Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

III SEMESTER B.TECH. (CHEMICAL ENGINEERING)

END SEMESTER EXAMINATIONS, MAY 2018

SUBJECT: ORGANIC CHEMISTRY [CHM 2101]

REVISED CREDIT SYSTEM

Time: 3 Hours | Date: 05-05-2018 | MAX. MARKS: 50

Instructions to Candidates:

- Answer ALL the questions.
- Missing data may be suitably assumed.

1A.	What are Proteins? Explain the four levels of structural organisation of proteins and two synthetic methods for amino acids.	5
1B.	Give any one method of preparation of the following; i) Pyrrole ii) Indole iii) Quinoline	3
1C.	Give reason for the following statements: i) Toluene undergoes nitration at both ortho and para position. ii) Secondary amines are more basic than primary amines.	2
2A.	Explain with examples the classification of dyes based on their application.	5
2B.	Give the reaction mechanism of nitration and halogenation of benzene.	3
2C.	Write the chemical equation for the reaction of glucose with the following reagents: i) Bromine water ii) Conc.HNO_3	2
3A.	What are disaccharides? Explain epimerization with an example. Differentiate between reducing and non-reducing sugars.	5
3B.	Give the method of preparation of the following: i) Methyl orange ii) Malachite green	3
3C.	Give the reactions of pyridine with the following: i) Sodamide ii) n-butyl lithium	2
4A.	What are free radicals? Write two reactions mediated by free radicals. Discuss the geometry and stability of carbocations.	5
4B	Differentiate between geometrical and optical isomerism with appropriate examples.	3
4C.	Give reason for the following statements: i) Phenol is more acidic than ethanol. ii) Starch gives blue color with iodine.	2

5A.	Write explanatory notes on the following with suitable examples; i) Tautomerism ii) Stereogenic center iii) Carbenes iv) Cahn- Ingold- Prelog rules v) Carbanion	5
5B.	Outline the synthesis of the following compounds; i) Barbital ii) Aspirin	3
5C.	Give the Haworth structure of sucrose and maltose.	2

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