

SEAT No. _____

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SARDAR PATEL UNIVERSITY
M. Sc. Pharmaceutical Chemistry (Semester-IV) Examination
Tuesday, 17/04/2018; Time-2:00 PM to 5:00 PM
SUBJECT CODE: PS04EPCH01
SUBJECT TITLE: Advance Techniques of Synthetic Chemistry

Maximum Marks: 70

- Note: (1) All questions are compulsory.
(2) Figure to right indicates total marks of question.

Q-1 Choose the correct option for the following: 1 × 8

1. Oxidation of toluene gives _____
 - a. Propyl benzene
 - b. Benzoic acid
 - c. Xylene
 - d. Acetic Acid
2. Conversion of sucrose into glucose and fructose carried out by _____
 - a. Reductase
 - b. Zymase
 - c. Invertase
 - d. None
3. Catalyst solute in water as well as in the organic solvent is known as:
 - a. Acid catalyst
 - b. Enzyme catalyst
 - c. Soap catalyst
 - d. Phase transfer catalyst
4. Crown ether is used in _____ catalyzed reaction?
 - a. Acid
 - b. Base
 - c. Metal
 - d. All the above
5. Ketones give 1, 2 diols by heating with Mg in Benzene followed by treatment with water is known as:
 - a. Diel's Alder Reaction
 - b. Michael Reaction
 - c. Pinacol coupling
 - d. None
6. Cyclization of double bond takes place in
 - a. Diel's Alder Reaction
 - b. Michael Reaction
 - c. Pinacol coupling
 - d. None
7. Two molecules are built up on the same bead one for intended structure is known as:
 - a. Gluing
 - b. Tagging
 - c. Linking
 - d. None of above
8. The core structure of molecule is known as:
 - a. Lattice
 - b. Precursor
 - c. Indices
 - d. Scaffold

Q-2 Answer the following (Any Seven). 2 × 7

1. Give the difference between percent atom utilization and percent economy
2. What are the major criteria for the selection of starting materials?
3. Show the importance of catalyst in green chemistry.
4. Give the role of green catalyst in Friedel –crafts reaction.

5. Write disadvantages of traditional catalyst over green catalyst
6. How selection of starting materials can be useful for Green Chemistry?
7. Describe saponification reaction carried out with the assistance of ultrasound.
8. What is the role of Anchor
9. What is Lipinski's rule of five?
- Q-3 A. Give the use of polymer supported reagent by considering the PNBS and thioanisoyl resin. 6
- B. Give the application of ultra sound in substitution and Saponification. 6
- OR
- B. Discuss about various basic principles of green chemistry. 6
- Q-4 A. Describe catalysis by enzymes of the major six classes with Suitable examples. 6
- B. Describe basic catalyst and polymer supported photosensitizers. 6
- OR
- B. Discuss the applications of various Ionic liquids in green synthesis with examples. 6
- Q-5 A. Give the synthesis of peracetamol and ibuprofen. 6
- B. Write a note on: Alkylation reaction with suitable example. 6
- OR
- B. Do as directed. 6
- a. Describe the reduction of alkynes by using Lindlar catalyst.
- b. Give suitable example of reduction by NaBH₄ with Mechanism.
- Q-6 A. Write a note on solid phase technology in combinatorial Chemistry with suitable example. 6
- B. Describe the strategies involved in planning and designing a combinatorial synthesis 6
- OR
- B. Write a note on parallel synthesis. 6

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