Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth Semester B.Tech Degree Examination June 2022 (2019 scheme)

Course Code: RAT204

Course Name: MANUFACTURING PROCESSES

Max. Marks: 100 Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks) Marks

1		What are the advantages of forging process?	3
2		Differentiate between hot rolling and cold rolling	3
3		Explain the principle of operation of resistance welding	3
4		What is weldability?	3
5		Explain form milling process	3
6		Distinguish between drilling and boring	3
7		What are preparatory functions?	3
8		Differentiate between absolute and incremental programming	3
9		Explain laser engineered net-shaping	3
10		Describe electric discharge machining	3

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

11	a)	With a simple block diagram, explain the process of sand casting	8
	b)	What are the advantages of casting process?	6
12	a)	With sketches ,explain impact extrusion process	8
	b)	Describe the applications of rolling process	6

Module -2

13	a)	With a neat sketch, explain ultrasonic welding	8
	b)	Describe the advantages of submerged arc welding	6
14	a)	With a simple sketch, explain seam welding process	8
	b)	Explain adhesive bonding process	6

Module -3

15	a)	With a neat sketch ,explain the nomenclature of a plain milling cutter	8
	b)	Differentiate between face milling and end milling	6

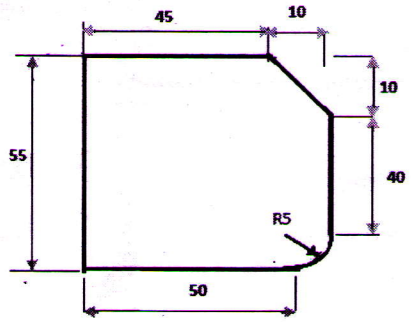
16 a) Classify grinding operations 8

b) What are the work holding devices used in a turning process? 6

Module -4

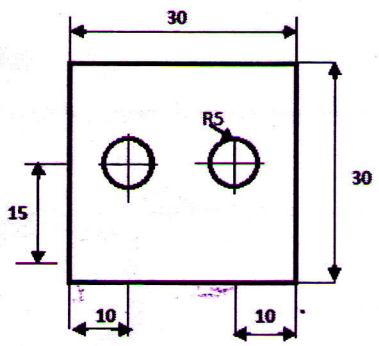
17 a) Explain canned cycle in CNC programming 6

b) Write a CNC program for milling the part as shown in figure. Assume spindle speed as 1000 rpm and feed as 150 mm/min. 8



18 a) What is APT programming? 6

b) Write a CNC program for drilling of two holes in a MS plate having thickness of 15 mm as shown in figure below. Assume feed as 150 mm /min. and spindle speed as 1400 rpm 8



Module -5

19 a) With a neat sketch explain electro chemical machining process 8

b) Explain laser beam machining 6

20 a) With a neat sketch describe stereo lithography process 8

b) What are the advantages of rapid prototyping 6

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