Registration no: | | | | | | | | | | |

Total Number of Pages: 3 **B.PHARM**

15PH303

3rd Semester Regular Examination 2016-17

ORGANIC CHEMISTRY- II

(According to New Syllabus)

BRANCH: Pharmacy

Question Code: Y628

Time: 3 Hours

Max Marks: 100

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) Vinyl alcohol and acetaldehyde are:

A) Geometrical isomers B) Keto-enol tautomers C) Chain isomers D) Positional isomers

b) The compound which is not isomeric with diethyl ether is

A) Methyl n-propyl ether B) 1-Butanol C) 2-Methyl propan-2-ol D) Butanone

c) 1-Butene and cyclobutane exhibit which type of isomerism:

A) Ring-chain B) Position C) Tautomerism D) Functional

d) Stereoisomers have different:

A) Molecular formula B) Structural formula C) Configuration D) Molecular mass

e) Select the pair of compounds which exhibit *cis-trans* (geometrical) isomerism:

A) Fumaric acid and maleic acid B) Malonic acid and succinic acid

C) Lactic acid and tartaric 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 ethane 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) Benzene on catalytic hydrogenation forms_____as the final product.

b) On nitration of nitrobenzene, the second nitro group will enter in _____ position.

c) Benzene reacts with_____ in presence of aluminium chloride to form acetophenone.

d) Formation of phenol from chlorobenzene is an example of _____ aromatic substitution reaction.

e) Phenol is acidic because of _____ of its conjugate base phenoxide ion.

Answer the followings

f) What is Huckel's rule?

g) Give the structure and numbering of imidazole and isoquinoline.

h) Give the structure and uses of diazomethane.

i) What is Walden inversion?

j) What is asymmetric carbon?

Part-B (Answer any FOUR questions)

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

b) Discuss briefly the physical and chemical properties of geometrical isomerism. **(5)**

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

Q.4 **a)** What is optical activity? Discuss briefly enantiomerism and diastereoisomerism with examples from each category. **(10)**

b) Discuss briefly specification of configuration of optical isomers. **(5)**

Q.5. **a)** Give the general methods of preparation benzene. **(5)**

b) Discuss briefly the chemical properties of benzene with examples and describe 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 anthracene. **(5)**

b) Discuss the chemical properties of anthracene with reference to the electrophilic substitution of aromatic compounds **(10)**

Q.8 **a)** Discuss the general methods of preparation of pyrrole. **(5)**

b) Discuss the chemical properties with mechanism of reactions of pyrrole with examples **(10)**

Q.9 Discus the preparation and synthetic applications of the following organic reagents: **(5X3)**

a) Aluminium tert-butoxide

b) Lithium Aluminium Hydride

c) N-Bromo succinimide