18 JUN 2023

Reg. No.													

Question Paper Code	12028

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Third Semester

Mechanical Engineering

20MEPC301 - MANUFACTURING PROCESSES

(Regulations 2020)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Generalize the properties of molding sand.	2,K2,CO1
2.	Point out the different types of Oxyacetylene flame by sketches.	2,K2,CO1
3.	Enumerate recrystallization temperature.	2,K2,CO2
4.	List the functions of Back-up rollers in rolling operation?	2,K1,CO2
5.	Name the various cutting tool materials.	2,K1,CO3
6.	Give the factors that affect the tool life.	2,K1,CO3
7.	What is straddle milling?	2,K1,CO4
8.	How do you classify milling cutters?	2,K2,CO4
9.	List out the types of grinding operations.	2,K1,CO5
10.	What is meant by dressing and truing?	2,K1,CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Describe the construction feature and working of a cupola furnace with its advantages and disadvantages.	13,K2,CO1
		OR	
	b)	Describe with neat sketch about the various components of Oxyacetylene gas welding equipment.	13,K2,CO1
12.	a)	Draw and explain the various types rolling stand setup used in rolling operation.	13,K2,CO2
		OR	
	b)	With neat diagram explain the process of forward extrusion and also explain how hollow sections can be produced in this process.	13,K2,CO2
13.	a)	With neat sketch explain the various types of Lathe machine operations.	13,K2,CO3

OR

b) Discuss about the single spindle automatic lathe and explain Swiss type automatic lathe. *13,K2,CO3*

14. a) With a simple sketch, explain the working of the crank and slotted link quick return motion mechanism used in shaper? *13,K2,CO4*

OR

b) Explain the construction and working principle of gear hobbing process with neat diagram. *13,K2,CO4*

15. a) Explain the working construction of cylindrical grinding and surface grinding with neat sketch. *13,K2,CO5*

OR

b) Explain the construction and working principles of push type, pull type and continuous broaching machine with neat sketches. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the principle, construction and working operation of laser beam welding and give their applications. *15,K2,CO6*

OR

b) Develop the technological steps for manufacturing a crane hook with best mechanical properties. Sketch the various stages and name the operations. *15,K3,CO6*