Demo topics for Guest Lecturer DBRAIT 2020-21

DEPARTMENT	DEGREE	Practical(Degree)	DIPLOMA	Practical(diploma)	PTI
CSE			1. Java Programming: Multithreading 2. Computer networks: Error Detection & Correction, Routing Algorithm 3. GUI Application Development using VB Net: Working Datasets & Data grid Control 4. Emerging Trends in Computer and Information technology: IOT and Its application. 5. Web Page Designing with HTML: Website Hosting 6. Computer Peripheral and Hardware Maintenance: Structures in C 7. Programming in C: Working with Arrays using Pointers	1. Computer Network: Configuring LAN 2. Web Page Designing with HTML: Host a website using HTML & CSS. 3. Computer Peripheral and Hardware Maintenance: Hardware Troubleshooting 4. Programming in C: manipulate a 2 Dimension Array using Pointers, Programming with Structures.	1. Computer Network: Configuring LAN 2. Web Page Designing with HTML: Host a website using HTML & CSS. 3. Computer Peripheral and Hardware Maintenance: Hardware Troubleshooting 4. Programming in C: manipulate a 2 Dimension Array using Pointers, Programming with Structures.
Civil	1. Engineering Mechanics Moment of Inertia. 2. Environmental Engineering: water treatment process 3. Surveying: Contouring 4. Concrete Technology: Specific gravity of coarse aggregate.		1. Theory of structures: Bending, moment and fixed beam 2. Applied mechanics: Varignons theorem and its application 3. Geotechnical Engineering: Particle size distribution of soil. 4. Basic surveying: leveling.		1. Material testing Laboratory: cement, steel, aggregate 2. Geotechnical Laboratory: index properties. 3. Surveying laboratory: compass , levelling

Physics	1. Laser and fiber optics 2. Diffraction Grating and its application 3. Thermal properties and application 4. Nondestructive testing of materials. 5. Nano material properties and application.				1. To study the magnetic field along the Axis of a Circular Coil(STEWART) ANDGEE'S METHOD) 2. Determination of Diameter of a Thin Wire-Air Wedge Method 3. To determine(a) the wavelength of sodium vapour light/or (b) the radius of curvature of the surface of a plano –convex lens, by forming Newton's rings. 4. Determine the specific resistance of given wire. 5. Use Searle's method to determine the Young's modulus of given wire.
Chemistry	1. Conduction Polymers-classification and application. 2. Protective coating and its types in terms of corrosion 3. Super conductivity 4. Dielectric Polarization and Mechanism. 5. Crystal structure				1. Determine the pH value of given solution using pH meter and universal indicator. 2. Determine thinner content in oil paint. 3. Determine total hardness, temporary hardness and permanent hardness of water sample by EDTA method. 4. Standardization of KMnO4 solution using standard oxalic acid IV and determine the percentage of iron present in given Hematite ore by KMnO4 solution. 5. Determination of carbohydrates and bicarbonates in water.

HM			1. Explain different types of Menu 2. Describe the different types of services required for different outlet 3. Describe different surfaces and technical aspect of cleaning them with the aid of cleaning science hotel. 4. Describe various type of rooms and meals plan. 5. Describe Menu Engineering.		
Electrical			1. MESH/Nodal Analysis 2. A.C. Fundamentals 3. R-L-C Series circuit and series resonance 4. Measurement of single phase power using Dynamometer type wattmeter. 5. Construction and working principle of Transformer..	1. Certification of Kirchoff's law 2. Measurement of 3 –Φ power. 3. Stair case wiring on practice board. 4. Load test of a DC shunt motor 5. Slip measurement of a 3 –Φ Induction motor 6. GO down wiring.	1. Certification of Kirchoff's law 2. Measurement of 3 –Φ power. 3. Stair case wiring on practice board. 4. Load test of a DC shunt motor 5. Slip measurement of a 3 –Φ Induction motor 6. GO down wiring.
Electronics	1. Explain memory organization of 8051 microcontroller. 2. Explain OSI Security Architecture. 3. Describe the working principle of Hartley & Colpitt's oscillator. 4. Explain the block diagram of Satellite & optical fiber communication systems.	1. Computation linear & circular convolution program using MATLAB 2. Simulation of ON-OFF & voice traffic mode to simulate the ON-OFF traffic model & plot the	1. Explain the construction, working principle & V-I characteristics of SCR. 2. Describe various modes of serial communication. & addressing modes of 8051. 3. Explain the working of Bourdon Tube Bellows with neat diagram. 4. Explain the working of	1. Write an ALP to transfer data from source to destination location of external/internal data memory. 2. With the help of thermocouple measure the temperature. 3. Convert the AC signal into DC signal using Full Wave rectifier.	1. Using MATLAB, design FIR filter using frequency sampling. 2. FFT implementation using DSP processor. 3. Write a program for obstacle detector using ultrasonic sensor. 4. To set up a TD link using fiber optics & transmit the multiplexed audio & data 7 receive the same. 5. To set up a communication link

	5. Describe the working of 4-bit asynchronous counter. 6. Explain ARM architecture with respect to embedded system.	following waveform a) User number Vs ON period b) Time slot Vs number of users. 3. To design ADC & DAC interfacing using 8051 microcontroller. 4. Program to interface 8-bit LCD & switch interface. 5. Write an assembly language program to read digital from external peripheral & execute them with the target board.	transistor as an RC coupled amplifier.	4. Test the performance of Zener diode as voltage regulator.	using a microwave source & 2 antenna & to transmit receive signals (sine wave). 6. Write a program to measure voltage from 0 to 5 volts & displaying the value in 7 segment display.

Dean (Adacemics)
Academic Cell
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