

Ref No: EX/MET/ES/B/ChE/T/223/2025

B.E. METALLURGICAL ENGINEERING EXAMINATION, 2025

(2nd Year, 2nd Semester)

FUEL AND COMBUSTION

Time; Three hours

Full Marks: 100

Answer any five of the following questions

1. Explain coal preparations. 20
2. Discuss about coal carbonization and merit and demerit of Beehive coke oven. 20
3. Mention different physic- chemical changes occurred during carbonization of coal with temperature. 20
4. Classify crude petroleum based on IOP characterization factor. Mention name, boiling points and uses of petroleum products obtained from ADU & VDU. 4+4+8=20
5. Discuss how producer gas is manufactured using mixed blast with special reference to the reaction occurring in gas producer. 20
6. Briefly describe Blast Furnace 20
7. Write short notes on (any four) 5X4=20
 - i. Reflux arrangement in distillation column.
 - ii. Baum Jig Washer
 - iii. Froth Flootation cell.
 - iv. Octane number and cetane number.
 - v. Coal Petrology.