

Reg No.: _____

Name: _____

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

Course Code: ME306

Course Name: ADVANCED MANUFACTURING TECHNOLOGY

Max. Marks: 100

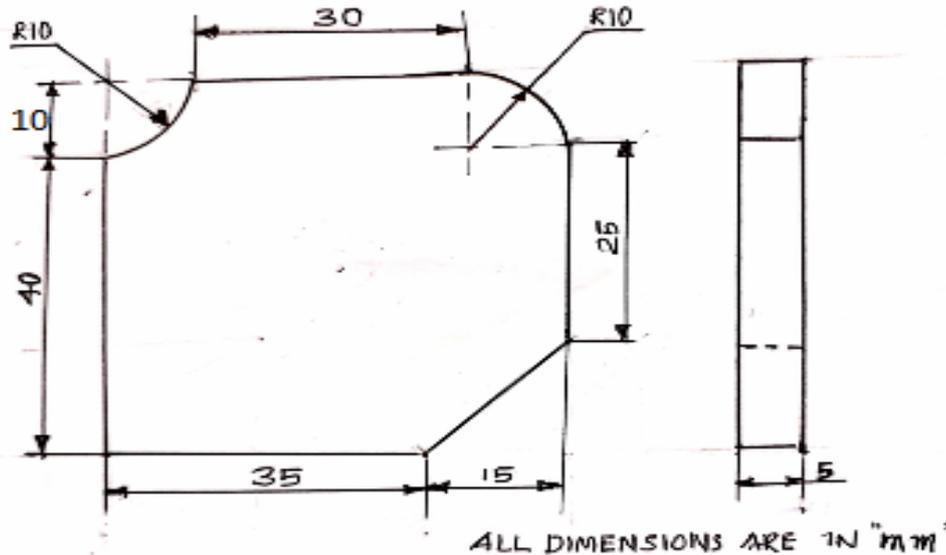
Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks.

Marks

- | | | |
|---|---|-----|
| 1 | a) What are the different methods of atomization for making metal powders in Powder metallurgy? | (6) |
| | b) What are the advantages of Powder metallurgy? | (4) |
| 2 | a) Write a Manual Part Program for the given figure. | (6) |



- | | | |
|---|--|-----|
| 3 | a) Write any Five preparatory function code in manual part programming and its explanation | (5) |
| | b) Write any two methods of specifying a line in an APT language. | (5) |
| 4 | a) Explain the different stages of sintering process in Powder metallurgy with a neat sketch | (6) |
| | b) Differentiate the impregnation and infiltration process in Powder metallurgy | (4) |

PART B

Answer any three full questions, each carries 10 marks.

- | | | |
|---|--|-----|
| 5 | a) Write the working principle of Abrasive Jet Machining with neat figure. | (5) |
| | b) What are the process parameters in Abrasive Water Jet Machining? | (5) |
| 6 | a) What are the characteristics of Electro Discharge Machining (EDM)? | (6) |

- b) Write the applications of Wire Cut Electro Discharge Machining. (4)
- 7 a) Explain Ultra Sonic Machining with a neat figure (5)
- b) How the amplitude and frequency of vibration effects on material removal rate in Ultra Sonic Machining. (5)
- 8 a) Explain the mechanism of material removal in Plasma arc machining (4)
- b) Explain solid state Laser Beam Machining Process with neat figure (6)

PART C

Answer any four full questions, each carries 10 marks.

- 9 a) Explain the two Techniques in Explosive forming process. (6)
- b) Explain the Electro hydraulic forming process. (4)
- 10 a) Explain Electro Magnetic Forming and show that it can be applied to internal, external and surface forming operations. (10)
- 11 a) Explain the LIGA and its application. (6)
- b) Write a note on Elastic Emission Machining. (4)
- 12 a) Explain two way Abrasive Flow Machining with neat figure (6)
- b) Differentiate P Wave and S wave in High Velocity Forming. (4)
- 13 a) Explain the Magnetic Float Polishing with neat figure (7)
- b) Write any six material addition process in Additive Manufacturing (3)
- 14 a) Explain the laser welding process (5)
- b) Describe the Laminated Object Manufacturing Process. (5)
