

MICRO MANUFACTURING (HONS.)

Full Marks: 100

Time : 3 hours

Answer any FIVE questions.

1. a) What do you understand by Micro-Manufacturing Process?
b) What are the various micro-manufacturing processes.
c) Mention various guidelines of micromachining?
d) Mention five hybrid micro-machining/ nano-finishing processes.
(5+ 6+4+5)
 2. a) Differentiate between EDM and Micro-EDM.
b) Discuss about Micro-EDM Process with various applications of it.
c) How is EDM applied for micro-tool development?
(5+10+5)
 3. a) Differentiate between ECM and EMM
b) Discuss about EMM Process with various applications of it.
c) How is EMM applied for micro-tool development?
(5+10+5)
 4. a) Differentiate between USM and Micro-USM
b) Discuss about Micro-USM Process with various applications of it.
c) How is micro-tool developed for micro-USM?
(5+10+5)
 5. a) Discuss on Electrochemical Discharge micro-machining process with sketch.
b) Discuss on laser micro-machining process with sketch.
(10+10)
 6. a) Discuss on micro extrusion process with sketch.
b) Discuss on various laser micro welding processes with sketch.
(8+12)
 7. a) Mention five micro/nano level measurement instruments.
b) Mention various micro-joining processes.
c) Discuss on micro additive manufacturing processes and their applications.
(5+5+10)
-