B.TECH SEM – VI (2007 COURSE) (PRODUCTION ENGG.) :
SUMMER - 2018
SUBJECT: JIG FIXTURE AND DIE DESIGN

Day : **Friday** | **S-2018-2736** | Time : **02.30 PM TO 06.30 PM**
Date : **08/06/2018** | Max. Marks: 80

N. B.:

1) **Q. No.1** and **Q. No.5** are **COMPULSORY.** Out of remaining attempt **ANY TWO** questions from each sections.
2) Figures to the right indicate **FULL** Marks.
3) Answer to both the section should be written in **SEPARATE** answer book.
4) Use non-programmable **CALCULATOR** is allowed.
5) Assume suitable data, if necessary.

SECTION-I

Q.1 Design and draw a drilling jig for drilling 4 holes of Ø 12 of component shown in figure 1. Prepare manufacturing drawing for non-standard parts. **(14)**

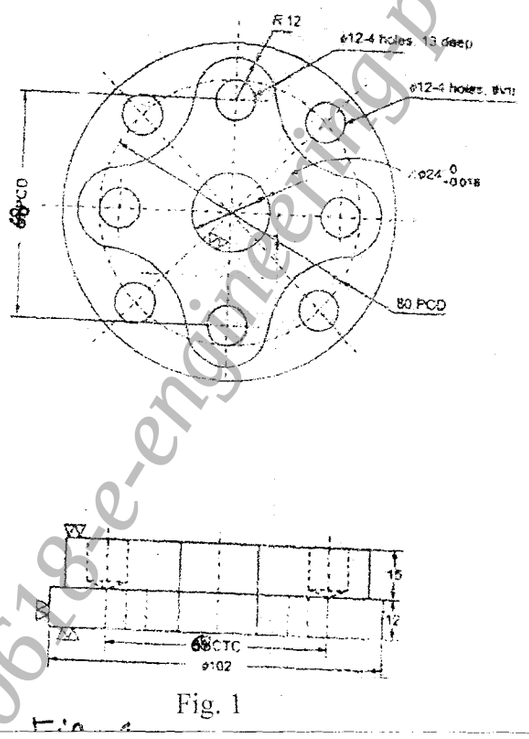

Fig. 1

Q.2 **a)** Discuss the design principles of jigs and fixtures. **(07)**

b) What is redundant location? How is it avoided? **(06)**

Q.3 **a)** Why the clamps on milling fixture should be extremely rigid? **(07)**

b) What are considerations for design and selection of bushes? **(06)**

Q.4 **a)** Explain design considerations of hot chamber die casting. **(07)**

b) Discuss the defects in die casting with reference to causes, remedies and methods of detecting the defects. **(06)**

P.T.O.

SECTION-II

Q.5 **a)** Design an injection molding die for the component shown in figure 2. Draw assembly of the mold and details. Given thickness of component as 2.5 mm **(14)**

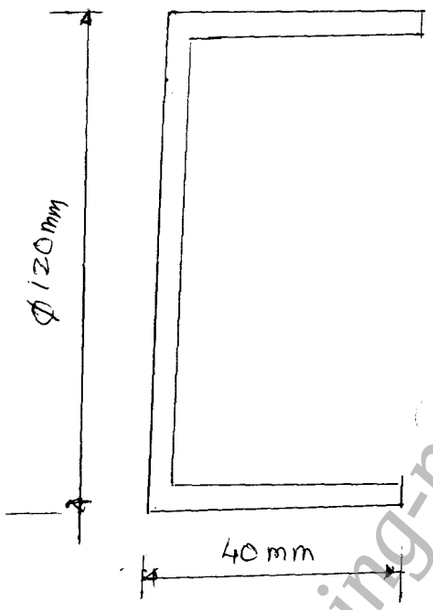

Figure No:02

Q.6 **a)** Explain with neat sketch Single and Multi Impression Forging Dies. **(07)**

b) Give the detail classification of forging. **(06)**

Q.7 **a)** Discuss the criteria for deciding number of cavities per mold in injection molding. **(07)**

b) Explain any two cooling systems used in injection molding. **(06)**

Q.8 **a)** Explain the principle and working of extrusion blow molding. **(07)**

b) Discuss the defects in blow molding with reference to causes, remedies and methods of detecting the defects. **(06)**

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