

**B.TECH. SEM -V (CHEMICAL 2014 COURSE (CBCS) :**  
**SUMMER - 2018**  
**SUBJECT: ELECTIVE -I: 3) COMBUSTION ENGINEERING**

Day: **Friday**  
Date: **25/05/2018**

**S-2018-2325**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: 60

---

**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Use of non programmable **CALCULATOR** is allowed.
  - 4) Assume suitable data if necessary.
- 

- Q.1** a) Give properties of solid fuels. (04)  
b) Explain various measurement techniques for solid fuels. (06)

**OR**

- a) Write a detail note on "Present scenario and consumption pattern of fuels". (05)  
b) Explain properties of liquid and gaseous fuels. (05)

- Q.2** a) Explain coal tar distillation. (05)  
b) Give various steps for coal preparation and washing. (05)

**OR**

- a) Explain indirect liquefaction of coal. (05)  
b) Give composition of coal. (05)

- Q.3** Explain thermal cracking with mechanism. (10)

**OR**

What is mean by carbinization? Explain in detail. (10)

- Q.4** a) Give properties and composition of natural gas. (05)  
b) Differentiate between natural gas and LPG. (05)

**OR**

Give production of water gas in detail. (10)

- Q.5** a) Write a note on: (10)  
i) Combustion furnaces  
ii) Internal combustion engines.

**OR**

Write detail note on "Mechanism and Kinetics of combustion". (10)

- Q.6** Write short notes on: (10)  
i) Homogenization  
ii) Flame properties

**OR**

Write short notes on: (10)  
i) Applications of incineration  
ii) Furnaces

\* \* \* \*