

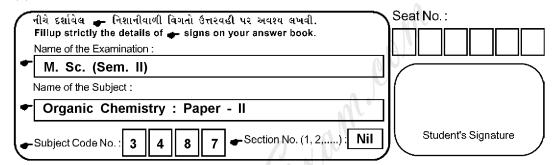
SB-3487

M. Sc. (Sem. - II) (SF) Examination March/April - 2011 Organic Chemistry: Paper - II (IC/PC/EC)

Time: 3 Hours] [Total Marks: 70

Instructions:

(1)



- (2) Figures to the **right** indicate full marks of the questions.
- 1 Answer any **three** of the following:

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- (a) Discuss the Norrish type-I and Norristh type-II reactions.
- (b) What are the principle classes of pericyclic reaction? Explain the selection rule and stereochemistry of cycloaddition reaction.
- (c) Discuss the Paterno-Buchi reaction.
- (d) Prove that "In electrocyclic reaction the ring opening of Cyclobutene → Butadiene system, photochemical reaction follows disrotatory path and thermal reaction follows conrotatory path."
- 2 Answer any three of the following:

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- (a) Explain merrifield polypeptide synthesis.
- (b) What are nucleotides and nucleosides? Prove the structure of pyrimidine nucleosides.
- (c) What are amylose and amylopectin? Prove the structure of amylose.
- (d) Explain the terms: DNA, RNA, ADP and ATP. Give the synthesis of ATP.

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- 3 Answer any three of the following:
- Explain the Blanc's rule. How is it useful to establish (a) the ring system in cholesterol?
- Prove the structure of farnesol by analytical evidences. (b)
- (c) Justify the position of hydroxyl group in cholesterol.
- (d) What are hormones? Classify them. Give the synthesis of:
 - (i) Testosterone
 - (ii)Diel's hydrocarbon.
- Answer any **four** of the following: 4

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- Give the name and structural formula of sugars and bases present in nucleic acids. Give the synthesis of guanosine.
- (b) Write a note on the Jablonski diagram.
- (c) Prove the structure of zingiberene analytically.
- (d) Give evidences for the ethylenic double bond in cholesterol.
- What are terpenoids? Give the synthesis of cadalene. (e)