

**M.Tech 1st Semester (MAE) CBCS Scheme****Examination, December-2017****FOUNDRY TECHNOLOGY****Paper-MTMA 21 D3***Time allowed : 3 hours]**[Maximum marks : 100*

*Note : Students are required to attempt any five questions.  
The students have to attempt first common question,  
which is compulsory and one question from each of  
the four sections.*

1. (a) Advantages of foundry technology.  
(b) Directional solidification with figure.  
(c) Parts of gating system.  
(d) Sprue.  
(e) Methods of inspecting castings.  
(f) Sand blasting.  
(g) Common heat treatment problems  
(h) Concept of pollution control in foundry.

 $2.5 \times 8 = 20$ **Section-A**

2. (a) Which types of item can be made in foundry shop ? 10  
(b) Write a note on Ferrous and Non-ferrous casting metals and alloys. 10

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3. Explain any one of the melting furnace for aluminium alloy in detail. 20

**Section-B**

4. What do you mean by core ? Write about core design considerations in detail. 20
5. Write in detail about types of gates with their characteristics using neat sketches. 20

**Section-C**

6. Explain cold chamber die casting with neat sketch, working, principle and precautions. 20
7. Write notes on :
- (a) Magnetic and fluorescent power inspection. 10
  - (b) Rough cleaning (Fettling) of castings. 10

**Section-D**

8. Explain heat treatment process of plain carbon and alloy steel castings. 20
9. (a) Describe briefly, with relevant figures, mechanization and modernization of moulding and melting section. 10
- (b) Write about pollution control norms in foundry. 10