No. SEM-II /PS/M&H/KITS/2025   Date: 27/01/2025

CIRCULAR

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

Allotment of Practicum topics to students the Section: ......2ME....

S.No.	Roll number of the student	Practicum topic allotted	Practicum under the course	Course faculty
1	B24ME001	Investigate on the properties of quantum dots and their applications in mechanical engineering.	U24PY202A Engineering Physics	Dr. K.Srinivas
2	B24ME002	Development and optimization of a nickel electroplating setup for improved surface properties	U24PY202A Engineering Physics	Dr. K.Srinivas
3	B24M003	Study on the Taguchi design of experiments method and its usage in optimizing industrial process of nickel electroplating	U24PY202A Engineering Physics	Dr. K.Srinivas
4	B24ME004	Explore the principles of laser interferometry and its applications in precision measurements	U24PY202A Engineering Physics	Dr. K.Srinivas
5	B24ME005	Investigating the potential of 3d-printed blades for enhancing small wind turbine efficiency in residential applications	U24PY202A Engineering Physics	Dr. K.Srinivas
6	B24ME006	Investigate the mechanical and electrical properties of carbon nanotubes and their potential applications	U24PY202A Engineering Physics	Dr. K.Srinivas
7	B24ME007	Beyond Trial and Error: Application of Taguchi's design of experiments for analysing wear in pin-on-disc Tribo tester	U24PY202A Engineering Physics	Dr. K.Srinivas
8	B24ME008	Exploring the use of smart materials in mechanical engineering applications	U24PY202A Engineering Physics	Dr. K.Srinivas
9	B24ME009	Investigate common issues affecting solar panel efficiency and develop solutions to mitigate them	U24PY202A Engineering Physics	Dr. K.Srinivas

10	B24ME010	Fabrication of metal matrix composites Through powder metallurgy route	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
11	B24ME011	Production of metal matrix composites by Stirr Casting process.	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
12	B24ME012	Mechanical Characteristics and Wear Behavior of Al-SiC composite.	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
13	B24ME013	Hybrid Metal Matrix Composites Fabricated Through Powder Metallurgy Route.	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
14	B24ME014	Effect of Heat Treatment on Properties of AA 2024.	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
15	B24ME015	Effect of heat treatments on the microstructure and mechanical properties of Al alloy.	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
16	B24ME016	Effect of Heat Treatment on Microstructure and Mechanical Properties of Steel	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
17	B24ME017	Fabrication of polymer matrix composite by additive manufacturing process.	U24ME203 Engineering Materials and Metallurgy	Dr. P. Prabhakar Rao
18	B24ME018	**Building a Phonebook** To use an array data structure to store people's information, such as their names and phone numbers. This application will help you add, view, edit, and delete contacts and also provide functionality for searching contacts based on various criteria, like names.	U24ME204 Data Structures Through C	Mr. S.Ramesh
19	B24ME019	**Build a calculator** Build a calculator with data structure and algorithms to perform basic mathematical operations like addition,	U24ME204 Data Structures Through C	Mr. S.Ramesh

		subtraction, multiplication, and division. The system will accept user input for two numbers, perform required operation, and display you the result.		
20	B24ME020	**Students grade checker** To calculate and display students' grades based on their scores in various subjects. It can use a hash table to store and retrieve grades efficiently, and stores data as key-value pairs where students' name or IDs is the 'key' and their grades are the 'value.'	U24ME204 Data Structures Through C	Mr. S.Ramesh
21	B24ME021	**Sudoku Solver** To fill a grid while adhering to specific rules, making this the perfect challenge for applying recursion and backtracking in a fun way. It's an excellent way to learn constraint satisfaction problems.	U24ME204 Data Structures Through C	Mr. S.Ramesh
22	B24ME022	**Banking management system** To create an application that will replicate banking operations like account creation, balance inquiry, deposit and withdrawal of funds, and transfer of money. It requires designing and implementing data structures to store and manage account information efficiently and developing algorithms to handle banking transactions securely and accurately.	U24ME204 Data Structures Through C	Mr. S.Ramesh
23	B24ME023	**Task Scheduler** To prioritize tasks based on urgency and importance and dynamically implement algorithms to schedule tasks based on their deadlines or priority levels.	U24ME204 Data Structures Through C	Mr. S.Ramesh
24	B24ME024	**Building a crossword puzzle game** To train students to build a crossword puzzle game that can generate and solve various puzzles. It will take a list of words, generate a crossword grid, and place the words in an	U24ME204 Data Structures Through C	Mr. S.Ramesh

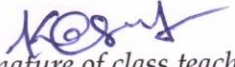|				
		interlocking pattern. It will also help users find and fill in the missing words depending on clues and the interlocking pattern of the grid.		
25	B24ME025	**Library management system** To efficiently manage library operations like cataloging books, tracking book borrowing and returns, member record maintenance, generating reports on library statistics, etc.	U24ME204 Data Structures Through C	Mr. S.Ramesh
26	B24ME026	Simulation of an electrical circuit to determine the current, voltage and power using mesh analysis and verify the same with nodal analysis.	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
27	B24ME027	Determine the Phase angle and current for a given R-L-C series circuit using Arduino.	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
28	B24ME028	Measurement of 3-phase power for star or delta connected load	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
29	B24ME029	Analysis of half-wave and full-wave rectifier	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
30	B24ME030	LED blink test using Arduino	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
31	B24ME031	Solar Photovoltaic Simulation in MATLAB/Python	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
32	B24ME032	Control of DC motor using Arduino	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
33	B24ME033	Simulation of Input and output characteristics of BJT using MATLAB	U24EE205A Basic Electrical and Electronics Engineering	Dr. A. Rajasekhar
34	B24ME034	Development of a Waste Reduction and Minimization Plan for Institution	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao
35	B24ME035	Smart Air Purifiers: Integration of IoT for Real-Time Monitoring and Control.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao
36	B24ME036	"Developing a Cost-Effective Model for E-Waste Collection and Recycling.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao

37	B24ME037	Sustainable Materials and Processes in Electronic Manufacturing: A Green Chemistry Perspective.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao
38	B24ME038	Sustainable Nanomaterials for Eco-Conscious Electronics Fabrication.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao
39	B24ME039	Catalyst Optimization for Cleaner and Greener Electronic Component Assembly.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao
40	B24ME040	Technology-Driven Approaches to Monitoring Biodiversity in Protected Areas.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E.Kalyan Rao
41	B24ME041	Investigating the Effects of Climate Change on Ecosystem Services.	U24CY206 ENVIRONMENTAL STUDIES	Dr. E. Kalyan Rao
42	B24ME042	Rank correlation: Estimating rank correlation between two variables.	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
43	B24ME043	Matrix application to a quadratic population model.	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
44	B24ME044	Application of Newton's law of cooling: Studying the temperature distribution in human body under specified conditions.	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
45	B24ME045	Eigen value problems arising from population models (Leslie model).	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
46	B24ME046	Simultaneous differential equations with application to real world problems.	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
47	B24ME047	Geometric series application to a bouncing ball problem.	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
48	B24ME048	Approximation solution with Taylor's method and Picard's method.	U24MH201 Matrix Theory and Vector Calculus	Dr.V. Anand
49	B24ME049	Application of Matrix theory: Single value decomposition method.	U24MH201 Matrix Theory and Vector Calculus	Dr.V.Anand

Note:

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.

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

(Signature of class teacher)

Dr. K. Srinivas

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