

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

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 are the practicum topics allotted to the II semester students of IT section.

Section : 2

S. No.	Roll number of the student	Practicum topic allotted	Practicum under the course	Course faculty
1	B24IT065	Metal Detector	EP	Dr.P.Srinivasa Rao
2	B24IT066	Proximity Sensor	EP	Dr.P.Srinivasa Rao
3	B24IT067	3D-Hologram	EP	Dr.P.Srinivasa Rao
4	B24IT068	LED Flasher	EP	Dr.P.Srinivasa Rao
5	B24IT069	DC Motor driver	EP	Dr.P.Srinivasa Rao
6	B24IT070	Blinking LED	EP	Dr.P.Srinivasa Rao
7	B24IT071	Automatic Night light	EP	Dr.P.Srinivasa Rao
8	B24IT072	Infinity Mirror	EP	Dr.P.Srinivasa Rao
9	B24IT073	Vibration Sensor	EP	Dr.P.Srinivasa Rao
10	B24IT074	Anti theft alarm using Laser	EP	Dr.P.Srinivasa Rao
11	B24IT075	Real time water level indicator	EP	Dr.P.Srinivasa Rao

12	B24IT076	Implement a program that fetches a "virtual instruction" from memory (an array), decodes it, and performs the operation	CAO	Dr.B.Kiran Kumar
13	B24IT077	Simulate 1-bit branch prediction and handling delays	CAO	Dr.B.Kiran Kumar
14	B24IT078	Simulate 2-bit branch prediction and handling delays.	CAO	Dr.B.Kiran Kumar
15	B24IT079	Performance analysis of execution time with and without pipelining	CAO	Dr.B.Kiran Kumar
16	B24IT080	Simulate direct mapping	CAO	Dr.B.Kiran Kumar
17	B24IT081	Simulate Associative mapping	CAO	Dr.B.Kiran Kumar
18	B24IT082	Simulate Set Associative mapping	CAO	Dr.B.Kiran Kumar
19	B24IT083	Performance analysis with and without cache memory	CAO	Dr.B.Kiran Kumar
20	B24IT084	Simulate the operations of datapath	CAO	Dr.B.Kiran Kumar
21	B24IT085	Simulate the functionality of DMA	CAO	Dr.B.Kiran Kumar
22	B24IT086	Simulate page replacement algorithm for cache memory	CAO	Dr.B.Kiran Kumar
23	B24IT087	Building a Phonebook	DS	Prof.P.Kamakshi
24	B24IT088	Build a calculator	DS	Prof.P.Kamakshi
25	B24IT089	Students grade checker	DS	Prof.P.Kamakshi
26	B24IT090	Plagiarism detection system	DS	Prof.P.Kamakshi
27	B24IT091	Banking management system	DS	Prof.P.Kamakshi
28	B24IT092	Travel planner using Graph	DS	Prof.P.Kamakshi
29	B24IT093	Building crossword puzzle game	DS	Prof.P.Kamakshi
30	B24IT094	Library management system	DS	Prof.P.Kamakshi
31	B24IT095	Sudoku Solver	DS	Prof.P.Kamakshi
32	B24IT096	Task Scheduler	DS	Prof.P.Kamakshi
33	B24IT097	Job Scheduling Algorithm	DS	Prof.P.Kamakshi
34	B24IT098	Verification of mesh analysis using MATLAB-SIMULINK or PSPICE	BEE	Dr.D.Rakeshchandra
35	B24IT099	Nodal analysis using MATLAB	BEE	Dr.D.Rakeshchandra
36	B24IT100	Voltage and current relationships between line & phase quantities for balanced 3-phase star connections.	BEE	Dr.D.Rakeshchandra
37	B24IT101	LED blink test using Arduino using TINKERCAD	BEE	Dr.D.Rakeshchandra
38	B24IT102	Verification of Superposition theorem using MATLAB-SIMULINK	BEE	Dr.D.Rakeshchandra
39	B24IT103	Verification of Maximum Power Transfer theorem using MATLABSIMULINK	BEE	Dr.D.Rakeshchandra
40	B24IT104	Verification of nodal analysis using MATLAB-SIMULINK or PSPICE	BEE	Dr.D.Rakeshchandra
41	B24IT105	Mesh analysis using MATLAB	BEE	Dr.D.Rakeshchandra
42	B24IT106	Voltage and current relationships between line & phase quantities for balanced 3-phase delta connections.	BEE	Dr.D.Rakeshchandra
43	B24IT107	Interfacing sensors with Arduino using TINKERCAD	BEE	Dr.D.Rakeshchandra
44	B24IT108	Efficiency calculation of a transformer using open circuit &	BEE	Dr.D.Rakeshchandra

		short circuit test		
45	B24IT109	Water Quality Assessment: Monitor and analyze physical, chemical, and biological parameters of water samples from different sources.	ES	Dr.M.Ranadheer Kumar
46	B24IT110	Rainwater Harvesting: Design and implement a rainwater harvesting system for a small community or institution.	ES	Dr.M.Ranadheer Kumar
47	B24IT111	Air Quality Monitoring: Measure and analyze air pollutants (e.g., PM2.5, NO2, SO2) in different locations.	ES	Dr.M.Ranadheer Kumar
48	B24IT112	Waste Characterization: Analyze the composition of municipal solid waste and identify opportunities for reduction and recycling.	ES	Dr.M.Ranadheer Kumar
49	B24IT113	Design of Waste-to-Energy Systems: Develop and evaluate the technical and economic viability of waste-to-energy conversion technologies	ES	Dr.M.Ranadheer Kumar
50	B24IT114	Soil Erosion and Conservation: Investigate soil erosion processes and design conservation measures (e.g., terracing, afforestation).	ES	Dr.M.Ranadheer Kumar
51	B24IT115	Renewable Energy Systems: Design and evaluate the performance of renewable energy systems (e.g., solar, wind, biogas).	ES	Dr.M.Ranadheer Kumar
52	B24IT116	Investigating the Impact of Agricultural Runoff on Water Quality"	ES	Dr.M.Ranadheer Kumar
53	B24IT117	Assessment of Water Quality in Urban and Rural Areas"	ES	Dr.M.Ranadheer Kumar
54	B24IT118	Simplifying Circuits using Elementary Matrix Transformations	MTVC	Dr.S.VishwaPrasad Rao
55	B24IT119	Applying Normal Form to Optimize Machine Learning Algorithm	MTVC	Dr.S.VishwaPrasad Rao
56	B24IT120	Analyzing the Stability of Dynamical Systems using Eigen values	MTVC	Dr.S.VishwaPrasad Rao
57	B24IT121	Double Integrals in Computer Science: A Case Study on Image Processing	MTVC	Dr.S.VishwaPrasad Rao
58	B24IT122	Evaluating Triple Integrals for Volume and Mass Calculations	MTVC	Dr.S.VishwaPrasad Rao
59	B24IT123	Applications of the Beta Function in Statistics: A Case Study	MTVC	Dr.S.VishwaPrasad Rao
60	B24IT124	Linear Dependence and Independence in Signal Processing:	MTVC	Dr.S.VishwaPrasad Rao

		A Case Study		
61	B24IT125	Investigating the physical interpretation of divergence in fluid dynamics	MTVC	Dr.S.VishwaPrasad Rao
62	B24IT126	Curl in Fluid Dynamics: A Physical Interpretation of Vortex Motion	MTVC	Dr.S.VishwaPrasad Rao
63	B24IT127	Line Integrals in Mechanics: A Case Study on Work and Energy	MTVC	Dr.S.VishwaPrasad Rao
64	B24IT128	Application of Gauss Divergence Theorem to Evaluate Flux in Electric and Magnetic Fields	MTVC	Dr.S.VishwaPrasad Rao



(Signature of class teacher)
Dr. P.Srinivasa Rao