17327

21314

4 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) ***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.*

MARKS

1. A) Answer **any three** : **(3×4=12)**
   a) List main parts of compression mould. State its function. **4**
   b) Describe the use of balancing and positioning of gate. **4**
   c) Explain cooling circuit for cavity and core. **4**
   d) Differentiate between shaping machine and planing machine. **4**

   B) Answer **any one** : **(1×6=6)**
   a) Explain design guideline for guidepin and guide bush in an injection mould. **6**
   b) What do you mean by balancing of a runner ? Why is it required ? State your answer with a neat sketch. **6**

2. Answer **any four** : **(4×4=16)**
   a) i) Explain function of register ring.
   ii) State types of register rings. **4**
   b) Describe construction and explain working of stripper plate ejection system. **4**
   c) Compare U type cooling with Z type cooling C. **4**
   d) Describe pressure casting. **4**
   e) State the purpose of venting. Name types of venting. **4**
   f) Describe working of cylindrical grinding machine with a neat sketch. **4**

P.T.O.

MARKS

3. Answer **any four** : **(4×4=16)**
   a) Differentiate between compression and transfer mould. **4**
   b) Write down advantages and disadvantages of air ejection system. **4**
   c) Explain with a neat sketch hot chamber die casting. **4**
   d) List down the factors to be considered while designing the runner. **4**
   e) Define ejector grid. State function of sprue puller with a neat sketch. **4**

4. A) Answer **any three** : **(3×4=12)**
   a) Write various points to be considered while deciding parting line. **4**
   b) Explain clamping in injection mould. **4**
   c) State function of sprue bush. Enlist its types. **4**
   d) State necessity of gating system. Explain any one type of gate. **4**
   e) State various types of ejection techniques. Explain pin ejection. **4**

   B) Answer **any one** : **(1×6=6)**
   a) Explain function of guide pin and guide pillar in an injection mould. **6**
   b) i) Describe the ejection mechanism. **4**
   ii) Explain the necessity of ejection to plastic product. **2**

5. Answer **any four** : **(4×4=16)**
   a) Explain in brief process of electroplating with a neat diagram. **4**
   b) Describe diaphragm type of gate. **4**
   c) What is the significance of sprue puller ? Explain any one sprue puller. **4**
   d) Suggest the ejection system for following products. **4**
   1) rectangular box 2) compact disc
   3) pen cap 4) plastic chair.
   e) Define ‘runner’. Draw its various cross sections and mention its use. **4**
   f) Explain necessity of cooling in a plastic product. **4**

6. Answer **any four** : **(4×4=16)**
   a) Define gate. Explain fan gate. **4**
   b) Describe cooling of a bolster. **4**
   c) Explain principle of a milling machine. **4**
   d) Differentiate between single cavity and multi cavity mould. **4**
   e) Define i) cavity and ii) core in injection mould with a neat sketch. **4**

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