

**238312(38)**

**Diploma in Engg. (Third Semester) Examination,  
April-May 2020**

**(Old Scheme)**

**(Metallurgy Engg. Branch)**

**IRON PRODUCTION**

**Time Allowed : Three hours**

**Maximum Marks : 100**

**Minimum Pass Marks : 35**

**Note :** Attempt any five questions. All questions carry equal marks.

- 1. (a) What are the different raw materials required for the production of pig iron? Write the functions & properties of different raw materials. 12

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- (b) What do you mean by roasting and calcination process? Write in detail. 8

- 2. (a) What do you mean by Agglomeration? Write the different process of agglomeration. 10

- (b) Write the mechanism of sintering process. Also write the different types of sinter. 10

- 3. (a) Write about the refractories used in different parts of B.F. Also draw the neat sketch of B.F. 10

- (b) Write the chemistry of process of B.F. 10

- 4. (a) Write about Gas cleaning system of B.F. Write in detail about Dust catcher, Water scrubber and E.S.P. 15

- (b) Write about the different irregularities of B.F. 5

- 5. What do you mean by modernization in Blast Furnace? Explain any four of them in detail. 20

- 6. Write in detail about coal based sponge iron production process. 20

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7. Explain with neat sketch the two bell charging system in detail. 20
8. Write short notes on : (any four) 4 × 5 = 20
- (i) Importance of pallets and its uses
  - (ii) Midrex process
  - (iii) Sponge iron industries in India
  - (iv) Cowper stove
  - (v) Dwight Lloyd sintering machine
  - (vi) Use of computers in B.F.

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