

# 17549

**11920**

**3 Hours / 100 Marks**

Seat No.

--	--	--	--	--	--	--	--

- 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) Assume suitable data, if necessary.  
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any TEN of the following:** **20**
- Define split mould.
  - State the function of locating ring.
  - Enlist two plastic product produce by finger can split injection mould.
  - State any two advantages of hydraulic actuation is split mould.
  - State the function of side cavity.
  - Suggest the mould for making external and internal threaded component.
  - What are main factor's to be consider while designing unscrewing mould?
  - List out different advantages of using three plate mould.
  - What is three plate mould?
  - Suggest the plastic product produce by using three plate mould.

P.T.O.

- k) Give two limitations of using flash mould.
- l) State the function of pressure pad in compression mould.
- m) Which part of the mould should be highly finished and polished?
- n) Enlist different mould making materials.

**2. Attempt any FOUR of the following: 16**

- a) Write different parts involved in two plate injection mould. State their functions.
- b) Draw a neat sketch of Sprue gate, Pin point gate, Tunnel gate and Ring gate.
- c) Enlist different types of runner. Which type of runner have better efficiency? Why?
- d) Define core, cavity, integer core, integer cavity and sprue with their function.
- e) Suggest the gate type for following product:
  - (i) Compact disc
  - (ii) Pen Cap
  - (iii) Solid cube
  - (iv) Plastic plate
- f) Explain the selection criteria of a split mould.

**3. Attempt any FOUR of the following: 16**

- a) Explain in detail finger cam actuation method with neat sketch.
- b) Differentiate in between spring actuation and hydraulic actuation.
- c) Describe in detail split mould by angle lift actuation methods with neat sketch.
- d) Explain with a neat sketch dog leg cam actuation mechanism.
- e) Describe in detail side core and side cavity with suitable example.
- f) Suggest and draw neat sketch of water bottle cap (internally threaded)

- 4. Attempt any FOUR of the following:** **16**
- a) Draw four products having internal and external threads suggest the mould for each.
  - b) Explain any one method for unscrewing for internally threaded product.
  - c) Draw neat sketch of different types of thread.
  - d) Differentiate in between two plate mould and three plate mould.
  - e) State and example the design criteria for runner plate design in three plate mould.
  - f) What is single cavity and multicavity mould? Explain with suitable example and neat sketch.
- 5. Attempt any FOUR of the following:** **16**
- a) Explain different design aspect of three plate mould.
  - b) Draw a neat sketch of three plate injection mould, showing stripper plate, runner plate, cavity insert, core insert and core and cavity plate.
  - c) What is the necessity of three plate mould?
  - d) Describe in detail construction of auxiliary ram type transfer mould.
  - e) Differentiate in between compression and transfer mould.
  - f) Draw a neat sketch fully flash type compression mould.
- 6 Attempt any FOUR of the following:** **16**
- a) Draw neat sketch of positive compression mould.
  - b) Describe in detail design features of integral pot type transfer mould.
  - c) State the significance of heat treatments.
  - d) Give different advantages of Nitriding.
  - e) Explain process of chrome plating.
  - f) Compare in between nitriding and hardening.
-