

LABORATORY PLANNING (LP)

Academic Year: 2026-27 (ODD)

Date: 01/07/2026

Institute Name: K. K. Wagh Polytechnic, Nashik

MSBTE Code: 0078

Program and Code: Information Technology (IF)

Course Code & Abbr.:313301(DSU)

Course Name: Data Structure Using C

Name of Faculty:Mrs. M.P.Nawarkar

Class: SYIF-Cray

Semester: 3rd **Scheme:** K

Course Index:301

LearningHrs:30

• **Teaching-Learning & Assessment Scheme:**

Course Code	Course Title &Abbr	Course Category	Learning Scheme						Credits	Paper Duration (Hrs.)	Assessment Scheme									
			Actual Contact Hrs/Week			SLH	NLH	Theory				Based on LL & TSL Practical				Based on SL		Total Marks		
			CL	TL	LL			FA TH			SA TH	Total		FA-PR		SA-PR			SLA	
												Max	Min	Max	Min	Max	Min		Max	Min
313301	Data Structure Using C (DSU)	DSC	3	1	4	-	8	4	3	30	70	100	40	50	20	25	10	-	-	175

Abbreviations: CL- Class Room Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS – Indian Knowledge System, SLA - Self Learning Assessment
Legends: @ Internal Assessment, # External Assessment, *# On Line Examination, @\$ Internal Online Examination

• **COURSE LEVEL LEARNING OUTCOMES (COS)**

By learning course Data Structure Using C(DSU-313301) Second Year students will be able to achieve & demonstrate the following COs on completion of course based learning.

- CO1 - Perform basic operations on Arrays.
- CO2 - Apply different Searching and sorting methods.
- CO3 - Implement basic operations on Linked List.
- CO4 - Perform operations on Stack using Array and Linked List Implementations.
- CO5 - Perform operations on Queue using Array and Linked List Implementations.
- CO6 - Create and Traverse Tree to solve problems.

• **COs, Practical Laboratory Learning Outcome (LLOs)and Proposed Dates:**

Pr. No	COs	LLO	Name of Experiments	Planned Date A/B/C		Actual date of Performance	Remark
				From	To		
1	CO1	LLO 1.1	Write a C program to perform operations on array: create, insert, delete, display	A-03/07/2026 B-04/07/2026 C-02/07/2026	A-10/07/2026 B-11/07/2026 C-09/07/2026	A- B- C-	
2	CO2	LLO 2.1	Write a 'C' Program to Search a particular data from the given Array of numbers using: Linear Search Method.	A-10/07/2026 B-11/07/2026 C-09/07/2026	A-14/07/2026 B-13/07/2026 C-15/07/2026	A- B- C-	
3	CO2	LLO 3.1	Write a 'C' Program to Search a particular data from the given Array of Strings using Linear Search Method.	A-14/07/2026 B-13/07/2026 C-15/07/2026	A-17/07/2026 B-18/07/2026 C-16/07/2026	A- B- C-	
4	CO2	LLO 4.1	Write a 'C' program to Search a particular data from the given Array of numbers using Binary Search Method.	A-25/08/2026 B-29/08/2026 C-26/08/2026	A-01/09/2026 B-05/09/2026 C-02/09/2026	A- B- C-	

Maharashtra State Board of Technical Education, Mumbai
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				From	To		
5	CO2	LLO 5.1	Write a 'C' Program to Search a particular data from the given Array of Strings using Binary Search Method	A-01/09/2026 B-05/09/2026 C-02/09/2026	A-04/09/2026 B-07/09/2026 C-09/09/2026	A- B- C-	
6	CO2	LLO 6.1	Write a 'C' Program to Sort an Array of numbers using Bubble Sort Method.	A-04/09/2026 B-07/09/2026 C-09/09/2026	A-08/09/2026 B-12/09/2026 C-10/09/2026	A- B- C-	
7	CO2	LLO 7.1	Write a 'C' Program to Sort an Array of Strings using Bubble Sort Method.	A-08/09/2026 B-12/09/2026 C-10/09/2026	A-11/09/2026 B-19/09/2026 C-16/09/2026	A- B- C-	
8	CO2	LLO 8.1	Write a 'C' Program to Sort an Array of numbers using Selection Sort Method.	A-11/09/2026 B-19/09/2026 C-16/09/2026	A-15/09/2026 B-21/09/2026 C-17/09/2026	A- B- C-	
9	CO2	LLO 9.1	Write a 'C' Program to Sort an Array of Strings using Selection Sort Method.	A-15/09/2026 B-21/09/2026 C-17/09/2026	A-18/09/2026 B-26/09/2026 C-23/09/2026	A- B- C-	
10	CO2	LLO 10.1	Write a 'C' Program to Sort an Array of numbers using Insertion Sort Method.	A-18/09/2026 B-26/09/2026 C-23/09/2026	A-22/09/2026 B-28/09/2026 C-24/09/2026	A- B- C-	
11	CO2	LLO 11.1	Write a 'C' Program to Sort an Array of Strings using Insertion Sort Method.	A-22/09/2026 B-28/09/2026 C-24/09/2026	A-25/09/2026 B-03/10/2026 C-30/09/2026	A- B- C-	
12	CO3	LLO 12.1	Write a 'C' Program to Implement Singly Linked List with Operations: (i) Insert at beginning, (ii) Search, (iii) Display	A-25/09/2026 B-03/10/2026 C-30/09/2026	A-06/10/2026 B-05/10/2026 C-01/10/2026	A- B- C-	
13	CO3	LLO 13.1	Write a C Program to Implement Singly Linked List with Operations: (i) Insert at end, (ii) Insert After, (iii) Delete (iv) Display	A-06/10/2026 B-05/10/2026 C-01/10/2026	A-09/10/2026 B-10/10/2026 C-07/10/2026	A- B- C-	
14	CO3	LLO 15.1	Write a 'C' Program to add Two Polynomials using a Linked List.	A-09/10/2026 B-10/10/2026 C-07/10/2026	A-16/10/2026 B-17/10/2026 C-14/10/2026	A- B- C-	
15	CO4	LLO 16.1	Write a 'C' Program to perform PUSH and POP Operations on Stack using an Array.	A-24/07/2026 B-25/07/2026 C-23/07/2026	A-31/07/2026 B-01/08/2026 C-30/07/2026	A- B- C-	
16	CO4	LLO 17.1	Write a 'C' Program to perform PUSH and POP Operations on a Stack using a Linked List.	A-31/07/2026 B-01/08/2026 C-30/07/2026	A-04/08/2026 B-03/08/2026 C-05/08/2026	A- B- C-	

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Pr. No	Cos	LL O	Name of Experiments	Planned Date A/B/C		Actual date of Performance	Remark
				From	To		
17	CO4	LLO 18.1	Write a 'C' program to perform multiplication of two numbers using recursion.	A-04/08/2026 B-03/08/2026 C-05/08/2026	A-07/08/2026 B-08/08/2026 C-06/08/2026	A- B- C-	
18	CO4	LLO 19.1	Write a 'C' program to print given string in reverse using recursion.	A-07/08/2026 B-08/08/2026 C-06/08/2026	A-11/08/2026 B-10/08/2026 C-12/08/2026	A- B- C-	
19	CO5	LLO 21.1	Write a 'C' Program to perform INSERT and DELETE Operations on Linear Queue using an Array.	A-11/08/2026 B-10/08/2026 C-12/08/2026	A-18/08/2026 B-22/08/2026 C-19/08/2026	A- B- C-	
20	CO5	LLO 22.1	Write a 'C' Program to perform INSERT and DELETE operations on Linear Queue using a Linked List.	A-18/08/2026 B-22/08/2026 C-19/08/2026	A-21/08/2026 B-24/08/2026 C-20/08/2026	A- B- C-	
21	CO5	LLO 23.1	Write a 'C' Program to perform INSERT and DELETE operations on Circular Queue using an Array.	A-21/08/2026 B-24/08/2026 C-20/08/2026	A-25/08/2026 B-29/08/2026 C-26/08/2026	A- B- C-	
22	CO6	LLO 26.1	Write a 'C' Program to Implement BST (Binary Search Tree) and Traverse in In-Order.	A-17/07/2026 B-18/07/2026 C-16/07/2026	A-24/07/2026 B-25/07/2026 C-23/07/2026	A- B- C-	

ASSESSMENT METHODOLOGIES/TOOLS

A. Formative assessment (Assessment for Learning) (FA-TH)

- Continuous assessment based on process and product related performance indicators. Each practical will be assessed considering 60% weightage is to process and 40% weightage to product

B. Summative Assessment (Assessment of Learning) (SA-TH)

- End semester Examination, Lab performance, Viva-Voce

C. SUGGESTED MICRO PROJECT / ASSIGNMENT/ ACTIVITIES FOR SPECIFIC LEARNING /SKILLS DEVELOPMENT (SELF LEARNING)

- NA

Mrs. M.P.Nawarkar
(Name & Signature of Staff)

Ms. M. S. Karande
(Name & Signature of HOD)