Reg. No.										

Manipal University, Manipal

Department of Sciences

I SEMESTER M. Sc (CHEMISTRY)

END SEMESTER EXAMINATIONS, DEC 2015/Jan 2016

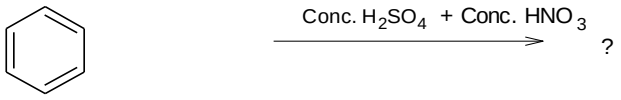
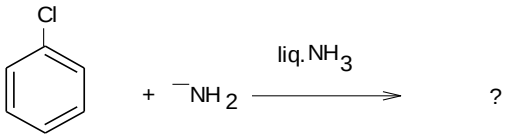
SUBJECT: ORGANIC CHEMISTRY [CHM 603]

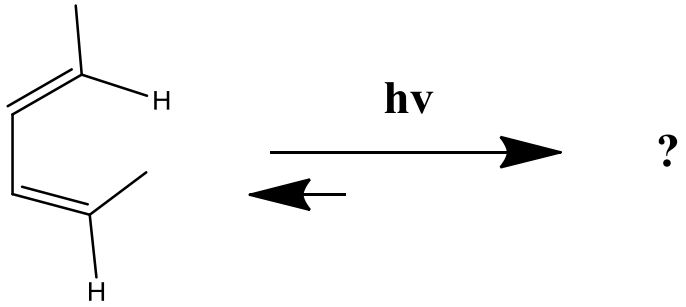
REVISED CREDIT SYSTEM

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ANY FIVE FULL** the questions.
- Write chemical equations wherever required.

1A.	Describe any two experimental evidences for the formation of cyclic bromonium ion in the addition of Br_2 to an alkene	
1B.	i) Describe the mechanism of SN1 reaction with a suitable example ii) What are proteins? Describe two distinct aspects of their structure.	
1C.	Account for the following: i) Sulfur trioxide is a powerful electrophile. ii) Iodination of benzene does not takes place in absence of silver perchlorate	**4+4+2**
2A.	Complete the following organic reactions and write their mechanisms. i)  ii) 	
2B.	Describe the evidences that indicate cyclic structure for glucose.	
2C.	Describe the mechanism of Friedel craft's acylation reaction.	**4+4+2**
3A.	What is solvent levelling? Explain with an suitable example	
3B.	i) Describe the E1CB mechanism of an elimination reaction.	

	ii) What are the requirements for a compound to exhibit anti-aromaticity?	
3C.	Identify the products in the following cases and write your reasoning. i) Reaction between ethylene and HCl ii) Reaction between styrene and HBr in presence of benzoyl peroxide	**4+4+2**
4A.	Predict the product and explain the mechanism of the following reaction;  v	
4B.	Describe the mechanism of Cope rearrangement using molecular orbitals.	
4C.	Give reasons; i) Antarafacial overlap of orbital can occur for cycloaddition product with larger ring size. ii) 1,3-Shift of hydrogen is not possible under thermal conditions.	**4+4+2**
5A.	Explain the method of drawing Woodward-Hoffmann correlation diagram using an example.	
5B.	Explain how Prelog's rule is useful in configurational assignment.	
5C.	Sketch the pi molecular orbitals of 1,3-butadiene and assign the symmetry of the orbitals	**4+4+2**
6A.	i) Describe the optical isomerism due to restricted rotation in biphenyl derivatives. ii) How does pericyclic reactions different from other organic reactions.	
6B.	State Cram's rule and illustrate it using for an 1,2-asymmetric induction reaction.	
6C.	Explain chiral compounds containing nitrogen and phosphorus atoms as chiral centers.	**4+4+2**