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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: ME311

Course Name: MANUFACTURING PROCESSES (AU)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks **Marks**

1	a)	Explain the basic steps involved in casting process.	(5)
	b)	Describe bulk forming of metallic materials.	(5)
2	a)	Describe with neat sketch any one expendable mold casting process	(6)
	b)	Differentiate between open die and closed die forging processes.	(4)
3	a)	Explain the construction and working principle of cupola furnace.	(5)
	b)	What are the various defects in rollingprocesses?	(5)
4	a)	List the various defects found in casting with neat sketches.	(4)
	b)	With a neat sketch, explain wire drawing.	(6)

PART B

Answer any three full questions, each carries 10 marks

5	a)	Define sheet metal forming. List its classifications.	(5)
	b)	What do you mean by joining in welding process? List the classificationsof welding.	(5)
6	a)	Explain the mechanism of shearing process.	(4)
	b)	With the help of neat sketch explain thermit welding process.	(6)
7	a)	Compare deep drawing and hydroforming in sheet metal forming process.	(5)
	b)	With a neat sketch, explain explosion welding process. List the applications.	(5)
8	a)	Explain tube spinning with neat sketch.	(5)
	b)	Compare soldering and brazing processes. List the advantages and disadvantages.	(5)

PART C

Answer any four full questions, each carries 10 marks

9	a)	With the aid of neat sketch explain any one non-traditional machining process.	(6)
	b)	Differentiate between micro cutting and micro finishing.	(4)
10	a)	Explain ultrasonic machining with the aid of neat sketch.	(5)
	b)	Explain metal injection molding with the aid of neat sketch.	(5)
11	a)	Explain electrochemical grinding. List its advantages.	(5)
	b)	Explain rapid prototyping with an example.	(5)
12	a)	Compare Chemical milling & photochemical machining.	(6)
	b)	Define Nano technology. List its applications.	(4)
13	a)	Explain ECM. List the elements of ECM.	(6)
	b)	Compare sustainable and green manufacturing.	(4)
14	a)	Explain plasma arc cutting. List the advantages and disadvantages.	(6)
	b)	Explain near net shape manufacturing.	(4)

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