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B.PHARM
15PH303**3rd Semester Regular / Back Examination 2017-18****Organic Chemistry-II****Branch: B.Pharma****Time: 3 Hours****Max marks: 100****Q Code: B979****Answer Part-A which is compulsory and any four from the Part-B.****The figures in the right hand margin indicate marks.****Part-A****Q.1 Choose the correct answer: (2 x 10)**

- a) 2-Butene exhibits which type of isomerism?
A) Geometrical isomerism B) Keto-enol tautomerism
C) Chain isomerism D) None of the above
- b) The compound which is isomeric with diethyl ether is
A) Methyl n-propyl ether B) 1-Butanol C) 2-Methyl propan-2-ol D) All of the above
- c) 1-Butene and cyclobutane exhibit which type of isomerism:
A) Ring-chain B) Position C) Tautomerism D) Functional
- d) Isomers are similar in:
A) Molecular formula B) Molecular charge C) Configuration D) Dipole moment
- e) Select the pair of compounds which exhibit *cis-trans* (geometrical) isomerism:
A) Lactic acid and tartaric acid B) Malonic acid and succinic acid
C) Fumaric acid and maleic acid D) Acetic acid and crotonic acid
- f) Isomers which can be interconverted through rotation around a single bond are:
A) Position isomers B) Enantiomers C) Metamers D) Conformers
- g) Meso tartaric acid and d-tartaric acid are:
A) Position isomers B) Racemic mixture C) Enantiomers D) Diastereomers
- h) d- and l-forms of an optically active compound differ in:
A) Boiling points B) Melting points C) Specific rotation D) Specific gravity
- i) The most stable conformation of Cyclohexane is:
A) Boat form B) Chair form C) Eclipsed form D) Staggered form
- j) Which statement is wrong about enantiomorphs?
A) They rotate the plane of polarized light to different directions
B) Normally, they possess same physical properties
C) The shapes of their crystals are same
D) Their biological properties are different

Q.2 Fill in the blanks**(2x10)**

- a) _____ and _____ are examples of polynuclear aromatic hydrocarbons.
- b) On nitration of toluene, the nitro group will enter in _____ position.
- c) Benzene reacts with acetyl chloride in presence of aluminium chloride to form _____.
- d) Formation of phenol from chlorobenzene is an example of _____ aromatic substitution reaction.
- e) Phenol is acidic because of resonance of its _____ ion.

Answer the followings

- f) What is Friedel Craft's reaction?
- g) Write the structure and numbering of isoquinoline.
- h) Give the application of NBS in organic synthesis.
- i) What is Walden inversion?
- j) What is asymmetric carbon?

Part-B

Q.3 a) Define and classify isomerism with suitable examples. **(5)**

b) Discuss briefly the concept of optical activity. Add a note on enantiomerism and diastereoisomerism. **(5)**

c) Discuss the conformations of ethane. **(5)**

Q.4 a) Discuss the general method of preparation of Pyrrole. **(5)**

b) Describe the chemical properties of Pyrrole **(10)**

Q.5. a) Discuss the structure of benzene. Outline any two methods of preparation benzene. **(5)**

b) Discuss the mechanism of electrophilic substitution reactions of benzene with suitable examples. **(10)**

Q.6 a) Discuss structure and the general methods of preparation of phenol. **(5)**

b) Describe the physical and Chemical properties of phenols with suitable examples. **(10)**

Q.7.	a) Discuss structure and the general methods of preparation of Phenanthrene.	(5)
	b) Discuss the chemical properties of Phenanthrene with reference to the electrophilic substitution of aromatic compounds	(10)
Q.8	a) Discuss the general methods of preparation of Furan.	(5)
	b) Discuss the chemical properties with mechanism of reactions of Furan.	(10)
Q.9	Discuss the preparation and synthetic applications of the following organic reagents:	(5X3)
	a) Diazomethane	
	b) Aluminium tert-butoxide	
	c) Lithium Aluminium Hydride	