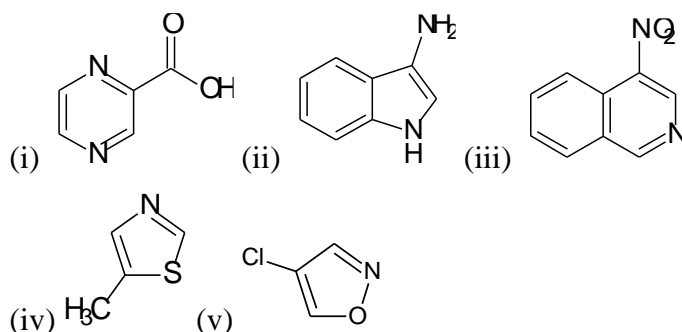


**GUJARAT TECHNOLOGICAL UNIVERSITY****B.PHARM. Sem IV- • EXAMINATION – WINTER-2016****Subject Code: 2240004****Date: 24/10/2016****Subject Name: Pharmaceutical Chemistry-VI (Organic Chemistry-II)****Time: 10.30am-1.30pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a) Discuss about twelve principles of green chemistry. **06**
- (b) Discuss on the following synthesis: (i) Pictet-Spengler synthesis (ii) Conrad-Limpach synthesis **05**
- (c) Write the structure of the following compounds: (i) Pyrazole (ii) Pyridazine (iii) Isoquinoline (iv) Pyrimidine (v) Imidazole **05**

- Q.2**
- (a) Write details on: (i) Skraup synthesis (ii) Paal Knorr synthesis **06**
- (b) Discuss the importance on microwave synthesis. **05**
- (c) Write the IUPAC name of the compounds: **05**

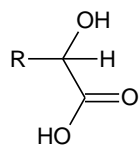


- Q.3**
- (a) Differentiate between Enantiomers and Diastereomers with proper examples. **06**
- (b) How will you differentiate between aliphatic and aromatic amines. Give details on azo dye test & Hinsberg test. **05**
- (c) Explain the following: (i) Bischler-Napieralsky synthesis (ii) Madelung synthesis. **05**

- Q.4**
- (a) Differentiate between optical isomerism & geometrical isomerism with proper examples. **06**
- (b) Which heterocyclic rings are produced with reaction: **05**
- (i) Acetylene is reacted with ammonia (ii) acetylene is reacted with diazomethane?
- (c) Define racemic mixture and its resolution methods. **05**

- Q.5**
- (a) Give various methods for preparation of phenols. **06**
- (b) Write the conversion of the following compounds: **05**
- (i) Phenol to salicylaldehyde (ii) Nitrobenzene to phenol
- (c) Write a short note on nanochemistry. **05**

- Q.6** (a) Name only the names of heterocyclic rings produced from the name reactions: **06**  
 (i) Fischer synthesis (ii) Hantzsch synthesis (iii) Conrad-Limpach synthesis  
 (iv) Pictet-Spengler synthesis (v) Pfitzinger synthesis (vi) Reissert synthesis
- (b) Discuss the importance of ionic liquid and atom economy in green chemistry synthesis. **05**
- (c) Define chiral compounds and discuss about the isomerism generated from this. **05**



Locate the chiral point in the structure and write the name of compound when  $R=CH_3$  and  $R=C_6H_5$

- Q.7** (a) Focus on Stereochemistry of Allene, Spiran and Biphenyl. **06**
- (b) Differentiate between Relative configuration and Absolute configuration. **05**
- (c) Write the names of the following compounds: **05**  
 (i) Aromatic aldehyde & Aliphatic aldehyde (ii) Aromatic ketone & Aliphatic ketone  
 (iii) Aromatic carboxylic acid & Aliphatic carboxylic acid (iv) Aromatic amine & Aliphatic amine  
 (v) Aromatic enol & Aliphatic enol.

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