

Code No: RT41038

R13

Set No. 1

IV B.Tech I Semester Supplementary Examinations, February/March - 2018

DESIGN FOR MANUFACTURE

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A (22 Marks)

1. a) Differentiate between DFM, DFA and DFMS. [4]
- b) Explain on centre design with sketch. [4]
- c) What is the effect of blow hole in design for casting? [4]
- d) What is forging operation? [3]
- e) What is the difference between drawing and deep drawing operation? [3]
- f) Give the applications of injection molding process. [4]

PART-B (3x16 = 48 Marks)

2. a) Discuss briefly the basic principles of designing for economical production. [8]
- b) List out and explain the general design rules for manufacturability. [8]
3. a) Discuss the applications of design for machining rules. [8]
- b) What are the general problems we come across while designing for machining operations? Explain how one can overcome those problems. [8]
4. a) Discuss the general design considerations for casting process. [8]
- b) What is the importance of solidification in casting process? Explain. [8]
5. Briefly explain the design guidelines for brazed joints. [16]
6. a) Explain design considerations affecting drawability. [8]
- b) Illustrate the Keeler Goodman forging line diagram. [8]
7. a) Explain the design guide lines for plastic components. [8]
- b) Discuss about the visco elastic and creep behavior in plastics. [8]