

# CBCS SCHEME

18MPD22

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Second Semester M.Tech. Degree Examination, June/July 2019

## Design for Manufacturing

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Specify and explain major reasons for not implanting DFMA. (10 Marks)  
b. Explain systematic selection of manufacturing process and materials. (10 Marks)

OR

- 2 a. With an example explain reasons for indicating general tolerances for manufacturing processes. (10 Marks)  
b. Explain general shape attributes involves in manufacturing process capabilities. (10 Marks)

### Module-2

- 3 a. Explain different external screw threads with neat sketches. (10 Marks)  
b. Explain : i) blind bored holes ii) flat bottom drilled holes. (10 Marks)

OR

- 4 a. Explain reduction of machined areas with suitable examples. (10 Marks)  
b. Explain : i) drilling-Entry and Run out ii) Keyways-Sunken and Run out. (10 Marks)

### Module-3

- 5 a. Explain : i) Module ii) Parting line. (10 Marks)  
b. Explain importance of designing to obviate sand cores with suitable example. (10 Marks)

OR

- 6 a. Explain procedure of identifying the possible and probable parting line with an example. (10 Marks)  
b. Explain reasons for special sand cores requirements for casting process. (10 Marks)

### Module-4

- 7 a. With salient features explain injection molding cycle. (10 Marks)  
b. Explain elements and important factors to be consider during injection mold cost estimation. (10 Marks)

OR

- 8 a. Explain dedicated dies and press working for sheet metal. (10 Marks)  
b. Explain design guidelines or engineering thermoplastic injection components. (10 Marks)

### Module-5

- 9 a. State die casting alloys. Explain the concept of cold chamber die casting machine and its elements. (10 Marks)  
b. Explain accepted design principles for die casting design. (10 Marks)

OR

- 10 a. Explain important stages involves in the powder metallurgy process. (10 Marks)  
b. Explain continuous flow furnace sintering equipment used in powder metallurgy process. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

