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

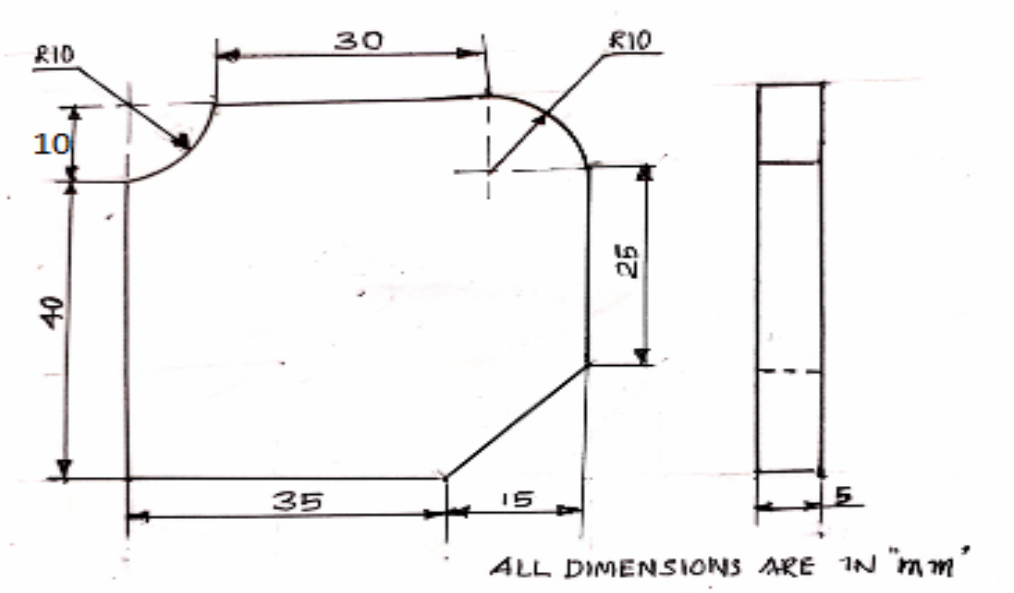
PART A

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)

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