

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, April/May 2018**

**Course: Iron and Steel Processing (MTEG 344)**  
**Program: B.Tech MSENT**  
**Time: 03 hrs**

**Semester: VI**

**Max. Marks: 100**

**Instructions:**

**SECTION A**

S. No.		Marks	CO
Q 1	Briefly discuss the importance of Stockline measurement in Blast Furnace.	4	CO3
Q 2	What is meant by acidic and basic oxides in the context of metallurgical slags? Give one example of each.	4	CO1
Q 3	Discuss the factors that affect reducibility of sinter.	4	CO2
Q 4	Discuss the role of vacuum in RH Degassing.	4	CO5
Q 5	Discuss briefly the method used for measuring Coke Strength after Reduction (CSR)	4	CO2

**SECTION B**

Q 6	a) Draw the schematic of Bessemer, KALDO and Hybrid converters used for steelmaking. b) Describe the purpose of mould oscillation during continuous casting of steel?	10	CO4
Q 7	a) Discuss the conditions suitable for removal of Phosphorus in LD Steelmaking. b) When hot metal contains high Si and P, why does it become necessary to carry out external desiliconisation?	10	CO1
Q 8	What are stainless steels? Discuss <b>any one</b> of the following processes which are used for stainless steelmaking: AOD / VOD	10	CO5
Q 9	a) With the help of schematic diagrams, describe the difference between a wall working and a central working Blast Furnace. b) Explain the role of "Coke Charging" in maintaining any particular furnace profile (wall/central working).	10	CO3

**SECTION-C**

Q 10	Draw a well labelled schematic of LD Steelmaking process.	10	CO4
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