Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

III SEMESTER B.TECH. (CHEMICAL ENGINEERING)

END SEMESTER EXAMINATIONS, NOVEMBER 2018

SUBJECT: ORGANIC CHEMISTRY [CHM 2101]

REVISED CREDIT SYSTEM

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A.	Define polypeptides? Explain the classification of carbohydrates. Write the Haworth structures of both forms of fructopyranose and fructofuranose.	**5**
1B.	Write the synthetic schemes for the following: a) Skraup synthesis b) Reissert synthesis c) Koope's synthesis	**3**
1C.	Give reason for the following. a) Phenol undergoes electrophilic substitution at ortho and para position. b) In the presence of electric field neutral amino acids are not moving at pH 6.0 .	**2**
2A.	Explain the resonance and molecular orbital theory to explain the structure of benzene. Write the two limitations of Kekule strucure. Why pyrrole is acting as weak base compared to pyridine?.	**5**
2B.	Give the mechanism of nitration and Friedal crafts alkylation of benzene.	**3**
2C.	Give reason for the following. a) Tertiary amines are more basic than primary amines b) Salicylic acid is stronger acid than benzoic acid	**2**
3A.	a) Explain the classification and properties of amino acids. b) Write the structure of both the components of starch.	**5**
3B.	a) Give a method of synthesis of the following: i) Alizarin dye ii) Malachite green dye b) Explain the effect of solvents on the strength of acids	**3**
3C.	Differentiate between the following. a) Simple protein and conjugated protein b) Maleic acid and fumeric acid	**2**
4A.	a) Outline the synthesis of the following: i) Ascorbic acid ii) Isoniazide	**5**

	b) Explain three types of dyes based on application.	
4B.	Explain the isomerism in oximes. Differentiate between singlet and triplet carbenes.	3
4C.	Give reason for the following. a) Pyridine does not undergo Friedal crafts acylation. b) Pyrrole undergoes electrophilic substitution at 2nd position.	2
5A.	a) Discuss the geometry and factors effecting the stability of free radicals. Write any two nucleophilic substitution reactions of quinoline. b) Explain the structure of indole.	5
5B.	Explain optical isomerism in lactic acid. Differentiate between meso compounds and diastereomers giving suitable examples.	3
5C.	Justify the following. a) 2-flourobutanoic acid is weaker acid than 2-Iodobutanoic acid. b) 2-hydroxy benzoic acid is stronger acid than benzoic acid.	2