UG Odd Semester Examination, 2022

EDUCATION B.Sc. B.Ed

(7th Semester)

Course No.: BSCH-701

(Organic Chemistry)

Full Marks: 50

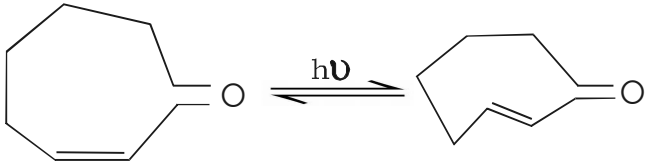
Pass Marks: 20

Time: 2 hours

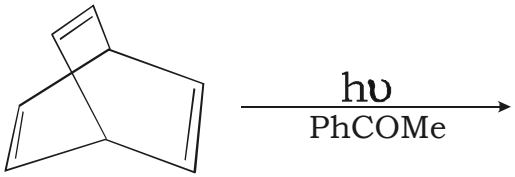
The figures in the right margin indicate full marks for the question.
Answer the following five (5) questions

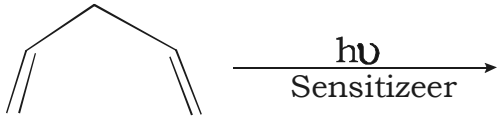
1. (a) What is dissociation and pre-dissociation? Use Jablonski diagram to explain the same. 2+2=4

(b) "The higly strained trans-2 cycloheptanone can be isolated at low temperature by irradiation of the cis isomer". Explain. 2



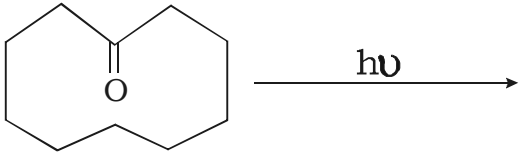
(c) Write down the products for the followings : (Provide mechanisms) 2+2=4





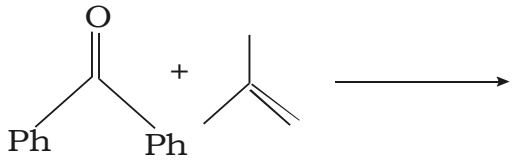
Or

2. (a) Predict the major and minor product for the following reaction. 3



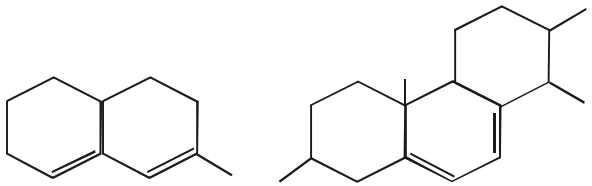
(b) Explain the mechanism of Phosphorescence using the Jablonski diagram. 2

(c) Predict the major and minor products for the following reaction. 3



(d) What is the importance of sensitizer in photochemical reaction? 2

3. (a) Calculate the λ_{max} for $\pi \rightarrow \pi^*$ for transition in following compounds. 2+2=4



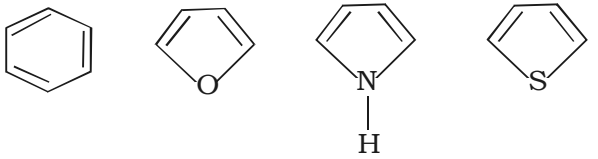
(b) What is isoprene rule? Draw the structure of a triterpene and show the isoprene units present there. 1+2=3

Or

10. (a) What is stobbe condensation? How it is different from Dickmann consensation? 4

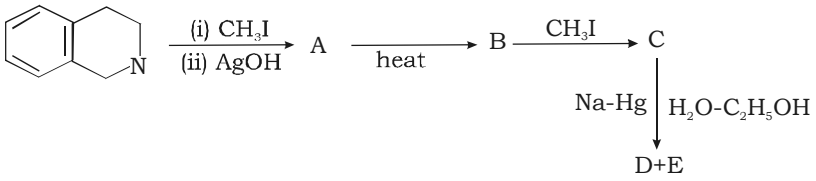
(b) How Quinoline and isoquinoline behaves towards nucleophilic substitution reactions? Provide mechanism. 4

(c) Arrange the following in the increasing order of reactivity towards electrophilic aromatic substitution reaction. 2



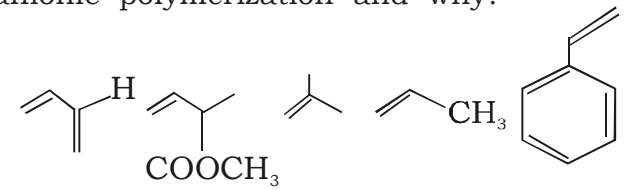
*****

(c) Write down the structure of A, B, C, D and E. 3



Or

4. (a) Which of the following molecules undergo anionic polymerization and why? 3



(b) Provide one method for the synthesis of Nylon-66. 2

(c) What are copolymers? Provide classification for the same with their structures. 1+2=3

(d) Provide two examples of synthetic rubbers with their structures. 2

5. (a) What are epimers? Provide examples. 1+1=2

(b) Write a note on mutarotation. 3

(c) Describe the structure of cellulose. 2

(d) "Sucrose is a non-reducing sugar and doesnot exhibit mutarotion." Explain. 3

Or

6. (a) Provide the structures of Amylose and amylopectin. 2+2=4

(b) Discuss the mechanism for base catalysed enediol rearrangement of a monosacchaide. 3

(c) Suggest one method for conversion of D-glucose to D-arabinose. 3

7. (a) What is sunshine vitamin? Write down the structure of the active form of vitamin D. 1+2=3

(b) Give one example of reaction catalysed by co-enzyme B_{12}. 3

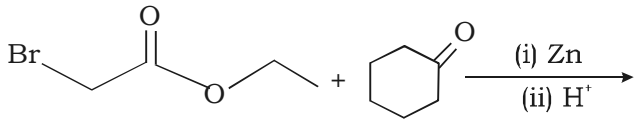
(c) Write down the structure of Flavin adenine dinucleotide. Give example of atleast one reaction catalysed by FD. 2+2=4

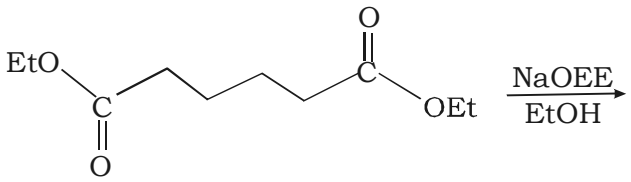
Or

8. (a) Provide one method for synthesis of vitamin A. 5

(b) Write one note on biosynthesis of vitamin C. 5

9. (a) Write the structures of the product and provide mechanisms. 3+3=6





(b) How will you bring about the following conversion : 4