(9)

Exam.Code:1015
Sub. Code: 7761

1058
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 Unit.*

x-x-x

UNIT – I

I. a) Why the need for advanced manufacturing processes arose? What are the benefits of these processes?

b) What is Hybrid machining? Explain with the help of a suitable example? (2x5)

II. a) Which are the main process parameters that affect the machining performance in USM, how can they be set to get (i) the maximum material removal, (ii) higher surface finish.

b) What is the principle difference between AJM and AWJM and where are these processes used? (2x5)

III. What is chemical machining? Explain its construction features along with its advantages, applications and limitations? (10)

IV. a) Describe the process mechanism of ultrasonic machining processes?

b) Explain the various input and output process parameters of AJM? (2x5)

UNIT – II

V. a) Which are the variant processes in ECM; classify them along with their applications?

b) Which processes parameters affect the material removal and tool wear in ECDM? (2x5)

VI. Draw a Schematic diagram of 'Electro-discharge Machining' and Explain its working principle and process parameters. (10)

P.T.O.

VII. a) Describe the mechanism of material removal in Ion beam machining?

b) What are the functions and desirable properties of dielectric fluid in EDM? Explain desirable properties of electrode material used in EDM? (2x5)

VIII. Amongst the advanced manufacturing processes you studied, list out the green processes or the processes which can be hybridized into environmentally friendly one's. Explain with proper reasoning. (10)

x-x-x