

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION – WINTER 2013

Subject Code: 152206

Date: 09-12-2013

Subject Name: Fuel Technology

Time: 10.30 am - 01.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q-1 (a) Give brief idea about Drift Theory & In situ theory of coal formation. [07]

(b) Write the brief procedure to find out calorific value of Gaseous fuel. [07]

Q-2 (a) Explain the BEEHIVE method for coke manufacturing with its disadvantages with respect to OTTO HOFFMAN. [07]

(b) Explain in brief Ultimate analysis for coal & its importance. [07]

OR

(b) Give fuel classification. Also define following terms: 1)Gasification of coal [07]
2)Carbonization 3)Calorific value 4)Fossil fuel

Q-3 (a) Write brief difference between Low temperature carbonization & High temperature carbonization. [07]

(b) Explain main component of LPG & properties of LPG. [07]

OR

(a) Write short notes: 1) Coal Classification 2) Petrography of coal [07]

(b) Explain process unit of producer gas plant with neat sketch. [07]

Q-4 (a) Explain manufacturing process of water gas with figure. [07]

(b) Explain coke oven gas in detail. [07]

OR

(a) Explain following property of Petroleum products. [07]
1. Sp. Gravity 2. Flash point 3. Fire point 4. Anti knocking value

(b) Explain bio gas gasification process. [07]

Q-5 (a) Write advantages & disadvantages of gaseous fuel over liquid OR solid fuel. [07]

(b) How the natural gas produces? [07]

OR

(a) Why CNG is called as pollution free fuel. [07]

(b) Write short notes : 1) Dewaxing of petroleum products [07]
2) Sweetening process of petroleum
