

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E.-SEMESTER-V-EXAMINATION-WINTER 2012

Date: 23/01/2013

Total Marks: 70

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

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|------------|------------|--|-----------|
| Q-1 | (a) | Write the brief procedure to find out calorific value of solid/ liquid fuel by Bomb calorimeter. | 07 |
| | (b) | Give brief idea about various stages of coal formation. | 07 |

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|------------|------------|---|-----------|
| Q-2 | (a) | Explain in brief proximate analysis for coal & its importance. | 07 |
| | (b) | Explain the OTTO HOFFMAN method for coke manufacturing with it's by products. | 07 |

OR

- (b)** Tabulate the physico – chemical changes with temperature variation during carbonization of coal. **07**

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| Q-3 | (a) | List out the physical properties of coal & explain them in detail. | 07 |
| | (b) | Write advantages & disadvantages of gaseous fuel over liquid or solid fuel. | 07 |

OR

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| (a) | Write short notes: 1) Rank of coal
2) Banded constituent of coal | 07 |
| (b) | How the natural gas produces? Also Enlist advantages & disadvantages of natural gas. | 07 |

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| Q-4 | (a) | Explain main component & properties of producer gas. | 07 |
| | (b) | Give brief idea about LPG with its advantages & dis-advantages. | 07 |

OR

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| (a) | Explain manufacturing process of water gas with figure. | 07 |
| (b) | Write short notes : 1) Dewaxing of petroleum products
2) Sweetening process of petroleum | 07 |

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| Q-5 | (a) | Why CNG is called as pollution free fuel. | 07 |
| | (b) | Explain process unit of producer gas plant with neat sketch. | 07 |

OR

- (a) Write advantages & disadvantages of CNG as a S.I. engine fuel. **07**
- (b) Explain following property of Petroleum products. **07**
1. Sp. Gravity 2. Flash point 3. Fire point
4. Anti knocking value

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