



**MANIPAL COLLEGE
OF PHARMACEUTICAL SCIENCES**

MANIPAL

A constituent institution of Manipal University

BPharm Fourth Semester- End Semester Examination-July 2021

PCH-BP401T: Pharmaceutical Organic Chemistry-III

Date: 29/07/2021

Duration: 2:30 pm to 4:30 pm

Max. Marks: 50

Instructions: Answer ALL questions.

I Multiple Choice Questions (MCQs)		20 Q × 1 mark = 20 marks
Question	Evaluation/ set by	
1. What is the suffix to be used for the five membered, nitrogen containing and saturated ring in IUPAC naming? a) -ole b) -oline c) -olidine d) -perhydro Correct Answer: (c)	KVB	
2. Which one of the following is not an aromatic compound? a) furan b) pyrrole c) pyridine d) piperidine Correct Answer: (d)	KVB	
3. One of the following heterocycles is a very weak base a) pyrrole b) pyridine c) pyrrolidine d) piperidine Correct Answer: (a)	KVB	
4. Which of the five membered ring is the most resonance stabilized? a) thiophene b) oxazole c) furan d) pyrrole Correct Answer: (d)	KVB	
5. Reimer-Tiemann reaction of pyrrole gives the products a) pyrrole-2-aldehyde and 3-chloropyridine b) pyrrole-3-aldehyde and 3-chloropyridine	KVB	

<p>10. Hexane and 3-methylpentane are examples for</p> <p>a) enantiomers b) diastereomers</p> <p>c) cis-trans isomers d) constitutional isomers</p> <p>Correct Answer: (d)</p>	<p>KVB</p>
<p>11. If a rotation byfollowed by a reflection in a plane perpendicular to the axis gives original arrangement, molecule has alternating axis of symmetry.</p> <p>a) $360^\circ/n$ b) $120^\circ/n$ c) $90^\circ/n$ d) $270^\circ/n$</p> <p>Correct Answer: (a)</p>	<p>JP</p>
<p>12. p-methylaniline is produced from a p-substituted carboxylic acid using</p> <p>a) hydrazine hydrate b) sodium azide c) POCl_3 d) nitro benzene</p> <p>Correct Answer: (b)</p>	<p>JP</p>
<p>13. The absolute stereochemistry of a stereocentre is called</p> <p>a) Stereospecificity b) configuration</p> <p>c) center of symmetry d) confirmation</p> <p>Correct Answer: (b)</p>	<p>JP</p>
<p>14. A solution of active 2-chlorobutane in 2-propanone containing dissolved in becomes racemic.</p> <p>a) HCl b) sodium chloride c) lithium chloride d) NaOH</p> <p>Correct Answer: (c)</p>	<p>JP</p>
<p>15. In Wolff-Kishner reduction ----- is used to facilitate high temperature.</p> <p>a) dithizone b) liquid paraffin c) diethyl ether d) diethylene glycol</p> <p>Correct Answer: (d)</p>	<p>JP</p>

3. What is Schmidt rearrangement? Explain with synthetic applications.	JP
4. Explain the methods of synthesis and the chemical reactions of pyridine.	JP
5. a) What is meant by sawhorse projection and Newman projection formula? Mention their importance in stereochemistry. 3 marks	KVB
b) Using Newman projections, draw the most stable conformer for pentane considering C2-C3 carbons. Justify your answer. 2 marks	
6. Explain the various types of elements of symmetry.	JP