Instruction Hours / week: L: 0 T: 0 P: 3   **Marks:** Internal: **40**   External: **60** Total: **100**
                                                                        End Semester Exam: 3 Hours

Course Objectives

This course enables the students to learn
- Problem-solving through programming.
- Hands-on training using lab components.

Course Outcomes (COs)

On successful completion of this course, the student will be able to
1. Demonstrate comprehension in fundamental topics of computing, algorithms, computer organization and software systems.
2. Have applied knowledge of areas of computing to create solutions to challenging problems, including specify, design, implement and validate solutions for new problems.
3. Be aware of current research activity in computing through activities including reading papers, hearing research presentations, and successfully planning and completing an individual research project in computing or its application.

List of Practical (Any 8 programs)

1. Plotting of second order solution family of differential equation.

2. Growth model (exponential case only).

3. Decay model (exponential case only).

4. Lake pollution model (with constant/seasonal flow and pollution concentration).

5. Case of single cold pill and a course of cold pills.

6. Limited growth of population (with and without harvesting).

7. Predatory-prey model (basic volterra model, with density dependence, effect of DDT, two prey one predator).

8. Plotting of recursive sequences.

9. Verify Bolzano-Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot.

10. Study the convergence/divergence of infinite series by plotting their sequences of partial sum.

11. Cauchy's root test by plotting nth roots.

12. Ratio test by plotting the ratio of nth and $(n+1)^{th}$ term.

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KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)

(Established Under Section 3 of UGC Act 1956)

Coimbatore – 641 021

NAME LIST

S.No.	Register No.	Student's Name
1	19MMU001	ABINAYA M
2	19MMU002	AISHWARYA SK
3	19MMU003	AJAY K
4	19MMU004	ANGEL M
5	19MMU005	DESIGA NAVEEN U
6	19MMU006	JAYABHARATHI P
7	19MMU007	JEEVA S
8	19MMU008	KANIMOZHI G
9	19MMU009	KAVI PRIYA M
10	19MMU010	KAYALVIZHI M
11	19MMU011	LOGESHWARAN T
12	19MMU012	NAVEEN KUMAR M
13	19MMU013	NIVAS A
14	19MMU014	RAGAVA ATHITHYAN A
15	19MMU015	RAJALAKSHMI R
16	19MMU016	RAJESHWARI R
17	19MMU017	ROHITH V
18	19MMU018	SAMPATH S
19	19MMU019	SANGAVI N
20	19MMU020	SARANYA S
21	19MMU021	SASI KUMAR V
22	19MMU022	SWETHA S
23	19MMU023	UDIT C
24	19MMU024	VEERASUNDARI A
25	19MMU025	YAHAYA AYYAAZ F

Prapared by: M.Jannath Begam, Asst Prof in Mathematics, KAHE