A N N A M A L A I U N I V E R S I T Y

(Accredited with 'A+' Grade by NAAC)

CENTRE FOR DISTANCE AND ONLINE EDUCATION

Annamalainagar – 608 002.

Semester Pattern: 2023-24

Instructions to submit Second Semester Assignments

1. Following the introduction of semester pattern, it becomes **mandatory for candidates to submit assignment for each course.**
2. Assignment topics for each course will be displayed in the A.U, CDOE website (**www.audde.in**).
3. Each assignment contains 5 questions and the candidate should answer all the 5 questions. Candidates should submit assignments for each course separately. (5 Questions x 5 Marks =25 marks).
4. Answer for each assignment question should not exceed 4 pages. Use only A4 sheets and write on one side only. **Write your Enrollment number on the top right corner** of all the pages.
5. Add a template / content page and provide details regarding your Name, Enrollment number, Programme name, Code and Assignment topic. Assignments without template / content page will not be accepted.
6. Assignments should be handwritten only. Typed or printed or photocopied assignments will not be accepted.
7. **Send all Second semester assignments in one envelope**. Send your assignments by Registered Post to The Director, Center for Distance and Online Education, Annamalai University, Annamalai Nagar – 608002.
8. Write in bold letters, "**ASSIGNMENTS – SECOND SEMESTER**" along with PROGRAMME NAME on the top of the envelope.
9. Assignments received after the **last date with late fee** will not be evaluated.

Date to Remember

Last date to submit Second semester assignments : **15.04.2024**
Last date with late fee of Rs.300 (three hundred only) : **30.04.2024**

M.Sc Chemistry- CDOE- (II Semester)

Assignment Topics

Course Code:- 020E1210

Organic Chemistry –II

1) **a)** Discuss in detail about the analysis of pericyclic reactions for the (4n+2) cyclo addition process with Woodward-Hoffmann rule.
   b) Discuss the mechanism of Beckmann and Bayer-Villiger rearrangement reaction.

2) **a)** Explain the Conformational analysis of 1, 2-disubstituted ethanes.
   b) Discuss the Conformational analysis of various disubstituted cyclohexanes.

3) **a)** Explain the synthesis and uses of malachite green and indigo dyes.
   b) Discuss the types of RNA

4) **a)** Explain the preparation and reactions of Indole molecule.
   b) Write the skraup synthesis of Quinoline

5) **a)** Briefly explain the structural elucidation and synthesis of Chloramphenicol.
   b) Elucidate the structure of Citral.

Course Code: 020E1220

Inorganic Chemistry –II

1. Discuss briefly about the determination of stability constants by using pH metric and spectroscopic methods.

2. Explain the following

a) Jahn-Teller distortion

b) Spectral implications of Jahn-Teller distortions in transitions metal complexes.

3. Discuss Racemisation and isomerisation of co-ordination complexes.

4. a) Explain the polarization and $\pi -$ bonding theories of trans effect.

b) Briefly discuss the atom transfer reaction

5. Discuss the following

a) Photo aquation reactions

b) Photo substitution reaction

Course Code:- 020E1230

Physical Chemistry – II

1) Discuss the enzyme catalysis reaction with examples and explain the mechanism.

2) Give a brief account of Unimolecular theory with special reference to

- **a.** Lindemann's theory
- **b.** Hinselwood theory

3) Discuss the following

- **a.** Black body radiation
- **b.** Einstein's Photoelectric effect

4) Explain the following

- **a.** Born-Oppenheimer approximation
- **b.** Valence Bond theory

5) Discuss the applications of Huckel theory taking examples of

- **a.** Ethylene
- **b.** Butadiene