

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Eighth Semester B.Tech Degree Regular Examination June 2023 (2019 Scheme)

Course Code: MET464**Course Name: MICRO AND NANO MANUFACTURING****Duration: 3 Hours****Max. Marks: 100****PART A***Answer all questions, each carries 3 marks.*

Marks

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| 1 | Discuss the differences between macro and micro machining. | (3) |
| 2 | Describe the features of micro grinding process. | (3) |
| 3 | List the applications of Water abrasive jet micro machining. | (3) |
| 4 | Explain Hot embossing process. | (3) |
| 5 | Describe Magneto rheological finishing process. | (3) |
| 6 | Discuss Chemical mechanical polishing. | (3) |
| 7 | Describe CVD diamond technology. | (3) |
| 8 | Explain LIGA process | (3) |
| 9 | Describe the working principle of Scanning white light interferometry. | (3) |
| 10 | Explain the merits and demerits of On-machine metrology | (3) |

PART B*Answer any one full question from each module, each carries 14 marks.***Module I**

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| 11 | With a neat sketch, discuss the process of Diamond micro turning. | (14) |
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OR

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| 12 | With a neat sketch, explain the process of Micro milling. Mention four applications. | (14) |
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Module II

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| 13 | With a neat sketch, explain micro electric discharge machining and discuss the merits and demerits. | (14) |
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OR

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| 14 | Discuss micro injection molding and its applications. | (14) |
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Module III

- 15 Explain the process of Magneto rheological abrasive flow finishing with a neat sketch. (14)

OR

- 16 Discuss about Ion beam machining with a neat sketch and list the process parameters. (14)

Module IV

- 17 Explain the significance of Carbon Nano tubes. List the properties and applications. (14)

OR

- 18 Discuss Laser Beam Micro Welding and its applications. (14)

Module V

- 19 Discuss the principle and working of Confocal microscope. (14)

OR

- 20 With a neat sketch, explain the principle and working of Scanning probe microscopy. (14)
