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

S019 – M.Sc. PHYSICS

SECOND YEAR – IV SEMESTER

ASSIGNMENT TOPICS

019E2410: CONDENSED MATTER PHYSICS - II

1. **a.** Discuss Local electric field and deduce Clausius Mosotti equation.
   b. Explain dielectricloss and dielectric breakdown.
2. **a.** Discuss Landau theory of phase transition.
   b. Explain piezoelectricity and piezoelectric parameters..
3. Explain Langevin's theory of paramagnetism
   b. Discuss Weiss molecular field theory.
4. Discuss the Josephson effect and Josephson junction.
5. **a**. Discuss Quantum confinement
   b. Outline Single electron transistor and nanobiometrices.

019E2420: SPECTROSCOPY

1. Explain the rigid rotor rotational spectra of diatomic molecules.
2. **a.** Discuss the theory of rotational spectroscopy.
   b. What are the differences between infrared and molecular spectroscopy.
3. **a.** Define Stokes and anti Stokes line.
   b. Briefly write down the principle and technique of SERS.
4. **a.** Discuss ESR spectrometer.
   b. principle of ESR.
5. **a.** Explain the principle of NQR.
   b. Discuss the instrumentation of NQR spectroscopy

019E2430: PHYSICS OF NANOMATERIALS

1. **a.** Discuss Transmission electron microscopy.
   b. Explain Zero, one and two dimension nanostructures
2. **a.** Discuss Carbon fullerences and nanotubes.
   b. Discuss crystalline microporous materials.
3. Discuss Dilute Magnetic Semiconductors
4. Outline CVD and sol gel method
5. **a.** Discuss scanning electron microscopy.
   b. Explain Drug Delivery System.