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: 2025-26

Instructions to submit Fourth 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 Fourth semester assignments in one envelope**. Send your assignments by Registered Post to The Director, Centre for Distance and Online Education, Annamalai University, Annamalai Nagar – 608002.
8. Write in bold letters, "ASSIGNMENTS – FOURTH 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 Fourth semester assignments : 01.11.2025
Last date with late fee of Rs.300 (three hundred only) : 15.11.2025

DIRECTOR
CDOE

CENTRE FOR DISTANCE AND ONLINE EDUCATION
S020 - M.Sc. CHEMISTRY
SECOND YEAR – IV SEMESTER (2025 – 2026)
ASSIGNMENT QUESTION

020E2410: ORGANIC CHEMISTRY – IV

1) Explain the application of microwave and ultrasound techniques in organic synthesis.
2) Discuss the structures and applications of macrocyclic polyesters.
3) Explain the structure activity relationship (SAR) of penciliin.
4) Discuss the mechanism of action of aminoquinolines as antimalarials.
5) Give a brief note on benzene nitration mechanism.

020E2420: INORGANIC CHEMISTRY – IV

1) Elaborate the concept of tetragonal distortions from octahedral symmetry.
2) Explain briefly the principle and applications of Auger spectroscopy.
3) Discuss the principle and instrumentation of Mossbauer spectroscopy.
4) Explain the concept of reciprocal lattices.
5) Discuss the following
   i. Circular birefringence
   ii. Circular dichroism.

020E2430: PHYSICAL CHEMISTRY – IV

1) What is meant by CMC? and discuss the factors affecting it.
2) Analyze the different types of photographic sensitizers.
3) Differentiate piezoelectric, pyroelectric and ferroelectric materials.
4) Discuss the band theory of semiconductors and their applications.
5) Write a brief note on selection rules for Raman spectra.

020E2440: ADVANCED TECHNIQUES

1) Discuss the working principle of Transmission Electron Microscope (TEM).
2) Give a short note on “Instrumentation of spectrofluorimetry”
3) Explain the following
   i. Retro-Diels Alder reaction.
   ii. McLafferty Rearrangement.
4) Discuss the factors influencing proton chemical shifts.
5) Explain the ^{1}H and ^{13}C heteronuclear correlation spectroscopy.