

Roll No.

2038373(038)

Dip. in Engg. (Third Semester)

EXAMINATION, 2021 APR-MAY

(Scheme : New)

(Branch : Metallurgy)

FUEL, FURNACE AND REFRACTORIES

Time : Three Hours]

[Maximum Marks : 70

[Minimum Pass Marks : 25

Note : Answer any *seven* questions. All questions carry equal marks.

1. Classify different types of fuel based on occurrence and give examples of each type. 10
2. Define Carbonization. Differentiate between Low temperature carbonization and High temperature carbonization. 10
3. Explain Proximate and Ultimate analysis of coal. 10

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4. Explain origin and refining of petroleum, 10
5. Write short notes on any *two* of the following : 10
 - (i) Producer gas
 - (ii) Water gas
 - (iii) Blast furnace gas
6. Differentiate the terms furnace and oven. Classify the furnace on the basis of application and heating method. 10
7. What is furnace ? Write the difference between Recuperator and Regenerator. 10
8. Define refractory. Write the classification of refractories. 10
9. Describe the manufacturing, composition, properties and area of application of silica refractory. 10
10. What do you mean by Pyrometric cone equivalent ? Describe the Pyrometric cone equivalent test. 10
11. Describe the refractories used in different parts of iron blast furnace, coke oven and LD converter. 10
12. Describe the manufacturing, composition, properties and area of application of chromite refractory. 10

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