

17549

21718

3 Hours / 100 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) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (8) Abbreviation used convey usual meaning.

Marks

1. **Answer any TEN of the following:** **20**
- a) State the function of locating ring.
 - b) Name any two products requiring split mould.
 - c) List any four mechanism used to operate split of mould.
 - d) What does side core mean?
 - e) Name the ejection mechanism for internally threaded part.
 - f) State the necessity of three plate mould.
 - g) Write function of third plate in three plate mould.
 - h) Name four standard components of a compression mould.

P.T.O.

- i) State any two advantages of auxiliary ram type transfer mould over integral pot type.
- j) Why is it necessary to provide heat treatment to mould material?
- k) Name any two surface treatment given to mould to obtain product with glossy finish.
- l) Classify mould materials.
- m) State criteria for selection of split mould.
- n) Name the mould used for injection moulded
 - (i) bucket
 - (ii) pipe elbow

2. Answer any TWO of the following: 16

- a) (i) Draw a labelled diagram of two plate injection mould.
(ii) State functions of its parts.
- b) Draw diagrams of any four types of gate. State its utility.
- c) Explain finger cam and dog-leg cam actuation method with the help of diagrams.

3. Answer any FOUR of the following: 16

- a) Explain angle lift method used to operate split mould.
- b) Explain hydraulic actuation used to operate side core.
- c) Describe working of spring actuation method to operate split.
- d) Explain the necessity of injection mould with side core and side cavity.
- e) Write constructional details of mould for internally threaded design with a diagram.
- f) Describe types of threads with diagrams.

- 4. Answer any FOUR of the following:** **16**
- a) Explain the mechanism of unscrewing mould.
 - b) Write down the design criteria for externally threaded mould.
 - c) Explain design layout for bottle cap mould by unscrewing method.
 - d) Differentiate between two plate and three plate injection mould.
 - e) State the design aspects for three plate mould.
 - f) Describe gating system for three plate multicavity mould.
- 5. Answer any FOUR of the following:** **16**
- a) Compare compression mould with transfer mould with respect to construction.
 - b) Describe runner plate design in three plate mould.
 - c) Describe the process of nickel plating.
 - d) Describe any one method of heat treatment of steel.
 - e) Explain polishing of mould. Why is it necessary?
 - f) State the material used for manufacturing
 - (i) injection mould
 - (ii) blow mould
 - (iii) compression mould
 - (iv) transfer mould
- 6. Answer any TWO of the following:** **16**
- a) Explain construction and working of three plate injection mould with a diagram.
 - b) Write constructional details of positive and flash type compression mould with diagrams.
 - c) Describe integral pot type or auxiliary ram type transfer mould with diagrams.
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