

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: ME311

Course Name: MANUFACTURING PROCESSES

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three full questions, each carries 10marks.

Marks

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| 1 | Discuss shell mould casting, mention its advantages and disadvantages | (10) |
| 2 | a) Explain the properties required for a moulding sand. | (5) |
| | b) Explain any two common pattern allowances in detail. | (5) |
| 3 | What do you understand by the term 'forging'? Explain the following (i) Open-die forging (ii) Closed-die forging | (10) |
| 4 | Explain the tube rolling process with suitable diagram. | (10) |

PART B

Answer any three full questions, each carries 10marks.

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| 5 | Explain deep drawing operation with neat sketch and mention the importance of die clearance. | (10) |
| 6 | What is meant by spinning? Explain tube spinning with suitable figures. | (10) |
| 7 | a) Compare brazing and soldering used in joining process. | (5) |
| | b) What is meant by shielding in welding? Why it is necessary for welding? | (5) |
| 8 | What is NDT? Explain any one NDT method used in inspection of welding and mention its advantages and disadvantages. | (10) |

PART C

Answer any four full questions, each carries 10marks.

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| 9 | Explain Abrasive Jet Machining (AJM) process and its process parameters. | (10) |
| 10 | Explain the principle and working of Electro Chemical Grinding (ECG) process with suitable diagram. | (10) |
| 11 | Explain with a neat sketch the principle and working of Ultrasonic Machining (USM) process. List its advantages, disadvantages and applications. | (10) |

- 12 What is microfabrication technology? Explain (i) Micro cutting (ii) Micro finishing. (10)
- 13 What is rapid prototyping? Explain in detail (i) Liquid Thermal Polymerization (LTP) (ii) Fused Deposition Modelling (FDM). (10)
- 14 What is nano Technology? Give details about its applications in various fields. (10)
