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22CHU515N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Fifth Semester)

Branch- **CHEMISTRY**

ORGANIC CHEMISTRY - I

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is not a monosaccharide? (a) Ribose (b) Fructose (c) sucrose (d) Glucose	K1	CO1
	2	α-D-Glucose is different from β-D-glucose___ (a) in the configuration at C-1 (b) because they are mirror images of each other (c) because they are enantiomers (d) because they are geometrical isomers	K2	CO1
2	3	Nicotine methiodid on oxidation gives _____ (a) Hygrinic acid (b) Nicotinic acid (c) pyridine-2-carboxylic acid (d) nicotone	K1	CO2
	4	Which one of the following disease is caused by the deficiency of vitamin-C _____ (a) Scurvy (b) Ricket (c) Beriberi (d) Xerophthalmea	K2	CO2
3	5	Two molecules of aceto acetic ester interact in the presence of $NaHCO_3$ to give _____ (a) antipyrine (b) 4-methyl uracil (c) dehydroacetic acid (d) Methyl iso-oxazolone	K1	CO3
	6	Which of the following compound Ketoenol tautomerism was exist? (a) diacetic acid (b) aceto acetic ester (c) dehydroacetic acid (d) 4-methyl uracil	K2	CO3
4	7	Thermal fission of benzoyl peroxide produces _____ a) benzyl radical b) benzoyloxy radical c) phenyl cation d) benzoic acid	K1	CO4
	8	Benzoin condensation is catalyzed by _____ (a) H^+ (b) CN^- (c) $ZnCl_2$ (d) H_2SO_4	K2	CO4
5	9	Flavones are chemically _____ a) xanthane derivatives b) 2-phenylchromones c) Carotene derivatives d) Quinones	K1	CO5
	10	Fluorescein is an example of _____ a) Triphenylmethane dye b) Xanthane dyes c) Azo dye d) Mordant dye	K2	CO5

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SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the Mutarotation with mechanism .	K2	CO1
		(OR)		
	11.b.	Explain the structure of starch.		
2	12.a.	Nicotine shows two types of nitrogen atoms. Explain how do you prove the presence of both.	K3	CO2
		(OR)		
	12.b.	Construct a structure of coniine from α-picoline.		
3	13.a.	Interpret the evidences of keto and enol form of aceto acetic ester.	K3	CO3
		(OR)		
	13.b.	(i) Between phenol and ethanol which is more acidic? Why? (ii) Why trimethyl amine is more basic than aniline?		
4	14.a.	Prove that the hydride ion transfer will takes place in cannizzaro reaction.	K4	CO4
		(OR)		
	14.b.	Examine the mechanism of Gomber-Bachmann reaction.		
5	15.a.	Examine the classification of dyes based on chemical constitution.	K4	CO5
		(OR)		
	15.b.	Analyze the structure, extraction and uses of carotenoids.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze the constitution of glucose.	K4	CO1
2	17	Examine the preparation, properties and structural elucidation of geraniol.	K4	CO2
3	18	Analyze how the following compounds are prepared from ethyl aceto acetate (a) 4-mthyl uracil (b)methyl-iso-oxazole (c) antipyrine (d) dehydroacetic acid	K4	CO3
4	19	Inspect the mechanism of claisen and Perkin reaction.	K4	CO4
5	20	Analyze the synthesis of following dyes (a) Rosaniline (b) Fluorescein (c) Alizarin	K4	CO5

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