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: 2024-25

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, Center 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 : **15.04.2025**

Last date with late fee of Rs.300 (three hundred only) : **30.04.2025**

Dr. T. SRINIVASAN

Director

CENTRE FOR DISTANCE AND ONLINE EDUCATION

S020 – M.Sc. CHEMISTRY

SECOND YEAR – IV SEMESTER

ASSIGNMENT TOPICS

020E2410: ORGANIC CHEMISTRY - IV

1. Discuss two advantages of microwave-assisted organic synthesis.
2. What are the macrocyclic polyesters? Discuss their structures and applications.
3. Explain the following (a) Ligand-based drug design (b) Structure-based drug design.
4. Write a note on a anti-inflammatory drug-(Diclofenac).
5. Discuss the mechanism for the nitration of benzene.

020E2420: INORGANIC CHEMISTRY - IV

1. Draw the orgel diagram of d^2, d^3, d^7 and d^8 octahedral and tetrahedral systems and explain it.
2. Discuss the principle and applications of Auger spectroscopy.
3. Explain quadruple splitting and magnetic interactions in Mossbauer spectroscopy.
4. Discuss the principle and applications of electron diffraction method.
5. Write briefly about the principle and instrumentation for high performance liquid chromatography (HPLC).

020E2430: PHYSICAL CHEMISTRY - IV

1. State and explain Gibb's adsorption isotherm.
2. What do you understand about fluorescent whitening agents (FWAS)? Discuss its activity by using any one example.
3. Explain the types and applications of ferroelectric materials.
4. What are the semiconductors? Discuss N-type and P-type semiconductors.
5. Give a brief account of selection rules for infra-red spectra.

020E2440: ADVANCED TECHNIQUES

1. Discuss the working principle of scanning electron microscope (SEM) and explain its applications.
2. Give a brief account on "instrumentation of atomic emission spectroscopy (AES).
3. Discuss the methods used for generating positively charged ions in Mass spectrometry.
4. Explain the Nuclear Overhauser effect with an example.
5. Discuss the homonuclear correlation spectroscopy (HOMOCOSY).