	KONGU ENGINEERING COLLEGE (Autonomous) PERUNDURAI ERODE - 638 060	Course Plan Revision-2.1 01-12-2018
Estd : 1984	DEPARTMENT OF CSE ENGINEERING	IQAC

Name of the Faculty, Designation & Dept.	Dr.R.C.Suganthe, Professor, CSE	**Programme & Department of the Students**	BE(CSE) , CSE
Course Code & Name	Programming and Linear Data structures	**Academic Year, Semester & Section**	2018-19 /II Semester / CSE 'A'
Type of Course	**Theory cum Practical**		

OUTCOME BASED EDUCATIONAL DETAILS - COURSE WISE

COURSE OUTCOMES:

On completion of the course, the students will be able to		**BT Mapped (Highest Level)**
CO1:	Make use of pointers to perform array and string operations	3
CO2:	Implement functions and structures with pointers	3
CO3:	Demonstrate file operations and preprocessor directives	3
CO4:	Describe the operations of linked list	2
CO5:	Manipulate the operations on stacks and queues	3
CO6:	Implement programs to solve problems using pointers to arrays and structures	3
CO7:	Develop programs using files and preprocessor directives	3
CO8:	Use appropriate linear data structure for solving given problems	3

Mapping of COs with POs, PSOs

COs / POs&PSOs	PO1 3	PO2 4	PO3 5	PO4 5	PO5 6	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1										
CO2	3	2	1	1										
CO3	3	2	1	1										
CO4	2	1												
CO5	3	2	1	1										
CO6	3	2	1	1										
CO7	3	2	1	1										
CO8	3	2	1	1										

1 – Slight, 2 – Moderate, 3 – Substantial

COURSE PLAN FOR THEORY COURSE / THEORY CUM PRACTICAL (THEORY COMPONENT):

S. No.	Intended learning Outcomes	CO(s) Mapped	Cognitive Level	Planned*		Actual*	
				Date	Period	Date	Period
1.	ILO1.1 Discuss the need for pointers	CO1	K2	18-1	1	18-1	1
2.	ILO1.2 Illustrate the simple programs using pointers	CO1	K2	19-1	1	19-1	1
3.	ILO1.3 Employ arithmetic operations on pointer variables	CO1	K3	23-1	3	23-1	3
4.	ILO1.4 Outline the usage of NULL pointers and generic pointers	CO1	K2	24-1	1	24-1	1
5.	ILO1.5 Develop programs for manipulating 1D array using pointers	CO1	K3	25-1	1	25-1	1

Cognitive Process : K1 - Remembering K2 - Understanding K3 - Applying K4 - Analyzing K5 - Evaluating K6 - Creating
Knowledge Dimension : F - Factual C - Conceptual P - Procedural MC - Meta Cognitive
Psychomotor Domain : S1-Imitation S2-Manipulation S3-Precision S4-Articulation S5-Naturalization

6.	ILO1.6 Implement operations on 2D array using pointers	CO1	K3	30-1	3	30-1	3
7.	ILO1.7 Solve problems using 1D array as an argument to function	CO1	K3	31-1	4	31-1	4
8.	ILO1.8 Solve problems using 2D array as an argument to function	CO1	K3	31-1	4	31-1	4
9.	ILO1.9 Demonstrate returning 1D array from a function with simple programs	CO1	K3	1-2	1	1-2	1
10.	ILO1.10 Demonstrate returning 2D array from a function with simple programs	CO1	K3	1-2	1	1-2	1
11.	ILO1.11 Design simple applications using array of pointers	CO1	K3	2-2	1	2-2	1
12.	ILO1.12 Explain the basics of pointers and strings	CO1	K2	2-2	1	2-2	1
13.	ILO1.13 Implement string manipulation functions using pointers	CO1	K3	6-2	3	6-2	3
14.	ILO1.14 Demonstrate the usage of pointers in 2D character array	CO1	K3	7-2	4	7-2	4
15.	ILO1.15 Express the given problem using array of pointers to strings	CO1	K2	8-2	1	8-2	1
16.	ILO1.16 Elaborate the concepts of Dynamic memory allocation	CO1	K2	13-2	3	13-2	3
17.	ILO1.17 Solve the given problem using dynamic memory allocation	CO1	K3	14-2	4	14-2	4
18.	ILO2.1 Relate the use of function pointers	CO2	K2	15-2	1	15-2	1
19.	ILO2.2 Employ function pointer for solving problems	CO2	K3	16-2	1	16-2	1
20.	ILO2.3 Outline the usage of structures and typedef	CO2	K2	20-2	3	20-2	3
21.	ILO2.4 Implement the given problem using structures	CO2	K3	21-2	4	21-2	4
22.	ILO2.5 Use structure as argument to function for solving the problem	CO2	K3	22-2	1	22-2	1
23.	ILO2.6 Demonstrate the usage of pointers for manipulating structures	CO2	K3	27-2	3	27-2	3
24.	ILO3.1 Discuss the need and basics of files	CO3	K2	20-3	5	20-3	5
25.	ILO3.2 Make use of files for storing and retrieving information	CO3	K3	21-3	4	21-3	4
26.	ILO3.3 Demonstrate operations on sequential file access	CO3	K3	23-3	1	23-3	1
27.	ILO3.4 Demonstrate operations on Random access file	CO3	K3	27-3	3	27-3	3
28.	ILO3.5 Employ a mechanism for detecting the end of file	CO3	K3	28-3	4	28-3	4
29.	ILO3.6 Discuss rename and removing a file	CO3	K2	29-3	1	29-3	1
30.	ILO3.7 Elaborate the need for preprocessor directive	CO3	K2	30-3	1	30-3	1
31.	ILO3.8 Describe the different types of preprocessor directives	CO3	K2	30-3	1	30-3	1
32.	ILO3.9 Utilize preprocessor directive for solving the given problem	CO3	K3	3-4	3	3-4	3
33.	ILO3.10 Outline usage of the command line arguments	CO3	K2	4-4	4	4-4	4
34.	ILO4.1 Explain the importance of data structures and its classification	CO4	K2	5-4	1	5-4	1
35.	ILO4.2 Differentiate arrays and Linked List	CO4	K2	10-4	3	10-4	3
36.	ILO4.3 Show the structure of Linked List	CO4	K2	11-4	4	11-4	4
37.	ILO4.4 Discuss the memory allocation for Linked List	CO4	K2	12-4	1	12-4	1
38.	ILO4.5 Classify the different types of Linked List	CO4	K2	13-4	1	13-4	1
39.	ILO4.6 1 Illustrate with simple program, the operations on Singly Linked List	CO4	K2	24-4	3	24-4	3
40.	ILO5.1 Explain the concept of stack	CO5	K2	25-4	4	25-4	4
41.	ILO5.2 Implement the operations of stack using array	CO5	K3	26-4	1	26-4	1

42.	ILO5.3 Use Linked List for implementing stack operations	CO5	K3	27-4	1	27-4	1
43.	ILO5.4 Discuss the applications of stack	CO5	K2	1-5	4	2-5	4
44.	ILO5.5 Outline the concept of Queue	CO5	K2	2-5	4	2-5	4
45.	ILO5.6 Implement the operations of Queue using array	CO5	K3	3-5	1	3-5	1
46.	ILO5.7 Use Linked List for implementing Queue operations	CO5	K3	3-5	1	3-5	1
47.	ILO5.8 Discuss the applications of Queue	CO5	K2	4-5	1	4-5	1
	Content beyond syllabus			4-5	8	4-5	8

Note: Content beyond syllabus if any may be included.

OUTCOME BASED EDUCATIONAL ACTIVITIES FOR THEORY / THEORY CUM PRACTICAL / PRACTICAL COURSE:

S. No.	Name of the Activity	CO(s) Mapped	Cognitive, Knowledge, Psychomotor Dimension	PO based Performance Indicators	Actual Date(s)	
					From	To
1	Flipped Class Room/Think pair share	CO1,CO2,CO3	K3, P, S3	1.7.1	28-3	29-3
Activity Evaluation Methods: Quiz and MCQ test : MCQ						

RUBRICS FOR CONTINUOUS ASSESSMENT – THEORY CUM PRACTICAL / PRACTICAL / PROJECT: Fill for Integrated lab course and Practical course (No Need to fill for theory course)

Practical Component	Indicator	Outstanding (90-100)	Excellent (80-89)	Very Good (70-79)	Good (60-69)	Average (50-59)	Poor (< 50)
Conduct of Experiments (10)	**Identify the requirements and analyze the given problem (3)**	Exemplifies in identifying the requirements and clearly analyzes information for accuracy, relevance and validity for the given problem (3)	Excellent in identifying the requirements and for the given problem and analyzes it for accuracy, relevance and validity. (2.5)	Requirements are identified but the relevance, accuracy are analyzed upto the minimum context (2)	Good in identifying the requirements but not analyzed upto the context (1.5)	Partially identifies the requirements for the given problem (1)	Difficulty in identifying the requirements for the given problems (0.5)
	Ability to understand and follow the rules of the programming language (3)	Program compiles and contains no evidence of misinterpreting the syntax of the language (3)	Program compiles, and is free from major syntactic misunderstandings, but may contain non-standard usage or superfluous elements (2.5)	Program compiles, and free from misinterpretation of syntax usage but contain some non-conventional usage of language (2)	Program contain some syntactic errors due to misunderstanding of the programming language (1.5)	Program does not compile and contains typographical errors leading to undefined names (1)	Program does not compile due to major syntax errors (0.5)
	Ability to use programming constructs that are appropriate for the problem domain (4)	Program logic is correct, with no known boundary errors, and no redundant or contradictory conditions (4)	Program logic is correct, but may contain an occasional boundary error or redundant or contradictory conditions (3.5)	Program logic is identified, but minor error in boundary conditions (3)	Good in identifying the program logic but difficulty in identifying the boundary conditions (2.5)	Program contains some conditions and logics that are inappropriate for the problem (2)	Difficulty in identify the program logic and boundary conditions (0.5-1)
Viva-voce (5)	**Viva voce (5)**	Able to understand the questions, and answer effectively (5)	Able to understand the questions, and answer relevantly (4)	Able to somewhat understand the question and difficulty in giving suitable answers.	Difficulty in understanding the questions, and inappropriately answers. (3)	Minimal ability in understanding the questions. (2)	No ability in understanding the questions. (0.5-1)

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				(3.5)			

COGNITIVE PROCESS DISTRIBUTION IN PERCENTAGE : (Percentage of questions to be asked in each CATs)

Assessments / Cognitive	K1	K2	K3	K4	K5	K6
CAT - I	3	7	90			
CAT - II	3	7	90			
CAT - III (not applicable for R 2018)						

Note: Tolerance limit is ± 2 %

QUESTION PAPER PATTERN:

Test	Section(s) & Type of Question	No. of Questions	No. of Choices	Maximum Marks / Question	Total marks in this section
CAT - I	Part A & Short, MCQ, Fill Ups	10	No choice	2	20
	Part B & Descriptive	5	Either or	12	60
	Part C & Descriptive with Case study	1	Either or	20	20
CAT - II	Part A & Short, MCQ, Fill Ups	10	No choice	2	20
	Part B & Descriptive	5	Either or	12	60
	Part C & Descriptive with Case study	1	Either or	20	20

PLDS

COURSE PLAN FOR THEORY CUM PRACTICAL (PRACTICAL COMPONENT) / PRACTICAL COURSE

Number of students per batch*:		Number of batches/session*:			
Exp. No.	Name of the Experiment	CO(s) Mapped	Cognitive, Knowledge, Psychomotor Dimension	Planned* Date & Period	Actual* Date & Period
1.	Demonstration of programs to access an 1D and 2D arrays using pointers	CO6	K3,P,S3	22-1 29-1	22-1 29-1
2.	Demonstration of programs to manipulate strings using pointers	CO6	K3,P,S3	5-2	5-2
3.	Program to demonstrate dynamic memory allocation for 1D and 2D array	CO6	K3,P,S3	12-2	12-2
4.	Demonstration of programs to pass an array as an argument to function and access the array using pointers	CO6	K3,P,S3	19-2 26-2	19-2 26-2
5.	Demonstration of programs using pointers and structures	CO6	K3,P,S3	5-3	5-3
6.	Demonstration of programs to perform operations on files	CO7	K3,P,S3	26-3 2-4	26-3 2-4
7.	Demonstration of programs using conditional preprocessor directives	CO7	K3,P,S3	9-4	9-4
8.	Program to implement singly linked list	CO8	K3,P,S3	16-4	16-4
9.	Program to implement Stack using array and linked list	CO8	K3,P,S3	23-4	23-4
10.	Program to implement Queue using array and linked list	CO8	K3,P,S3	30-4	30-4

COURSE PLAN FOR OTHER ASSESSMENTS -

S. No	Description	CO(s) Mapped	Cognitive, Knowledge, Psychomotor Dimension	Planned Date*	Actual Date*
Assessment 1: (Case study / Mini Project / Online Test / Industrial Training / Paper Presentation / Others)					
	MiniProject	CO1 to CO8	K3,P,S3	15.4.2019	15-4-19

Course Faculty **Course Coordinator** **HOD**

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