

22491

22223

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: 10**
- a) Define runner and cavity.
 - b) Enlist various materials used for making of moulds.
 - c) Enlist different types of machinery use to manufacture a mold.
 - d) What is jig boring?
 - e) Write uses of band saw.
 - f) State uses of surface grinding in moulds.
 - g) State need of heat treatments given to the mold components.
- 2. Attempt any FOUR of the following: 12**
- a) Describe the function of locating ring and write its types.
 - b) Describe principle of operation of tool post with neat sketch.
 - c) Describe Annealing treatment given to various mould parts.
 - d) Write steps for mould assembling process.
 - e) State any three properties of mild steel.

P.T.O.

3. Attempt any FOUR of the following:

12

- Compare fixed half and moving half of the injection mould (two plate mould).
- Describe various types of Non Ferrous materials and properties of the same.
- Explain Electro discharge machine principle with neat labelled diagram.
- Explain significance of direct and indirect bolting in mold assembly.
- Explain tempering process in details.

4. Attempt any THREE of the following:

12

- Utilise appropriate guide pillar and bush for the designing or mold for Fig. No. 1.

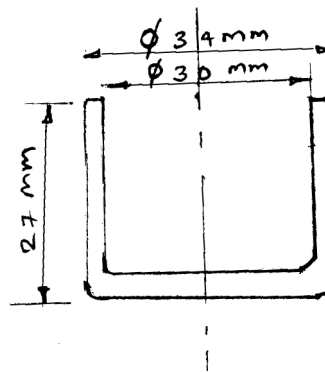


Fig. No. 1

Draw appropriate sectional mold F.V. show guide pillar and guide bush, support pillar, cavity and core inserts and plates.

- Identify the material for cavity insert and write its properties.
- Enlist machine tools used to fabricate the mould and explain Power saw in details.
- Select appropriate materials to manufacture guide pillar and write its properties and applications of same material.
- Write a note on various problems occur in assembly of mold.

- 5. Attempt any THREE of the following:** **12**
- a) Explain properties and need of Mold steel and P-20 used for mold manufacturing.
 - b) Differentiate between EDM and wire cut EDM.
 - c) Identify and describe various polishing methods use for components like core and cavity inserts, backup plate, support pillars.
 - d) Explain hardness determination procedure by using Rockwell hardness tester alongwith neat sketch.
 - e) Describe functions of following mould parts:
 - i) Sprue Bash
 - ii) Guide pillars.
- 6. Attempt any TWO of the following:** **12**
- a) Write application of ferrous metals used in molds and explain their uses.
 - b) Explain cylindrical grinding, milling M/c. and their principle.
 - c) Select appropriate hardening method for cavity plate and insert and describe the same.
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