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**B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019**

Second Semester

**CY18251 – ORGANIC CHEMISTRY***(Chemical Engineering)***(Regulation 2018)****Time: Three Hours****Maximum : 100 Marks**

Answer ALL questions

**PART A - (10 X 2 = 20 Marks)**

		<b>CO</b>	<b>RBT</b>
1.	Friedel Craft's acylation reaction is preferred than alkylation. Give any two reasons.	1	AP
2.	Name the products of halogenations of methane.	1	U
3.	Differentiate heterogeneous and homogeneous catalysis.	2	R
4.	What is epoxidation?	2	U
5.	Define the term chromophore.	3	R
6.	Give the name of chromophore and auxochrome in methyl orange dye.	3	U
7.	Outline the precautions adopted in the preparation of Grignard reagent.	4	AP
8.	Suggest a method for the preparation of acetic acid from malonic ester.	4	AP
9.	Mention the advantages of thin layer chromatography.	5	AP
10.	Why paper chromatography is regarded as a variety of partition chromatography?	5	R

**PART B - (5 X16 = 80 Marks)**

11.	(a) (i) Sketch out the mechanism of Friedel Craft's alkylation reaction.	(8)	1	AP
	(ii) With a suitable example give the mechanism of Aldol condensation.	(8)	1	U
<b>(OR)</b>				
	(b) (i) Explain the reaction mechanism of Beckmann rearrangement.	(8)	1	R
	(ii) Illustrate the mechanism of allylic halogenations.	(8)	1	U

12. (a) (i) Write down a brief note on sonocatalysis. (8) 2 U  
(ii) How is hydrogenation of alkenes carried out by using Wilkinson's catalyst? (8) 2 U

**(OR)**

- (b) Briefly discuss Kuhlmann (Exxon) and Shell process of hydroformylation reaction. (16) 2 AP
13. (a) (i) Discuss the theories of colour and constitution. (8) 3 AP  
(ii) Describe the synthesis of Malachite green starting from benzaldehyde. (8) 3 AP

**(OR)**

- (b) (i) Give the synthetic scheme for the preparation of Congo red. (8) 3 U  
(ii) Provide a synthetic method for para-rosaniline. (8) 3 U
14. (a) How will you convert Grignard reagent into the following products? (16) 4 AP  
a) Primary alcohol; b) Carboxylic acid; c) Dithioic acid and d) Tertiary alcohol

**(OR)**

- (b) Deduce any four synthetic applications of ethyl acetoacetate. (16) 4 AP
15. (a) Write a brief note on the principle, instrumentation and applications of Gas Chromatography. (16) 5 U

**(OR)**

- (b) Draw and explain the thermogram of calcium oxalate and copper sulphate pentahydrate. (16) 5 AP