KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL-15

DEPARTMENT OF PS AND M&H

No. /PS/M&H/KITS/2024 Date: /9/2024

CIRCULAR

Sub: I Semester -Allotment of Practicum topics– Reg.

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INSTRUCTIONS

Students:

1. The students should meet immediately the allotted course faculty for practicum and start working on the practicum with the guidance of course faculty.

2. To complete the Practicum, the student shall work in laboratories under supervision of allotted course faculty, in the allotted hours in the classwork timetable and also outside the class work hours during weekdays.

Practicum/Course Faculty:

1. The course faculty are advised to guide the allotted students for practicum during the semester course work.

2. In case of any clash in respect of practicum slot and practicum-faculty classwork, the practicum faculty should allot 4.00 p.m. to 6.00 p.m. slot to their practicum students on any full day. The same shall be informed to the class teacher, for record

Following is the practicum topics allotted to the I semester students of 1CSN section.

Section : 1CSN

Section: 1CSN Practicum topics

S.No	Roll Number of the Student	Practicum Topic Allotted	Practicum under the Course	Course Faculty
1	B24CN001	Exploring the Convergence of Geometric Series and its applications to Network Engineering.	U24MH101	Dr.D.Ramesh
2	B24CN002	Convergence of Harmonic series and its applications to Computer Networks	U24MH101	Dr.D.Ramesh
3	B24CN003	Rolle's theorem application to Computer Networks: Optimizing network performance and resource allocation.	U24MH101	Dr.D.Ramesh
4	B24CN004	Lagrange's mean value theorem (LMVT) application to estimate the maximum or minimum stock price over a given time interval.	U24MH101	Dr.D.Ramesh
5	B24CN005	Partial derivatives and its application to a moving particle in 3D space.	U24MH101	Dr.D.Ramesh

6	B24CN006	Applications of Jacobians to computer science Engineering.	U24MH101	Dr.D.Ramesh
7	B24CN007	Applications of Lagrange's method of undermined multipliers to control system.	U24MH101	Dr.D.Ramesh
8	B24CN008	Differential equations of first order and first degree applications-Modelling of Population growth.	U24MH101	Dr.D.Ramesh
9	B24CN009	Differential equations applications-Modelling of population decline.	U24MH101	Dr.D.Ramesh
10	B24CN010	Differential equations of first order and first degree applications-Electrical circuits: Analyzing RL circuits	U24MH101	Dr.D.Ramesh
11	B24CN011	Differential equations of first order and first degree applications-Radioactive decay: Modelling the decay of radioactive substances	U24MH101	Dr.D.Ramesh
12	B24CN012	Application of Linear differential equations- Electrical Circuits: Analyzing RLC circuits.	U24MH101	Dr.D.Ramesh
13	B24CN013	Application of higher order Linear differential equations to Machine Learning	U24MH101	Dr.D.Ramesh
14	B24CN014	Effect of Pesticides on Agriculture Soil	U24CY102B	Dr.P.Prabhakara chary
15	B24CN015	Analysis of Nagaram Lake water at Hanamkonda	U24CY102B	Dr.P.Prabhakara chary
16	B24CN016	Investigate chemical characteristics of KITSW Well water	U24CY102B	Dr.P.Prabhakara chary
17	B24CN 017	Effect of plastic on Pedda wddepally Lake water at Kazipet	U24CY102B	Dr.P.Prabhakara chary
18	B24CN018	Purification of Borewell water by Reverse Osmosis(RO)	U24CY102B	Dr.P.Prabhakara chary
19	B24CN019	Investigation of sustainable polymer composites from Agricultural waste	U24CY102B	Dr.P.Prabhakara chary
20	B24CN020	Investigation of corrosion on copper metal and its inhibition	U24CY102B	Dr.P.Prabhakara chary
21	B24CN021	Chemical analysis of Devaadula water before and after purification	U24CY102B	Dr.P.Prabhakara chary
22	B24CN022	Analysis of Fluoride in Well water and Bore well water	U24CY102B	Dr.P.Prabhakara chary
23	B24CN023	**Electrochemical studies on degradation of in organic pollutants**	U24CY102B	Dr.P.Prabhakara chary
24	B24CN024	Chemical characterisation of Precious metals from e-waste	U24CY102B	Dr.P.Prabhakara chary
25	B24CN025	Characterisation of thermal properties in advanced ceramic materials	U24CY102B	Dr.P.Prabhakara chary
26	B24CN026	Investigation of Corrosion resistance in stainless steel Alloys	U24CY102B	Dr.P.Prabhakara chary
27	B24CN027	Design and Simulation of full adder using Verilog HDL	**U24CI111**	Dr.B.Jeevan

28	B24CN028	Design and Simulation of full subtractor using Verilog HDL	**U24CI111**	Dr.B.Jeevan
29	B24CN029	Design and Simulation of 4-bit parallel adder using Verilog HDL	**U24CI111**	Dr.B.Jeevan
30	B24CN030	Design and Simulation of 4-bit parallel subtractor using Verilog HDL	**U24CI111**	Dr.B.Jeevan
31	B24CN031	Design and Simulation of 4-bit binary to gray code converter using Verilog HDL	**U24CI111**	Dr.B.Jeevan
32	B24CN032	Design and Simulation of 4-bit gray to binary code converter using Verilog HDL	**U24CI111**	Dr.B.Jeevan
33	B24CN033	Design and Simulation of 8-1 multiplexer converter using Verilog HDL	**U24CI111**	Dr.B.Jeevan
34	B24CN034	Design and Simulation of 3-8 decoder using Verilog HDL	**U24CI111**	Dr.B.Jeevan
35	B24CN035	Design and Simulation of 8-3 encoder using Verilog HDL	**U24CI111**	Dr.B.Jeevan
36	B24CN036	Design and Simulation of 8-3 priority encoder using Verilog HDL	**U24CI111**	Dr.B.Jeevan
37	B24CN037	Design and Simulation of 2-bit digital comparator using Verilog HDL	**U24CI111**	Dr.B.Jeevan
38	B24CN038	Design and simulation of Master slave JK flip-flop using Verilog HDL	**U24CI111**	Dr.B.Jeevan
39	B24CN039	Design and simulation of 4-bit Asynchronous binary counter using Verilog HDL	**U24CI111**	Dr.B.Jeevan
40	B24CN040	Develop a Menu driven C program to manage books in a library, including adding, removing, and searching for books using pointers, Structures and Files.	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
41	B24CN041	Develop a Menu driven C program with pointers on sorting the elements using Bubble sort, Selection Sort, Insertion Sort. Merge sort & quick sort and compare the Time complexity & Space complexities (mention in the report)	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
42	B24CN042	Develop a Menu driven C program to search an element from the given elements using Linear search, Binary search and Fibonacci search and compare the Time complexity & Space complexities (mention in the report)	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
43	B24CN043	Develop a Menu driven C program to implement Electricity Bill generation to a customer using structures, pointers and files Example tariff rates: For first 50 units Rs. 0.50/unit For next 100 units Rs. 0.75/unit For next 100 units Rs. 1.20/unit For unit above 250 Rs. 1.50/unit An additional surcharge of 20% is added to	**U24CS104**	**Dr. V. Chandra Shekhar Rao**

		the bill.		
44	B24CN044	Develop a Menu driven program to matrix operations using pointers for given two matrices The matrix operations are addition,subtraction,transpose, multiplication, check symmetric or not, check unit matrix or not	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
45	B24CN045	Develop a C program using pointers : Given a string str containing only lowercase characters. The task is to print the characters having an even frequency in the order of their occurrence. Note: Repeated elements with even frequency are printed as many times they occur in order of their occurrences. Input: str= "aeroplane" Output: aeae **Approach:** Create a frequency array to store the frequency of each of the character of the given string str. Traverse the string str again and check whether the frequency of that character is even. If yes, then print the character.	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
46	B24CN046	Develop a C program using pointers : Given a string str containing only lowercase characters. The task is to print the characters along with their frequencies in the order of their occurrence in the given string. **Examples:** Input: str = "geeksforgeeks" Output: g2 e4 k2 s2 f1 o1 r1 Input: str = "helloworld" Output: h1 e1 l3 o2 w1 r1 d1 **Approach:** Traverse the given string character by character and store the frequencies of all the strings in a LinkedHashMap which maintains the order of the elements in which they are stored. Now, iterate over the elements of the LinkedhashMap and print the contents.	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
47	B24CN047	Develop a C program using pointers : Given a positive integer N, the task is to print the Lower Hessenberg matrix of order N which includes any one-digit random positive integer as its non-zero elements. Lower Hessenberg matrix is a square	**U24CS104**	**Dr. V. Chandra Shekhar Rao**

		matrix in which all of its elements above the super-diagonal are zero. In mathematical term mat[i][j] = 0 for all j > i + 1. Examples: Input: N = 3 Output: 1 2 0 1 3 4 2 3 4		
48	B24CN048	Consider an Input File, which contains bio-data of yours should be minimum of 100 characters. Bio data consists Student name, address,phone_number, qualification and phone_num Print the details such as Order of Repeated Characters (in ascending), Most Repeated Vowel in the file , Total Number of Vowels. **Develop the above application using structures and files**	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
49	B24CN049	Develop a menu driven C program to perform the functionality for given number and the Number System Conversion is mentioned below using pointers: **Decimal to Binary** **Binary to Decimal** **Decimal to Octal** **Octal to Decimal** **Hexadecimal to Binary** **Binary to Hexadecimal**	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
50	B24CN050	Develop a menu driven program to perform the functionality for given number - a) Sum of Bitwise AND of sum of pairs and their Bitwise AND from a given array Hint: Input: arr[] = {8, 9} Output: 0 Explanation: The only pair from the array is (8, 9). Sum of the pair = (8 + 9) = 17. Bitwise AND of the pairs = (8 & 9) = 8. Therefore required Bitwise AND = (17 & 8) = 0. Input: arr[] = {1, 3, 3} Output: 2 Explanation: Pair (1, 3): Required Bitwise AND = (1 + 3) & (1 & 3) = (4 & 1) = 0. Pair (3, 3): Required Bitwise AND = (3 + 3) & (3 & 3) = (6 & 3) = 2.	**U24CS104**	**Dr. V. Chandra Shekhar Rao**

		Therefore, total sum = 0 + 0 + 2 = 2.		
51	B24CN051	Develop a menu driven C program to perform then following operation using pointers 1. Reading a String 2. Reverse a String 3. Check the given String is Palindrome or not 4. Number of occurrences of each character 5. Search a Sub string	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
52	B24CN052	Develop a menu driven C program to Employee pay roll systems using structures and files(Random access) Which consists of 1. Store and Read the N number of employees information 2. Calculate and generate monthly pay slip report randomly required employee, Search a particular record for information display	**U24CS104**	**Dr. V. Chandra Shekhar Rao**
53	B24CN053	My favorite R.K.Narayan novel	U24MH105	Dr.D.Vidyanath
54	B24CN054	My role in social responcibility	U24MH105	Dr.D.Vidyanath
55	B24CN055	Autobiography of A.P.J.Kalam	U24MH105	Dr.D.Vidyanath
56	B24CN056	Village previlages	U24MH105	Dr.D.Vidyanath
57	B24CN057	Pandemic changed life	U24MH105	Dr.D.Vidyanath
58	B24CN058	Temple construction methods of the Kakatiyad	U24MH105	Dr.D.Vidyanath
59	B24CN059	Iam a strong feminist	U24MH105	Dr.D.Vidyanath
60	B24CN060	Conventional games	U24MH105	Dr.D.Vidyanath
61	B24CN061	Jathara at my village	U24MH105	Dr.D.Vidyanath
62	B24CN062	Unknown facts of valmidi	U24MH105	Dr.D.Vidyanath
63	B24CN063	Ramappa temple a world heritage site	U24MH105	Dr.D.Vidyanath

64	B24CN064	Themes of the movies		Dr.D.Vidyanath
65	B23CN063	Hanmakonda a jain center	U24MH105	Dr.D.Vidyanath

Signature of the Course Faculty