

**Ref No: Ex/Met/ES/B/ChE/T/223/2024**

**B.E METALLURGICAL ENGINEERING 2<sup>ND</sup> YEAR 2<sup>ND</sup> SEM EXAMINATION, 2024**

**(2<sup>nd</sup> Year, 2<sup>nd</sup> Semester )**

**FUELS AND COMBUSTION**

Time: Three hours

Full Marks:100

**Answer any five of the following questions**

1. Explain coal processing. **20**
2. Discuss about Low Temperature coal Carbonization (LTC). **20**
3. Discuss how producer gas is manufactured using mixed blast with special reference to the reaction occurring in gas producer. **20**
4. Classify crude petroleum based on IOP characterization factor. Mention name, boiling points and uses of petroleum products obtained from ADU & VDU.
5. Describe beehive coke oven **20**
6. Describe the mechanism for production of coke from coal during carbonization process.
7. Write short notes on **10X2=20**
  - i. Blast Furnace
  - ii. Coal Petrology.