

B.TECH. SEM -VI PRODUCTION 2014 COURSE (CBCS) :
WINTER - 2017

SUBJECT: JIG FIXTURE AND DIE DESIGN*

Day: Monday
Date: 20/11/2017

W-2017-2233

Time: 10.00 AM TO 02.00 PM
Max. Marks: 60

N.B:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Draw neat labeled diagram **WHEREVER** necessary.
- 5) Assume suitable data if necessary.

Q.1 Discuss the principles of location of a workpiece .Explain each with suitable example for implementing the same. **(10)**

OR

Q.1 What are the locating methods of a workpiece? Explain with neat sketches location from plane surface with special consideration for irregular surfaces. **(10)**

Q.2 Design a drill Jig for use when drilling and reaming the six holes in flange of the Adaptor shown in figure No.1 **(10)**

OR

Q.2 Design a drill Jig for drilling and spot facing the ϕ 25mm.Boss of the connection shown in figure No.2.This is done after the flange is drilled. **(10)**

Q.3 i) Write a short note on Broaching fixture. **(05)**

ii) Explain with neat sketch any two indexing devices. **(05)**

OR

Q.3 i) Write a short note on turning fixtures. **(05)**

ii) Sketch a string milling fixture and explain how it is useful in improving production rate. **(05)**

Q.4 i) What are the characteristics of thermosetting plastic? How do thermosetting plastics differ from thermoplastic? **(05)**

ii) With suitable sketch explain principle construction and working of injection molding. **(05)**

OR

Q.4 i) Explain Transfer Molding process in details. **(05)**

ii) Describe compression Molding process in detail. **(05)**

Q.5 Design an injection molding die for the component shown in figure No.3. Draw assembly of the Mold and details. **(10)**

OR

Q.5 What are the types of Gate? Describe turbulence in gating system and metal flow rate and velocity calculation. **(10)**

Q.6 Explain with neat sketch Hot chamber die casting machine with its advantages, disadvantages and applications. **(10)**

OR

Q.6 i) Explain gating system in detail. **(05)**

ii) Discuss design considerations of die casting components. **(05)**

(P.T.O.)

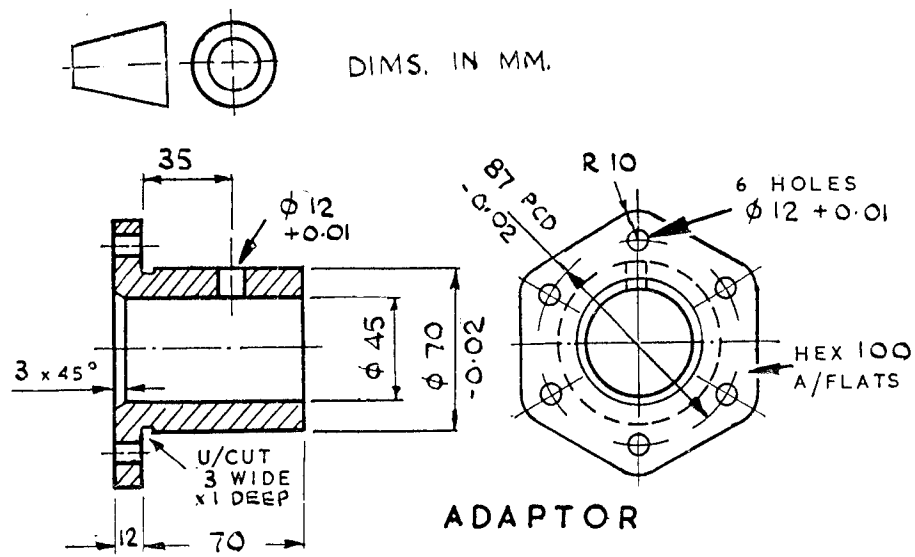


Figure NO: 1

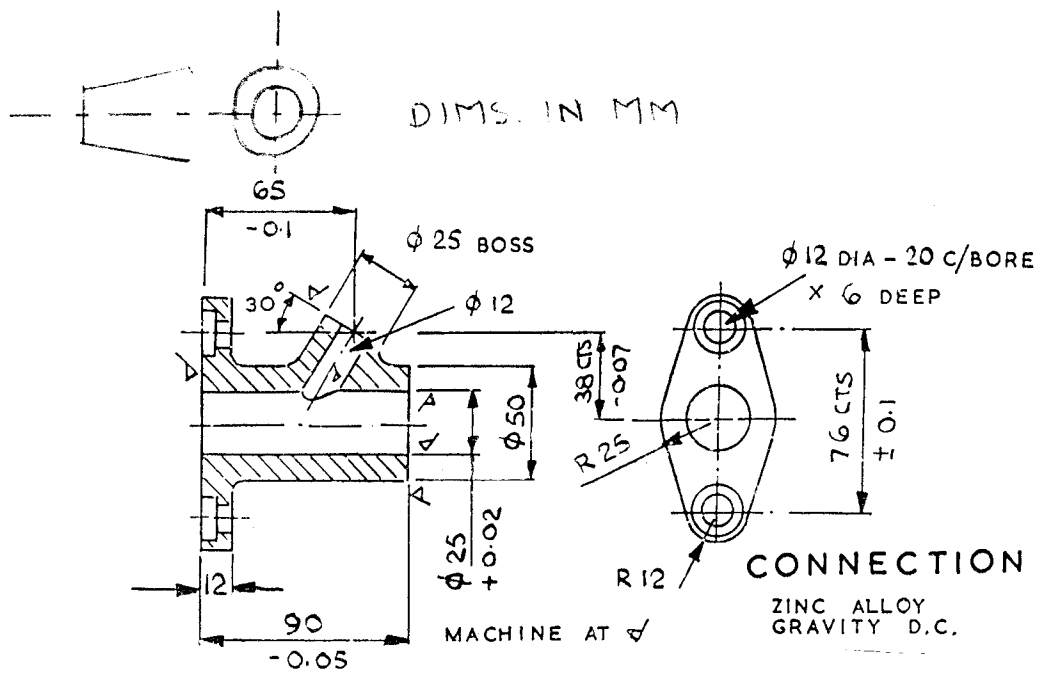


Figure NO: 2

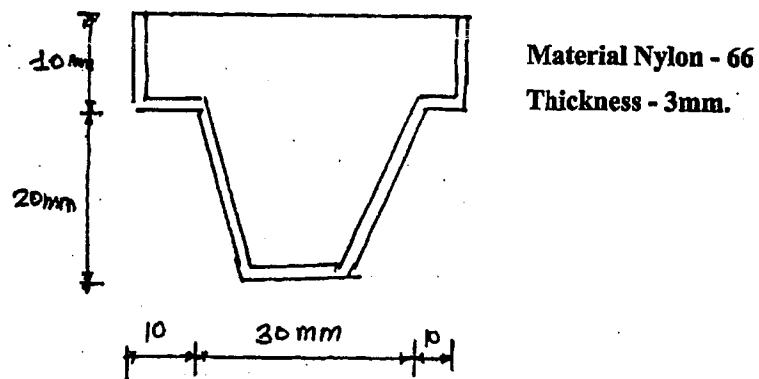


Figure NO: 3