

Exam Code: 1015
Sub. Code: 7761

1129
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) Classify the advanced manufacturing methods and show these by flow chart?
b) What are chip less machining methods? What are their advantages? (2x5)
- II. Make a comparison among various non-traditional machining processes in terms of the following:-
a) Cavity-sinking (through) operation
b) Pocketing operation
c) Through cutting operations (2x5)
- III. a) With neat sketch, explain the main elements of ultrasonic machining process? Also describe its working?
b) List the applications of Abrasive jet machining. Also mention the advantages and disadvantages of water jet machining? (2x5)
- IV. a) Explain various parameters that influence the performance of chemical machining process.
b) Write the wide applications, advantages and limitations of Chemical Machining? (2x5)

UNIT - II

- V. a) What is ECM Process? Under which, laws, the ECM process operates? Explain in details.
b) Explain with sketch, the mechanism of metal removal in electric discharge machining? (2x5)
- VI. a) What are the requirements of a good dielectric fluid used for EDM process? Explain the methods of dielectric flushing in EDM process.
b) Describe the process of electro chemical deburring with the help of suitable sketches? (2x5)

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VII. a) Explain with sketch the principle of ion beam generation and mechanism of metal removal in IBM?

b) Explain with sketch, the working of plasma arc machining (PAM)? (2x5)

VIII. Explain the following terms:-

a) Ignition delay

b) Wear Ratio

c) Design of horn

d) Transducers

(4x2½)

x-x-x