Code No: 182AT **R22**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year II Semester Examinations, January/February - 2024
PHARMACEUTICAL CHEMISTRY
(Pharmaceutical Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: This question paper contains two parts A and B.
i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

1.a)	Explain Octet rule.	[1]
b)	What is mesomeric effect?	[1]
c)	What are enantiomers? Explain with an example.	[1]
d)	Draw the conformational structures of 1, 2-Dichloro ethane.	[1]
e)	Explain Huckels rule and aromaticity.	[1]
f)	Discuss the reactivity of free radicals.	[1]
g)	Explain the reactivity of EI.	[1]
h)	Discuss any two electrophillic addition reactions of alkenes.	[1]
i)	What is pharmacopoeia? Write the history of Indian pharmacopoeia.	[1]
j)	Write the principle involved in limit test for Lead.	[1]

PART- B

(50 Marks)

2.	Explain briefly on a) Bond Lengths b) Bond Dissociation energies.	[5+5]
	OR	
3.a)	Discuss the concept of Resonance.	
b)	What is inductive effect?	[5+5]
4.a)	Explain the concept of chirality and symmetry.	
b)	Discuss racemic modification and their resolution.	[5+5]
	OR	
5.a)	What are Geometrical isomerism?	
b)	Explain R and S nomenclature.	[5+5]
6.a)	Discuss the reactivity of non-benzenoid aromatic compound.	
b)	Write the stability and reactivity of carbocation.	[5+5]
	OR	
7.a)	Explain the reactivity and stability of carbenes.	
b)	Write the structure, nomenclature and reactivity of naphthalene.	[5+5]

8.a) Explain markonikov's addition reaction.
b) Discuss the reactivity and orientation of SN2 reaction. [5+5]

OR

9.a) Explain E2 reaction with mechanism.
b) Explain the factors influence on E1 and E2 reaction. [5+5]

10.a) What are the sources of impurities?
b) Write the procedure involved in limit test for Iron. [5+5]

OR

11.a) Explain the effect of impurities on API and Formulation.
b) Write the principle involved in the limit test for Arsenic. [5+5]

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