Mid-Term Examination-II (17.01.2022)
Subject: Energy Technology (PCC-CS 103)
B.E. (Chemical)- 3rd Semester

[Note: Q.1, 2, 3 and 4 matches Course Outcome: CO4, CO5, CO6 and CO7 respectively]

Max. Marks: 25
Time allowed: 1 hr

1. Describe the manufacturing process of Producer gas, with the help of a neat sketch. List the factors which affect the quality of producer gas.

(6)

2. A gaseous fuel has following analysis: CO_2=3.5%, O_2=0.5%, CO=17.5%, C_2H_4=3.5%, C_6H_6=1.5%, H_2=35.5%, CH_4=25%, N_2=13%. It is burnt with air in a furnace. The CO_2 content in flue gas is 10%. Determine:
   a) % Excess air used
   b) Orsat analysis of Flue gas

(3, 4)

3. Describe the operation of a blast furnace with the help of a neat sketch and also write important reactions involved.

(6)

4. Describe the working of a fixed dome biogas plant with the help of a neat sketch.

(6)