



अंडमान तथा निकोबार प्रशासन
ANDAMAN & NICOBAR ADMINISTRATION
डॉ. भीमराव अंबेडकर प्रौद्योगिकी संस्थान
Dr. B.R. AMBEDKAR INSTITUTE OF TECHNOLOGY
(NAAC ACCREDITED)

पहाड गाँव पोर्ट ब्लेयर
अंडमान तथा निकोबार द्वीप समूह

PAHARGAON, PORT BLAIR- 744103
ANDAMAN & NICOBAR ISLANDS



Recruitment Notice for Guest Lecturers & Part Time Instructor

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 Lecturer (Diploma Program). For Part Time Instructor, Rs.750/- per day for the practical classes not exceeding Rs.18,000/- 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 Audio Visual Room (AV Room) of the Institute and practical skill test will be conducted by the concerned departments.

S. No.	Details of requirement	Educational Qualification	Date and time		
			Practical	Theory	
1	Guest Lecturer (HM)	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	10.07.2024 9:00 am to 12:00 noon	10.07.2024 02:00 pm to 02:30 pm	
2	Guest Lecturer (Civil)	First class B.E./B.Tech., from recognized university in relevant course	10.07.2024 9:00 am to 12:00 noon	10.07.2024 02:30 pm to 03:00 pm	
3	Guest Lecturer (Electrical)			11.07.2024 02:30 pm to 03:00 pm	
4	Guest Lecturer (CO/IT)			11.07.2024 03:00 pm to 03:30 pm	
5	Guest Lecturer (Chemistry)	First class Master's Degree in appropriate subject with first class or equivalent at Bachelor's or Master's level	10.07.2024 9:00 am to 12:00 noon	15.07.2024 02:30 pm to 03:30 pm	
6	Guest Lecturer (Physics)			-----	15.07.2024 03:30 pm to 04:15 pm
7	Guest Lecturer (English)				
8	Guest Lecturer (Accounts)				
9	Part time Instructors (CO/IT)	Bachelor Degree in relevant field from a recognised university OR Diploma in relevant field from a recognised university/ Board OR Senior secondary pass(10+2) in Science subject from a recognised educational/ Technical Institution OR Senior secondary pass(10+2) with vocational course certificate in an appropriate trade with 3 years practical experience	10.07.2024 9:00 am to 12:00 noon	-----	

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Dean (Academics)



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DR. B R AMBEDKAR INSTITUTE OF TECHNOLOGY, PORT BLAIR

DEMO TOPICS FOR GUEST FACULTY SELECTION PROCESS FOR THE SESSION 2024-25 (ODD SEM)

S.NO.	DEPARTMENT	DEMO TOPIC	
		THEORY	PRACTICAL
1	ECE (GL)	DIGITAL TECHNIQUES (a) Boolean Algebra: Laws of Boolean algebra, Duality theorem, De Morgan's Theorem (b) Encoder/Decoder: Basic of encoder decoder, comparison (IC7447) BCD to 7 segment decoder/Driver (c) SR flip flop: SR flip flop, clocked SR flip flop with preset and clear, drawback of SR flip flop	(a) Design full adder and full subtractor (b) Build /test function of RS flip flop using NAND gate (c) Build R2-R resistive network on breadboard to convert given digital data into analog. (d) Construct S-R, J-K, D and T flip flop and verify truth table
		BASIC ELECTRICAL & ELECTRONICS ENGG (a) Active and passive components; resistor, capacitor, inductor, symbol, colour code, specification. (b) voltage and current sources. (c) Integrated circuit-Analog and Digital (d) Input and Output characteristic: CE, CB and CC configuration. (e) Transistor Parameter: CB gain α , CE gain, input resistance, output resistance, relation, relation between α and β	(a) Test the performance of PN junction Diode. (b) Determine the value of given resistor using Digital multimeter to confirm with colour code (c) Test the performance of NPN transistor. (d) Test the performance of transistor as switch circuit. (e) Test the performance of transistor amplifier circuit.
		EMBEDDED SYSTEM (a) Feature of 89C51, PIC, AVR and ARM microcontroller with their application (b) Classification of embedded system: small scale, medium scale, sophisticated stand-alone, reactive /real time (soft and hard real time) (c) interrupt control program with 'embedded C' for given microcontroller (d) Max 232 as a bidirectional level converter (e) Features of RTOS: watch dog timer, semaphore	(a) Execute the 'C' program to perform following arithmetic operation on 8-bit data: addition, subtraction, multiplication. (b) Develop and test the 'C' program to perform data transfer from source to destination (use internal data memory location) (c) Interface RS 232 connector to PC using MAX 232 IC. (d) Identify the pin of 8051 and AVR microcontroller.
		ELECTRONICS MEASUREMENTS & INSTRUMENTATIONS (a) Fundamentals of Electronics measurements (b) Calibration : Need and meaning of calibration (c) CRO: Block diagram of CRO, CRT, vertical deflection system and horizontal deflection system, need of delay line, time base generator, amplitude and frequency measuring using CRO, Lissajous pattern for phase and frequency measurement	(a) Test the characteristic of potentiometer. (b) Use thermocouple to measure temperature of given liquid. (c) Use RTD (Pt-100) to measure temperature of given liquid.
2	CIVIL (GL)	Building Plan and Drawing- (a) Types of Lines (b) Principles of planning of residential & public building (c) Planning & design of doglegged staircase for residential and public buildings	Concrete Technology- (a) Test for aggregates (course & fine) (b) Test for cement (c) Test for concrete
		(a) Concrete Technology - Properties of concrete (b) Methods of testing - Mix design	Building Plan and Drawing- (a) Preparing various types of plan and section for a framed structure building (b) Working drawing of the framed structure (c) Planning of dog legged staircase for residential and public building
		Public Health Engineering- (a) Estimate the quantity water and waste water (b) Process of treatment of water and waste water (c) Physical and chemical characteristics of water and waste water	Public Health Engineering- (a) Test for portable water (common physical & chemical parameters) (b) Test for calculating optimum dosage of coagulant (c) Residual chlorine and chlorine demand test

3	EE (GL)	Mesh/ Nodal Analysis	Verification of Kirchoff's laws
		RLC series circuit & circuit resonance	Measurement of power in single phase AC circuit
		Measurement of single phase power using dynamometer wattmeter	Measurement of three phase power by two wattmeter method
		Construction and working principle of transformer	Determine the magnetising characteristic of an alternator at different loads
		parallel operation of transformer	Open circuit and short circuit test of single phase transformer to determine efficiency
		SF6 Circuit Breaker	Load test on three phase induction motor to determine efficiency
		Construction and working of Buchholz Relay	Perform an experiment to reverse the direction of DC Shunt motor
		Different types of line insulators in transmission & distribution system	Staircase wiring & Go down wiring
		Different types of single phase induction motors	Wiring of electrical circuit to control lamp, fan and socket on wiring practice board
		Over current and earth fault protection of alternators	Starting and running of single phase induction motor in forward & reverse direction
4	CO/IT (GL)	DATABASE MANAGEMENT Concept of Normalization (a) Functional Dependency (b) Database Anomaly (c) Normalization types Entity & Relationship Model (a) Entities (b) Relationship (c) Attributes Transaction in DBMS (a) ACID properties (b) States of transaction (c) Database backup	(a) Create & execute DDL commands (b) Create & execute DML commands (c) Solve queries using operator, function etc. (d) Implement programs in C++ using array of object (e) Implement programs in C++ using constructor and destructor (f) Shell programming using if, else, for statement (g) Implement programs in C using array (h) Implement programs in C using linked list
		COMPUTER GRAPHICS Line Drawing Algorithm (a) DDA algorithm (b) Bresenham's algorithm 2-D Transformation 3-D Transformation	
		OOPs (a) Constructors and Destructors (b) Classes and Objects	
		OPERATING SYSTEM CPU Scheduling Algorithm (a) FCFS (b) SJF (c) Priority (d) Round Robin	
		DATA STRUCTURE (a) Concept of ADT. (b) Array (c) Linked List	

5	ME (GL)	<ol style="list-style-type: none"> 1. Development of surfaces. 2. Intersection of solids (Cylinder to cylinder). 3. Losses in pipeline flow. 4. Types of Mechanical drives systems. 5. Theory of pure bending. 6. Second law of thermodynamics. 7. Investment Casting Process. 8. MPFI System. 9. Nuclear Power Plant. 10. Fundamentals of Hydraulic and Pneumatic systems. 	<ol style="list-style-type: none"> 1. Conic Sections. 2. Isometric Projections. 3. Orthographic Projection in AutoCAD. 4. Verification of Bernoulli's theorem. 5. Determination of Friction Factor. 6. Linear measurement by Vernier Calliper. 7. Angular measurements by Sine bar & slip gauges. 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 single purchase crab winch. 9. Determine the M.A, V.R, Efficiency, ideal effort & effort lost in friction, state & justify whether machine is reversible or not for a given double purchase crab winch. 10. 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.
6	MATHS (GL)	<ol style="list-style-type: none"> 1. Differentiation of implicit function 2. Lagrange method of undetermined multipliers 3. Area by double integration and volume by triple integration 4. First order linear differential equations 5. Partial fraction of proper and improper fraction. 6. Reduction of quadratic form into conical by orthogonal transformation 7. Expansion of periodic function into Fourier series 8. Solutions of linear simultaneous in the three variables by crammers rule. 9. Point of intersection of two lines, equation of line passing through point of intersection with given condition 10. Fourier's Transforms and its transverse 	
7	Physics (GL)	<ol style="list-style-type: none"> 1. Ultrasonic Wave Production 2. Lasers and fibre optics 3. Air wedge- Michelson's interferometer 4. concept of double refraction 5. Nanomaterials- its synthesis, Properties and Application 6. Non destructive testing of materials 7. Nuclear Reactor 8. Application of Hall effect in the semiconductor 9. Super conductors and its application 10. Magnetic field and magnetic field Intensity 	<ol style="list-style-type: none"> 1. To study the coefficient of thermal conductivity of bad conductor by using Lee's disc method/ 2. Determination of thickness of given piece of sample by airwedge method 3. Determination of wavelength of monochromatic light by using diffraction grating 4. Determination of elasticity of a metallic wire by using searle's apparatus 5. Determination of law resistance by using meter bridge \determination of velocity of sound by resonance column 6. To determine the radius of curvature of a planoconvex lens using newton's ring apparatus 7. To determine the refractive index of glass prism by using Pin method 8. To determine the buoyancy force on solid immersed in liquid(Archemiedies principle) 9. To determine the internal resistance of primary cell by using potentiometer 10. To calculate the magnetic moment and polestreth of a bar magnet by using vibration magnetometer.
8	Chemistry (GL)	<ol style="list-style-type: none"> 1. Conducting polymers – classification and application 2. Protective coating and its types in terms of corrosion 3. Vulcanization –Synthetic Rubber 4. Super conductivity 5. Desalination process- reverse osmosis and Electrolysis 6. Moulding constituent of plastics and moulding techniques 7. Different types of crystal structures with angle. 8. Qualitative idea of line, point surface and volume defect 9. How to calculate Co-ordination number and atomic radius of FCP and HCC unit cells 10. Dielectric polarization and Mechanism 	<ol style="list-style-type: none"> 1. To determine the pH value of solution using pH meter and universal Indicator 2. Determine thinner content in oil paint 3. Estimation of vinegar 4. Estimation of available chlorine in Bleaching powder 5. Estimate the chlorine content of given water sample 6. Estimation of magnesium by EDTA 7. Determination of carbonates and bi carbonates in water 8. determination of percentage of iron present given Hematite ore by KMno4 Solytion 9. Determination of Hardness of the sample water by EDTA method 10. Estimation of ferrous by permagnometry

9	English (GL)	<ol style="list-style-type: none"> 1. Strategies of effective communication 2. Importance of public speaking 3. passage in written and spoken form 4. comprehension of technical and non technical materials 5. Active and Passive Voice 6. Importance Of Comprehension 7. Phonetics 8. use of modern office equipments and gadgets 9. Types of communication 10. Use of articles in formulating sentences. 	
10	MANAGEMENT (GL)	<ol style="list-style-type: none"> 1. Needs for instruction and direction to subordinates 2. Preparation of balance sheet and profit-loss statement 3. needs for safety management measures 4. Planning at supervisory level-planning , detailing and following each step 5. types of Organization –steps in organizing 6. Business plan preparation 7. Incubation centre- Role and Procedure 8. Intrapreneur and Entrepreneur 9. Market study procedures 10. Total quality management 	
11	Accounts (GL)	<ol style="list-style-type: none"> 1. Cash book 2. Types of capital 3. Ledger 4. Need for hotel accountancy system 5. Generation of night audit report 6. Depreciation- meaning, causes, fixed installment and diminishing balance method 7. Preparation of final accounts. 8. Book of original entry-Journals 9. Principles of double entry systems in accountancy and its advantages 10. Direct and indirect taxes 	

12	HOTEL MANAGEMENT (GL)	Food Production: methods of cooking, menu planning, kitchen stewarding, Herbs, Oriental cuisine, continental cuisine, frozen desserts, fish cookery, salad dressing & salads, stocks & sauces	Plan & prepare a 03 course menu of your choice which should include a starter veg/non veg, one main course & a dessert
		Food & Beverage service: wine classification, meals, Gin (production & examples), gueridon services, types of service, alcoholic beverage, function catering, wines of france, tobacco, distillation of sprits	Plan & prepare a 05 course continental menu & lay the table according to it
		Housekeeping: checkout & guest bill settlement, laundry, contract cleaning & renovation, interior designing, importance of selling & techniques, flower aggrangement, ecotels, polishes & polishing types used in Hotel industry, housekeeping organization chart for different types of hotels, laundry cycle	Prepare a flower arrangement as per the theme given
		Front Office: Types of hotel, types of keys, check in check out procedures, guest cycle, reservation modes and sources, types of rooms, duties & responsibilities of front office staff, food plan & modes of payments, front office organization, night auditing & role of night auditor	Plan & prepare a role play for a fussy guest

DEMO TOPICS FOR PART TIME INSTRUCTOR SELECTION PROCESS FOR THE SESSION 2024-25 (ODD SEM)

S.No.	Department	Topic
1	CSE	C Programming Lab
		* Array and Structures
		* Pointers, Functions, Recursions
		* File Handling
		OS Installations
		Hardware and Networking
		Stack Data Structure
		Queue Data Structure
		Linked List
		Dynamic memory allocation
		Searching algorithm
		Sorting Algorithm
		Tree Data Structure
2	CO/IT	OS installation
		Hardware Trouble Shooting
		Network Cabling and Troubleshooting
		C Programming
		* Array * Structures * pointer