

**Subject : IRONMAKING**

**Examination : B.E-Metallurgy-E 3rd Year 1st Sem Supplementary 2024**

**Metallurgical & Material Engineering Department**

**Ref No. : EX/Met/PC/B/T/314/2024(S)**

**Time : Three hours**

**Full Marks : 100**

Answer any five from the followings

		Marks	
1	What are the essential characteristics of iron ore for charging in the Blast Furnace (BF) and how they influence the operation? Name the factors which affect the reducibility of iron ore in BF.	12+8	CO 2
2	Why agglomeration is necessary in ironmaking ? Write short notes on sintering & pelletizing.	2+9+9	CO 2
3	State & explain different physical, chemical & thermal processes that occur in different zones of Blast Furnace during ironmaking	20	CO 3
4	State the advantages of DRI over steel scrap. What are the differences between DRI & HBI ? Describe the Corex process.	5+5+10	CO 5
5	What is degree of metallization of sponge iron ? Describe any one each from gas based & coal based sponge iron process.	2+9+9	CO 5
6	Write short notes on the followings (any four)	5 X 4	
	- Integrated Steel Plant		CO 1
	- Scaffolding & Channeling		CO 3
	- Uptake, Downcomer & Bleeder Valve		CO 3
	- Blast Furnace Control		CO 4
	- Blast Furnace Productivity		CO 4
	- Pollution in Cokemaking & Blast Furnace Ironmaking		CO 6