

Question Paper

Exam Date & Time: 20-Dec-2019 (08:30 AM - 11:30 AM)



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING
III SEMESTER B.TECH INDUSTRIAL AND PRODUCTION ENGINEERING MAKE UP EXAMINATIONS, DEC 2019
MANUFACTURING PROCESS ENGINEERING [MME 2157]

Marks: 50

Duration: 180 mins.

Instructions to Candidates: Answer ALL questions Missing data may be suitably assumed

- 1) With a neat sketch explain the working principle of sand slinger machine (5)
 - A)
 - B) List and explain six properties of molding sand (3)
 - C) List the advantages and disadvantages of pressure die casting process. (2)
- 2) With neat sketches explain deep drawing and wire drawing process (5)
 - A)
 - B) With a neat sketch explain spot welding process (3)
 - C) List any four differences between hot and cold working process (2)
- 3) With neat sketches explain hydrostatic extrusion process and hydraulic press (5)
 - A)
 - B) Illustrate with a sketch the working principle of a lathe (3)
 - C) Find the time in drilling a 18mm hole in the work-piece having thickness 50mm. Assume cutting speed as 12m/min and feed 0.2mm/revolution. Neglect the length of approach (2)
- 4) Briefly explain with sketch the horizontal spindle column and knee type milling machine (3)
 - A)
 - B) Brief on indexing and divide the periphery of the job into 52 divisions by simple indexing using standard index plate having 37,39,41,43,47,49 holes (3)
 - C) With a neat sketch explain the horizontal spindle surface grinding machine (4)
- 5) Explain the following designation W A 36 K 5 V 17 for grinding wheels (2)
 - A)
 - B) With neat sketch explain the Laser equipment and its operation (5)
 - C) Elucidate rapid prototyping and list its four advantages (3)

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