

Ref. No.: Ex/Met/PC/B/T/323/2023(S)

**B.E. METALLURGICAL AND MATERIAL ENGINEERING
THIRD YEAR SECOND SEMESTER SUPPLEMENTARY EXAM 2023**

Subject: STEEL MAKING

Time: 3hrs.

Full Marks: 100

PART-1 - 70 Marks

Instructions: Use Separate Answer scripts for each Part

Answer Qusetion No. 1 & any three from the rest		Marks
1	Differentiate between - Acid Steelmaking Process & Basic Steelmaking Process - AC Electric Arc Furnace & DC Electric Arc Furnace - Kaldo Rotor Process & Rotor Process - Pneumatic Process & Slag Transfer Process	4X4
2	Describe in detail about the description of LD convertor & the steel making process in the convertor.	10+8
3	Write a short note on Induction Furnace (IF) Write the advantages & disadvantages of IF over EAF Why Propane is used in OBM process?	8+7+3
4	Write short notes about the followings : - Importance of Secondary Steelmaking - Raw Materials of Steelmaking - Advantages & Drawbacks of Open Hearth Process	6+6+6
5	Describe a conventional Electric Arc Furnace covering the following items : Furnace Description Charging, Melting & Arcing Refining Desulphurisation	4+6+4+4

TURN OVER

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Part- II (30)

Instructions: Use Separate Answer scripts for each Part

(Answer any three questions.)

3x10

1. Explain a Horizontal type continuous casting machine (for steel casting) along with a neat diagram. 10
2. 'In continuous casting, solid lubricant are used for casting of low carbon steel'- what will be your comments and justify with suitable sketch. 10
3. Describe the solidification of semi killed steel ingot casting? Discuss about the defect of Rimming steel ingot casting. 6+4
4. What is the function of Tundish in continuous casting and briefly discuss about its inside design. 4+6