Recruitment notice for Guest AP, Guest Lecturers, PTI

Selected candidates shall be eligible for an amount of Rs.1000/- per hr for theory and Rs.500/- per hr for practical classes not exceeding Rs.25,000/- per month for Guest AP (Degree Program) and Rs.250/- per hr for theory and Rs.125/- per hr for practical classes not exceeding Rs.10,000/- per month for Guest Lecturer (Diploma Program). For Part Time Instructor, Rs.150/- per hr for the practical classes not exceeding Rs.10,000/- per month. Selection will be based on the performance of the candidates in the Demo theory and practical class. The venue for theory demo will be AV Room of the Institute.

S. No.	Details of requirement	Course	Educational Qualification	Date and time
1	Guest AP (Civil Engineering)	Degree	B.E./B.Tech., and M.E.,/M.Tech., Civil Engg. from recognized university with first class or equivalent either in B.E.,/B.Tech., or M.E.,/M.Tech.,	29/07/2021 09:30 to 10:30 AM
2	Guest AP (Computer Science & Engineering)		B.E./B.Tech., and M.E./M.Tech. Computer Science Engg. From recognized university with first class or equivalent either in B.E./B.Tech., or M.E.,/M.Tech.,	29/07/2021 10:30 AM to 11:30 Noon
3	Guest AP (Electronics & Communication Engineering)		B.E./B.Tech., and M.E./M.Tech. Electronics & Communication Engineering from recognized university with first class or equivalent either in B.E./B.Tech., or M.E./M.Tech.	29/07/2021 11:30 to 12:30 PM
	Guest AP (Chemistry / Physics / Mathematics)		First class Master's Degree in appropriate subject with first class or equivalent at Bachelor's or Master's level	29/07/2021 01:30 to 02:30 PM
4	Guest Lecturer (Electronics and communication Engineering / Electrical / Mechanical)	Diploma	First class B.E./B.Tech., from recognized university in relevant course	30/07/2021 09:30 to 10:30 AM
5	Guest Lecturer (Computer Science / Information Technology / Civil Engineering)			30/07/2021 10:30 AM to 11:30 Noon
6	Guest Lecturer (Hotel Management)		First class Degree in Hotel Management & Catering Technology with 1 year Experience Or First class Diploma in Hotel Management and catering technology with 2 years' experience	31/07/2021 11:30 to 12:30 PM
7	Guest Lecturer (Hygiene and Nutrition)		First class Master's Degree in Hygiene and Nutrition	31/07/2021 09:30 to 10:30 AM
8	Guest Lecturer (English / Management / Accounts)		First class Master's Degree in appropriate subject with first class or equivalent at Bachelor's or Master's level	31/07/2021 10:30 AM to 11:30 Noon
9	Part time Instructors		1st class Diploma in ME/ CE / ECE / EE / HM / CSE	02/08/2021 09:30 AM to 11:30 Noon

Dean (Academics)

Demo topics for Guest AP, Guest Lecturer and Part Time Instructor DBRAIT 2021-22

DEPART-MENT	DEGREE	Practical(Degree)	DIPLOMA (Theory)	Practical(Diploma)	PTI
Civil	1.Structural engineering - a)mechanics of solids - 1 - bending stresses b) structural analysis 1 - moment distribution method 2. Environmental engineering :- Transportation of sewage 3. Geotechnical engineering 1:- One dimensional consolidation	1. Determination of quality of water 2. Test on cement / aggregate 3. Tacheometric survey 4. Test of steel	1.MOS - Shear force and bending moment diagram 2. PHE - Water treatment Process 3. CT - Specific gravity of course aggregate 4. Advanced Surveying - Traversing with theodolite	1. CT-Test for cement and aggregates 2. MOS - Test on steel 3. PHE- test for potability of water 4. Advanced Surveying-tacheometric survey	1. CT-Test for cement and aggregates 2. MOS - Test on steel 3. PHE- test for potability of water 4. Advanced Surveying-tacheometric survey
CSE	**1.Computer Programming** a) Recursion and arrays b) Pointers c) User defined data types **2. Computer Hardware and network trouble shooting** a) Desktop versus Laptop motherboards. b) Connectors – Switches- RTC/NVRAM batteries. c) Interrupts- DMA channels- I/O port addresses **3. Language Translator** a) Compilers- analysis of the source program-phases of a computer b) Context free grammars c) A language for specifying lexical analyzer	**1. Computer Network Lab** i. Creation of a socket between two computers and enable file transfer between them. Using (a.) TCP (b.) UDP ii. Creation of a socket between two computers and enable file transfer between them. Using (a.) TCP (b.) UDP iii. Broadcast /Multicast routing **2. Artificial Intelligence Lab** i. Water Jug Problem using DFS, BFS ii. Representation of Knowledge using Prepositional Logic and Querying iii. Forward chaining and Backward chaining **3. Computer Network and Hardware Troubleshooting** i. Assembling of a Personal	**1.Advance Java Programming:-**Delegation Event Model, Event sources, Event Listener Socket Programming. **2.Object Oriented Programming Using C++** :- Polymorphism in C++, File Operations **3.Data Structure Using 'C':-**Tree traversal.	**1.Advance Java Programming:-** Develop Program in java for client server communication. **2.Object Oriented Programming Using C++ :-**Develop programs for Operator overloading and function overloading. **3.Data Structure Using 'C':-** Develop program in C for various operations on a singly linked list. **4.Fundamental of ICT :-**Mail merge **5.Workshop Practices :-** Cabling, Assemble and Disassembly of PC.	1.Cabling 2.Assemble and Disassemble of various part of computer System. 3.OS installation 4.C/C++ program on pointer, structures.

		Computer ii. Circuit Tracing iii. Interfacing a timer/programmable I/O using PCI bus **4. Platform Technology Lab** i. Exception Handling, Multi-Threading in C#.Net ii. Database controls in VB.Net iii. Delegates in VB.Net and C#.Net **5. Computer Programming Lab** i) Recursion and Arrays ii) Pointers iii) User defined data types, files handling			
Physics	1. Ultrasonic Wave Production 2. Air wedge- Michelsion's interferometer 3. concept of double refraction 4. waves –debroglie wavelength 5. Nuclear Reactor 6. Application of Hall effect in the semiconductor 7. Super conductors and its application 8. Magnetic field and magnetic field Intensity	1. AIRWEDGE – Determination of thickness of given piece of sample 2. NEWTON'S RING- determination of wavelength of monochromatic light 3. YOUNGS MODULUS – determination of elasticity of a metallic wire 4. METER BRIDGE – determination of resistance of unknown resistance 5. determination of velocity of sound by resonance column			
English			1. Importance of public speaking 2. passage in written and spoken form		

			3. Preposition-usage 4. Active and Passive Voice 5. Importance Of Comprehension 6. Types of sentences 7. use of modern office equipment's and gadgets 8. Types of communication		
Accounts			1. Cash book 2. Ledger 3. Need for hotel accountancy system 4. Generation of night audit report 5. Depreciation-meaning, causes, fixed installment and diminishing balance method 6. Preparation of final accounts. 7. Book of original entry-Journals 8. Principles of double entry systems in accountancy and its advantages		
Manage ment			1. Needs for instruction and direction to subordinates 2. needs for safety management measures 3. Planning at supervisory level-planning , detailing and following each step		

			4. types of Organization –steps in organizing 5. Business plan preparation 6. Incubation centre-Role and Procedure 7. Intrapreuner and Entrepreuner 8. Market study procedures		
Mathematics	1. Lagrange method of undetermined multipliers 2. Area by double integration and volume by triple integration 3. First order linear differential equations 4. Partial fraction of proper and improper fraction. 5. Expansion of periodic function into fourier series 6. Solutions of linear simultaneous in the three unknown by cramers rule. 7. Point of intersection of two lines, equation of line passing through point of intersection with given condition				
Chemistry	1. Hardness Of Water 2. Polymer Properties 3. Vulcanization –Synthetic Rubber 4. Chemical and Electrochemical corrosion 5. Desalination process- reverse osmosis and Electrodyalisis 6. Moulding constituent of plastics and moulding techniques 7. Primary and secondary cells 8. Types of polymerization 9. Reactions	1. To determine the pH value of solution using pH meter and universal Indicator 2. Estimation of available chlorine in Bleaching powder 3. Determination of carbonates and bi carbonates in water 4. determination of percentage of iron present given Hematite			

		ore by KMno4 Solytion 5. Determination of Hardness of the sample water by EDTA method			
HM			1.Methos of cooking 2.Flower arrangement 3.Different types of hotel and room 4.Beer- Definition, manufacturing process and various international brands. 5.Regional cuisines of North west frontier	1. Basket Cookery 2. Table Layout & Food and Wine Pairing 3. Flower arrangement in different styles 4. Report generation	
Electrical			1. MESH and nodal analysis. 2. AC fundamentals 3. RLC series circuit and series resonance 4. Measurement of single phase using Dynamometer type wattmeter. 5. Construction and working principle of transformer	1. Verification of Kirchhoff's law. 2.Measurement of three phase power by two wattmeter method 3.Staircase wiring 4.Go down wiring 5.Load test on single phase transformer 6.Load test on three phase induction motor	
Electronics	1. Embedded Program Modeling Concept in C-Programming in Assembly language (APL) Vs. High Level Language. 2. Explain Optical Network – Principles ofSONET/ SDH and WDM. 3. Explain Mobile Internet Protocol and transfer layer. 4. Explain Mobile Computing Vs. Wireless Networking and Mobile Computing application.	1. To Construction and perform of DAC Circuits – R2R and ladder type. 2. To design the op-amp for differentiator and Integrator of various time constants. 3. To design a digital clock simulation using 8051/PIC microcontroller. 4. Design of m derived filter for measure frequency	1.Embedded Systems a) Characteristics, function & features of real time operating system b) Communication protocols. 2.Digital Techniques a) Modulo N counter using IC 7490 b) Master slave JK flip flop c) 4 bit ripple counter	1.Embedded Systems a) Execute the 'C" program to perform 8 bit addition b) Write a C program for 8 bit subtraction and execute it. c) Execute a C program to perform 16 bit addition 2.Digital Techniques	1. To characteristics of JFET (a) Determination of output and transfer characteristics. (b) Determination of voltage gain , current gain , input and output resistance from the characteristics. 2. To design of 8 bit processor for block

		and phase response of the m derived high pass filter. 5. To deign code conversion for 8085 microprocessor. 6. To realization of 4 to 16 line decoder using 3 to 8 line decoder ICs.	3.Control System a) Control system and its classification b) Block diagram of process control system and its control action 4. Basic Electrical & Electronics Engg. a) Input and output characteristics of CE, CB and CC transmitter configuration. 5.Data Communication a) OSI model layered architecture b) CRC error detection code c) Features of 4G and VoLTE.	a) Verify D and T flip flop b) Construct decade counter using IC 7490 c) Implement 4 bit ripple counter using IC 7476 d) Add two 8 bit numbers 3. Control System a) Use PID controller to control temperature of given process. b) Write the performance of transmitter amplifier circuit (use any configuration) c) Test the performance of PN diode and zener diode characteristics	operation using 8085 microprocessor. 3. To realization of 8 bit magnitude comparator using 4 bit magnitude comparator ICs. 4. To design and testing of biasing circuit (i) Fixed Bias (ii) Collector to base Bias (iii) Self Bias.

The demo topic for guest faculty and practical topic for Guest faculties and Part Time Instructors (PTIs) of Mechanical Engineering Department for the session 2021-22 is as follows.

Demo topics for Guest Faculty	**Practical topics for both Guest faculty & PTI**
1. Angle of projections. (first and third both) 2. Development of surfaces. 3. Losses in pipeline flow. 4. Mechanical drives systems. 5. Theories of failures. 6. Second law of thermodynamics. 7. Working principle of Differential unit. 8. Working of Electro Discharge Machining (EDM)	1. Conic Sections. 2. Isometric Projections. 3. Verification of Bernoulli's theorem. 4. Determination of Friction Factor. 5. Linear measurement by Vernier Calliper. 6. Angular measurements by Sine bar & slip gauges. 7. Determine the M.A, V.R, Efficiency, ideal effort & effort lost in friction, state & justify whether machine is reversible or not for a given **single purchase crab winch**. 8. Determine the M.A, V.R, Efficiency, ideal effort & effort lost in friction, state & justify whether machine is reversible or not for a given **Differential wheel & axle**.