DEMO TOPICS FOR DEGREE/DIPLOMA PROGRAMME FOR APPOINTMENT OF GUEST LECTRUER AT DBRAIT FOR THE ODD TERM 2020-21

FACULTY	DEGREE TOICS	DIPLOMA TOPICS	PTI
CIVIL	**THEORY** 1. Analysis of in determinant beams 2. Sight distance 3. Theodolite traversing 4. Theory of bending 5. Collection & transport of sewage. **PRACTICAL** 1. CMTC Lab 2. Surveying Lab 3. Geo Tech Lab 4. Environmental Lab	**THEORY** 1. Mix design of concrete 2. Contour gradient 3. Super elevation **PRACTICAL** 1. CMTC Lab 2. Surveying Lab 3. Geo Tech Lab 4. Environmental Lab	
COMPUTER	**THEORY** 1. Computer Networks: Networking Layers-Routing Algorithms-Congestion control-Network security. 2. Data structures& Object Oriented Programming : Stacks-Trees-Graph-Tables. 3. Object Oriented programming & Design:Constructors and Destructors-Inheritance-Polymorphism and Virtual Functions-Exception Handling-Operations on File. 4. Computer Organization Architecture: Basic Structure of computer-Input/Output organization–the Memory system –Pipeline. 5. Language translator: System Software and Machine Structure Loader and Linkers-Parsing-Optimization. **PRACTICAL TOPICS** 1. Computer Networks i. Creation of a socket between two computers & enable	**THEORY** 1. Information Security: Introduction to Cyber Crimes – Hacking, Cracking, Viruses, Virus Attacks, Pornography, Software Piracy, Intellectual property, Legal System of Information Technology, Mail Bombs,Bug Exploits, Cyber Crime Investigation 2. Computer Security: Firewalls: Need for Firewall, limitations, characteristics. Types of Firewall : Hardware, Software, Packet filter, Proxy Server, Hybrid, Application gateways, circuit level gateway, Implementing Firewall 3. Computer Hardware & Networking: LCD monitor: functional block diagram of LCD monitor, working principle, Types-Passive matrix and Active matrix. Important characteristics - Resolution, Refresh rate, Response time. Comparison of CRT display and LCD display	1. Practical Topic's 2. OS installation 3. Hardware Trouble Shooting 4. Network Cabling and Troubleshoc 5. C Programming (i) Array (ii) Structures (iii) Pointer
5	ELECTRICAL	**THEORY** 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. Cerification of Kirchoff's law 2. Measurement of 3-∅ power. 3. Stair case wiring on practice board. 4. Loa test of a shunt DC motor 5. Slip measurement of a 3-∅ Induction motor. 6. Go down wiring.