

 VIT Vellore Institute of Technology Date: 25/02/2017		Test No: 2	Branch: (FE) All	IA (2016-17)
Semester: II		Subject : Applied Chemistry II	Marks: 15	

<p>Q.1)</p> <p>a)</p> <p>b)</p> <p>c)</p> <p>d)</p> <p>e)</p> <p>f)</p> <p>g)</p>	<p>Solve the following (any 5)</p> <p>Percentage of N in coal can be obtained by i) Proximate analysis ii) ultimate analysis iii) both of these iv) None of these</p> <p>What is the best explanation of "Green Chemistry"? i) Green Chemistry is the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances. ii) Green Chemistry is a research program aimed at increasing the use of petroleum for production of products other than gasoline and jet fuel. iii) Green Chemistry refers to the EPA's mandatory programs for recycling paper, glass, plastics, and aluminum. iv) Green Chemistry refers to agricultural practices for growing organic vegetables without the use of pesticides.</p> <p>Calorific value of Hydrogen is – i) 35400 kcal/kg ii) 34500 kcal/kg iii) 30460 kcal/kg iv) 34050 kcal/kg</p> <p>Define GCV and NCV.</p> <p>Draw a neat diagram of fractional distillation column in Refining of crude oil.</p> <p>Which of the following is green substance? i) H_2SO_4 ii) s iii) DDT iii) supercritical CO_2 iv) benzene</p> <p>Give classification of fuels with one example each.</p>	<p>10 Marks</p>
<p>Q.2)</p>	<p>A coal sample was subjected to ultimate analysis. i) 0.24 g of coal sample gave 0.792 g of CO_2 and 0.0216 g of H_2O. ii) 1.4 g of sample in Kjeldahl's estimation liberated ammonia which was absorbed in 25 ml of N/20 H_2SO_4. The resultant solution required 20 ml of N/20 NaOH for complete neutralization. iii) 3.2 g of coal gave 0.233 g of $BaSO_4$ Using Dulong's formula. Calculate GCV and NCV of the fuel if ash is 2%.</p> <p>OR</p> <p>Give conventional and green synthesis of Adipic acid</p>	<p>5 marks</p>