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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., CHEMISTRY

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
V	PART - III	CORE	U21CH509	ORGANIC CHEMISTRY - III

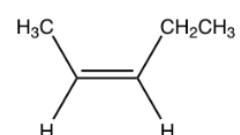
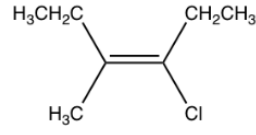
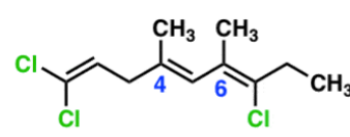
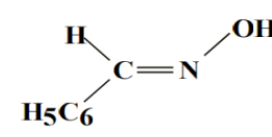


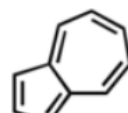

Date & Session: 08.11.2024 / FN

Time: 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION - A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	The isomers of a substance must have ____. a) Same chemical properties b) same molecular weight c) same structural formula d) same functional group
CO1	K2	2.	Which of the following compound will be optically active? a) Succinic acid b) meso-tartaric acid c) Lactic Acid d) Chloroacetic acid
CO2	K1	3.	Which among the following does not exhibit geometric isomerism? a) 1-hexene b) 2-hexene c) 3-hexene d) 4-hexene
CO2	K2	4.	Conformations are different arrangements of atoms that can be converted into one another by rotation about _____. a) Covalent bond b) Double bond c) Single bond d) Triple bond
CO3	K1	5.	The carbon atom in benzene is _____ hybridisation. a) Sp b) Sp ² c) Sp ³ d) dSp ²
CO3	K2	6.	In chlorination of benzene, FeCl ₃ is used to generate _____. a) Cl ⁻ b) Cl ⁺ c) Cl ₂ d) HCl
CO4	K1	7.	Which of the following heterocyclic is not aromatic? a) Pyridine b) Pyrrole c) Furan d) Piperidine
CO4	K2	8.	1- Aza naphthalene is the name of _____. a) Pyridine b) quinoline c) isoquinoline d) indole
CO5	K1	9.	Indigo dye is _____. a) Dark blue b) Yellow c) Purple d) Green
CO5	K2	10.	Alizarin is a _____ dye. a) azo b) triphenyl methane c) anthraquinone d) indigo
Course Outcome	Bloom's K-level	Q. No.	SECTION - B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	11a.	Write note on specific rotation.
			(OR)
CO1	K3	11b.	Compare enantiomers and diastereomers.

CO2	K3	12a.	How will you identify the geometrical isomers ? (OR)
CO2	K3	12b.	Sketch the different conformations of cyclohexane as represented by Newman projection and give their names
CO3	K4	13a.	Analysis the resonance energy of benzene using hydrogenation reaction. (OR)
CO3	K4	13b.	How will you distinguish Friedel crafts alkylation and acylation reaction.
CO4	K4	14a.	Examine the molecular orbital diagram of pyrrole. (OR)
CO4	K4	14b.	Illustrate the Bischler-Nepieralski synthesis.
CO5	K5	15a.	Discuss the modern theory of colour. (OR)
CO5	K5	15b.	How will you prepare azo dye and list their uses.

Course Outcome	Bloom's K-level	Q. No.	SECTION - C (5 X 8 = 40 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K3	16a.	Write down the various rules for assigning R and S system of nomenclature. (OR)
CO1	K3	16b.	Discuss the optical isomerism of allenes.
CO2	K4	17a.	Predict the Nomenclature for the following compounds: <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>a)</p> </div> <div style="text-align: center;">  <p>c)</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;">  <p>b)</p> </div> <div style="text-align: center;">  <p>d)</p> </div> </div> <p style="text-align: center;">(OR)</p>
CO2	K4	17b.	Outline the conformational analysis of ethane.
CO3	K4	18a.	Apply Huckel rule to identify the aromatic compound from following: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>a)</p> </div> <div style="text-align: center;">  <p>b)</p> </div> <div style="text-align: center;">  <p>c)</p> </div> <div style="text-align: center;">  <p>d)</p> </div> </div> <p style="text-align: center;">(OR)</p>
CO3	K4	18b.	Give the mechanism of nitration of benzene
CO4	K5	19a.	Compare of basicity of pyridine, piperidine and pyrrole. (OR)
CO4	K5	19b.	Illustrate the skraups mechanism for the synthesis of quinoline.
CO5	K5	20a.	Classify the dyes according to application. (OR)
CO5	K5	20b.	Discuss the synthesis & reactions phenolphthalein.