Demo topics for Guest Lecturer DBRAIT 2020-21

DEPARTMENT	DEGREE	Practical(Degree)	DIPLOMA	Practical(diploma)	PTI
CSE	1. Language Translator Source program Analysis: Compliers-Analysis of the Source program-Phases of a Complirer- Cousins of Compiler-Grouping of phases-Complier construction tools. Lexical Analysis: Role of lexical analyzer-input buffering-specification of tokens-recognition of tokens-A language for specifying Lexical Analyzer. Parsing: role of Parser-Context free Grammars –Writing a grammar – predictive parser –LR parser.	Data Management system: Queries involving Union, Intersection, Difference, Cartesian product, Divide operations- sub Queries-Join Queries-Nested Queries-correlated Queries- Recursive Queries.	Software testing Acceptance testing, alpha testing, beta testing, regression testing, white box testing, black box testing.	Open source operating system & scripting language: Basic shell script programs	1. 'C' programming: Function, Printer structure, file handling 2. Data structure and Algorithms: Sorting, searching, linked list, procedure. 3. Web technology: Java script, server side programming using JSP and PHP, console & windows forms suing C#.Net 4. Hardware and networking: Assembling of a personal computer, circuit tracing, troubleshootin

					g-printer, PCI, USB, socket programming routing, switching
	2. Database Management System Database Design and the ER Model: overview of the design process-the Entity-Relationship model-constraints-Removing Redundant attributes-Entity-Relationship Diagrams-reduction to relational schemas. Relational Database Design: Features of good relational designs-Atomic Domains and first normal form-second normal form-Decomposition using functional dependencies-functional-Dependency theory-Algorithms for decomposition-Decomposition using multivalued Dependencies-	Data structure Singly linked list, doubly linked list, circular linked list, tree traversals, graph traversals.	Open source operating system & scripting language IP address configuration, process concept, process state, context switch, data structure of process.	Data Structure using C: Implementation of various sorting and searching operation in C.	
	3. Network protocols: Network Layers Protocols: IP, IPv6, ICMP, ICMPv6, Mobile IP, OSPF, RIP,	Computer programming Structures, pointers, file handling	Data Structure using C Stack and its operation, Application of Stack.	Applied Multimedia technology: Design	

	Multicasting protocol-BGMP, DVMRO,IGMR, and MPLS protocols.			wallpapers, posters, banners of the given theme	
Physics	1. Factor affecting acoustics of building and their remedies 2. Dispersive power of grating 3. Laser-principles and its types 4. Nuclear fusion reaction for fusion reactors. 5. Nondestructive testing and tis various methods. 6. Photoelectric cell and LDR(Principle, working and application)	1. To study of magnetic field along the axis of A circular coil(STEWART AND GEE'S METHOD). 2. Determination of Diameter of A thin wire-Air Wedge Method. 3. Determine the specific resistance of given wire. 4. Use searle's method to determine the young's module of given wire. 5. Velocity of sound using resonance column.			
Mathematics	1. Differentiation fo Implicit function 2. Multiple integral 3. Euler's linear differential equation of higher order. 4. Gauss divergence theorem. 5. Fourier's sine and cosine transforms. 6. Cauchy's integral				

	theorem and application. 7. Classification if stochastic process.				
Chemistry	1. Types of Polymerization reaction. 2. Conduction polymers- classification and application. 3. Definition and derivation of phase rule. 4. Hardness of water- determination and desalination process. 5. Alloys- ferrous and nonferrous alloys. 6. Factors influencing corrosion and its corrective measures. 7. Fuels.	1. Determination 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. Determination of carbonates and bicarbonates in water. 5. Estimation of available chlorine in bleaching powder.			
HM			1. PROTEIN- CLASSIFICATIO N SOURCES 2. CARBOHYDRAT ES- CLASSIFICATIO N , SOURCES 3. FAT-		1. Gueridon service 2. Methods of cooking 3. Hotels and its types 4. reservations

			CLASSIFICATION, SOURCES 4. VITAMINS-CLASSIFICATION, SOURCES.		
Electrical					Electrical machine lab 1 perform an experiment on a given DC shunt motor and plot the graph between armature current and speed at different loads. 2. perform an experiment and calculate the slip of given 3 pH induction motor. Electrical measurement lab 1. Perform an experiment to measure the power in a three phase circuit by two wattmeter method. Electrical workshop 1. Fabricate a circuit on wiring practice board for go-down wiring. 2 Fabricate a circuit on

					wiring practice board for stair case wiring.
Electronics					1. Design a Band pass & Band stop filter. 2. Design a clipper & clamper circuit. 3. Interface a 16x2 LCD display with 8051 microcontroller and display a message. 4. Perform V-I characteristics of a PN junction diode. 5. Write an ALP to arrange given numbers in ascending order using 8085 processor.