Exam.Code:1015
Sub. Code: 7444

2054

M.E. (Mechanical Engineering)

Second Semester

MME-202: Advanced Manufacturing Processes

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, selecting atleast two questions from each Part.

x-x-x

PART-A

1	(a)	What are the main reasons of development of advanced manufacturing processes? Elaborate your answers with practical examples?	5
	(b)	Explain the classification of advanced manufacturing processes according to major energy source employed.	5
2	(a)	With the help of a neat sketch explain the mechanism of Ultrasonic machining process	5
	(b)	Explain the principle of electro-chemical machining and list its product applications	5
3	(a)	What are the desirable properties of abrasive particles in AJM?	5
	(b)	Explain in brief the process parameters and mechanism of material removal in Chemical Machining (CM) process?	5
4		Material removal rate in AJM is 0.5 mm^3 /sec. Calculate MRR/impact if the mass flow rate of abrasive is 3 gm/min, density is 3 gm/cc and grit size is 60 microns. Also calculate the indentation radius	10

PART-B

5	(a)	Explain in brief the process parameters and mechanism of material removal in Electro Discharge Machining (EDM) process?	5
	(b)	Differentiate between PAM and LBM with respect to principle, MRR, and suitability of machining (At least two point each).	5
6		Describe in detail the working, process parameters, equipment and mechanism of material removal of Ion Beam Machining.	10
7	(a)	How to minimize tool wear in EDM?	5
	(b)	What are dielectric fluids used in EDM process? Describe their types and properties in details.	5
8		What is Hybrid Machining? Describe the fundamentals, machining setup and applications of ECG Process?	10

x-x-x