

(88)

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SARDAR PATEL UNIVERSITY
M. Sc. Pharmaceutical Chemistry (Semester-IV) Examination
Tuesday, 12/04/2016; Time-02:30 PM to 05:30 PM
SUBJECT CODE: PS04EPCH01
SUBJECT TITLE: Advance Techniques of Synthetic Chemistry

Maximum Marks: 70

Note: All the questions are compulsory.
Figure to the right indicates mark of the question.

Q-1 Choose the appropriate answer of the following [8×1] 08

- The use of catalyst is preferable because it is:
a. Not consumed in reaction b. Consumed in reaction
c. Both a & b d. None of the above
- Perchloroethylene (PERC) is commonly used as a solvent for:
a. Wet cleaning b. Steaming c. Drenching d. Dry cleaning
- In the production of Linear alkyl Benzenes (LAB's) Catalyst HF is replaced by:
a. Fluorided silica alumina b. Chloride silica alumina
c. Sulfated silica alumina d. None
- Catalyst which is soluble in organic solvent as well as water is known as:
a. Homogeneous catalyst b. Phase transfer catalyst
c. Poison d. Auto catalyst
- The use of water as a solvent is beneficial because
a. Cheapest b. Non inflammable
c. Non carcinogenic d. All of the above
- Microwave oven is operated at the frequency
a. 100 MHz b. 91.1 KHz c. 2.45 GHz d. 108 Hz
- Combinatorial chemistry involves automated synthesis in:
a. Solid phase b. Liquid phase c. Plasma phase d. Vapor phase
- The process by which the active component in a combinatorial synthesis
a. Deconvolution b. NMR c. IR d. None

Q-2 Short Answer type questions. (Any seven) [7X2] 14

- Give the importance of photochemical reaction in green chemistry.
- Give the name of two green reagents.
- Describe versatile bleaching agent.
- Give the advantages of PTC.
- Draw the structure of paracetamol.
- Explain Wurtz Reaction.

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P.T.O.....

7. What is photolithography?
8. Define scaffolds.
9. What is "on bead" and "off bead" screening?
- Q3. A. Describe the basic principles of green chemistry with suitable examples. 06
- B. What is the fundamental of ultrasound in the synthesis? Give the application of ultrasound in Esterification, saponification and substitution reaction. 06
- OR
- B. Write a note on Polymer supported Reagents. 06
- Q4. A. Give the application of Acid catalysts, Basic catalysts with suitable examples. 06
- B. Describe the application of crown ether in green synthesis with suitable example. 06
- OR
- B. Justify Versatile Ionic Liquids as Green Solvents. 06
- Q5. A. Discuss aqueous phase reaction by taking the examples of Diels-Alder reaction. 06
- B. By using Basic principles of Green Chemistry describe the synthesis of Adipic acid and Catechol. 06
- OR
- B. Give the synthesis and mechanism of Furfural from Biomass. 06
- Q6. A. Write a note on the solid phase techniques with appropriate examples. 06
- B. Describe the general principles mixed combinatorial synthesis and highlight the mix and split method with suitable example. 06
- OR
- B. Describe Dynamic combinatorial chemistry. 06

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