
- 8 a) Sketch -3 (7)
- Working of CMP - 4
- b) Applications of CMP -3 (3)

PART C

Answer any four full questions, each carries 10 marks.

- 9 a) Sketch – 3 (6)
- Description -3
- b) Mechanical Properties -2 (4)
- Physical Properties -2
- 10 a) Sketch – 3 marks (6)
- Description - 3
- b) Description - 4 (4)
- 11 a) Sketch – 2 Marks (6)
- Description - 4
- b) Applications- 4 (4)
- 12 a) Sketch of scanning probe microscopy -2 (10)
- Working Principle of scanning probe microscopy -2
- Sketch of STM – 2
- Working Principle of STM – 2
- Comparison - 2
- 13 a) Sketch – 2 (5)
- Description -3
- b) Advantages – 1 (5)
- Disadvantages – 1
- Applications -3
- 14 a) Constant height method -1 (6)
- Constant current method – 1
- Comparison - 4
- b) Description - 4 (4)
