

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)

CLASS: M. Pharm  
BRANCH: PHARMACY

SEMESTER: IIInd  
SESSION: SP2023

SUBJECT: MPC202T ADVANCED ORGANIC CHEMISTRY II

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
  2. Before attempting the question paper, be sure that you have got the correct question paper.
  3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Classify microwave reactions. Give two examples of microwave reactions from each class [7]  
Q.1(b) Elaborate the instrumentation involved in: (i) Microwave reactions (ii)Ultrasound synthesis with diagrams. Write two examples of ultrasound reactions [8]
- Q.2(a) Explain the principles of flow chemistry and elaborate the instrumentation materials used in flow chemistry [7]  
Q.2(b) Describe (i)Mesoreactors (ii)Microreactors (iii)Reynold's number (iv) Advantages and disadvantages of flow chemistry processes [8]
- Q.3(a) Define (i) combinatorial synthesis (ii) Lipinski's rule of five (iii)Different types of solid supports [7]  
Q.3(b) Elaborate the following (i)Sequential Release (ii) Mix and split method with relevant diagrams [8]
- Q.4(a) Elaborate the following (i) recursive deconvolution with proper examples (ii)Micromanipulation (iii)Tagging of compounds [7]  
Q.4(b) Elaborate about the following(i) Scaffolds (ii)Design of combinatorial library (iii) Cleaving reagent (iv) Protecting groups [8]
- Q.5(a) Detail out conrotatory and disrotatory motions with respect to electrocyclic reactions with examples [7]  
Q.5(b) Explain the behavior of open chain conjugated system in electrocyclic reactions. Exhibit with diagrams [8]
- Q.6(a) Define (i)PTC (ii)Basic requirement of PTC (iii)Different types of PTC reactions (iv)Quarternary Onium salts and their activities [7]  
Q.6(b) Give examples of (i) LL PTC (ii)SL PTC with reactions [8]
- Q.7(a) Define i)Meso compounds (ii)Diastereomers (iii) Resolution (iii) Sequence rule [7]  
Q.7(b) Explain the z and e isomers with reference to cis and trans isomers [8]

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