



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	Educational Qualification	Date and time	
			Practical	Theory
1	Guest Lecturer (Civil & CO/IT)	First class B.E./B.Tech., from recognized university in relevant course	20.07.2022 9:30 am to 11:30 am	21.07.2022 1:30 pm to 2:30 pm
2	Guest AP (ME)	B.E./B.Tech., and M.E./M.Tech., in relevant course from recognized university with first class or equivalent either in B.E./B.Tech., and M.E./M.Tech.	20.07.2022 9:30 am to 11:30 am	21.07.2022 2:30 pm to 3:00 pm
3	Guest AP (English)	First class Master's Degree in appropriate subject with first class or equivalent at Bachelor's or Master's level	-----	25.07.2022 (25.7.2022) 1:30 pm to 2:00 pm
4	Guest AP (Chemistry)		20.07.2022 9:30 am to 11:30 am	25.07.2022 2:00 pm to 2:30 pm
5	Guest AP (Physics)		20.07.2022 9:30 am to 11:30 am	25.07.2022 (25.7.2022) 2:30 pm to 3:00 pm
6	Part time Instructors (Physics) Chemistry	Bachelor Degree in Science from a recognised university 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	22.07.2022 9:30 am to 11:30 am	-----

Dean (Academics)



DEMO TOPICS FOR GUEST AP, GUEST LECTURER AND PART TIME INSTRUCTOR DBRAIT 2022-2023
(ODD SEMESTER)

DEPARTMENT	THEORY	PRACTICAL
GL (Civil)	- Highway engineering - Geometric design components of highways - Types of pavements - Advanced surveying - Theodolite traversing for given conditions - Methods of plane tabling for given situations - Public health engineering - Water treatment processes - Waste water treatment processes - Building construction - Types of foundation - Building communication & ventilation - Mechanics of structure - Compute the shear force & bending moments to arrive at the Shear force diagram, bending moment diagram for the given beam & load conditions. Locate the point of contra shear & point of contra flexure for the given SFD & BMD - Concept of compression member, short column, long column, effective length, radius of gyration, slenderness ratio, type of end conditions for columns, buckling of axially loaded columns	- Surveying Lab – measurement of angle - CMTC lab – test for concrete - Soil mechanics lab – index properties of soil
GL (CO/IT)	- Principle of database – normalization, ER model - Advanced java programming – socket programming, AWT - Client side scripting – function, cookies - Data structure – stack, queue - Computer graphics – windowing, clipping - Operating system – memory management	- Advanced java programming – - Write a program to implement chat server using Server Socket & Socket class - Design form with components list, choice, label, checkbox, text field - Client side scripting –

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	7. Software testing = test management, defect management 8. Object oriented programming using C++ - inheritance & its types 9. Advance computer network – IP addressing, transition from IPv4 to IPv6 10. Database management system – triggers, transaction processing	➤ Develop java script o implement function ➤ Develop a webpage for creating session & persistent cookies 3. Applied multimedia techniques – ➤ Design wallpaper showing water drop effects of an image ➤ Design poster using different text effect ➤ Develop webpage which shows animation with sound effect 4. Data structure – radix sort, binary searching 5. Computer graphics – DDA, Bresenham's algorithm 6. Operating system – CPU scheduling (FCFS) 7. Workshop practices – assemble & disassemble of various part of computer systems 8. Object oriented programming using C++ - ➤ Implementing the concept of multiple inheritances based on the given scenario ➤ Implement the concept of copy constructor 9. Advance computer network – ➤ Configure OSPF & RIP using packet tracer ➤ Establish a client-server architecture using IPv6 addressing in packet tracer 10. Database management system – ➤ Implementing trigger for insert, updating & deleting from the database ➤ Design a database based on the given requirement and execute required DML commands by following referential integrity constraints if required
GAP (ME)	1. Angle of projection (1 st & 3 rd) 2. Development of surfaces 3. Losses in pipeline flow 4. Mechanical drives systems 5. Theories of failures	1. Conic sections 2. Isometric projections 3. Orthographic projection in Auto CAD 4. Verification of Bernoulli's theorem 5. Determination of friction factor



	6. Second law of thermodynamics 7. Working principle of differential unit 8. Working of electro discharge machining (EDM) 9. Basic mechatronics systems 10. Hydraulics & pneumatic systems	6. Linear measurement by Vernier Calliper 7. Angular measurements by sine bar & slip gauges 8. Measure screw thread's parameters using Profile projector 9. Determine the MA, VR, efficiency, ideal effort & effort lost in friction. State & justify whether machine is reversible or not for a given single purchase crab winch 10. Determine the MA, VR, efficiency, ideal effort & effort lost in friction. State & justify whether machine is reversible or not for a given Differential wheel & axle
GAP (Chemistry)	1. Conducting polymers – classification & application 2. Protective coating & its types in terms of corrosion 3. Super conductivity 4. Dielectric polarisation & mechanism 5. Crystal structure (all 7 types) 6. Crystal lattice 7. Lattice point 8. Different types of crystal structures (with angles) 9. Qualitative idea of line, point, surface & volume defect 10. How to calculate coordination number & atomic radius of FCP & HCC unit cell	1. Determine the pH value of given solution using pH meter & 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 KMnO_4 solution using standard oxalic acid IV & determine the %age of iron present in given Hematite ore by KMnO_4 solution 5. Determination of carbonates & bicarbonates in water 6. Determination of chloride content in a given sample of water 7. Estimation of vinegar 8. Estimation of available chlorine in bleaching powder 9. Estimation of ferrous by permagnometry 10. Estimation of magnesium by EDTA
GAP (Physics)	1. Laser & fibre optics 2. Hall effect in semiconductors 3. Diffraction grating & its application 4. Thermal properties of matter 5. Nanomaterials – its synthesis, properties & application 6. Non-destructive testing of materials 7. Super conductors & its application 8. Double refraction & Huygen's theory of double refraction	1. To study of co-efficient of thermal conductivity of a bad conductor by using Lee's disc 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



अंडमान तथा निकोबार प्रशासन
ANDAMAN & NICOBAR ADMINISTRATION
डॉ. भीमराव अंबेडकर प्रौद्योगिकी संस्थान
Dr. B.R. AMBEDKAR INSTITUTE OF TECHNOLOGY
(NAAC ACCREDITED)
पहाड गॉव पोर्ट ब्लेयर
अंडमान तथा निकोबार द्वीप समूह
PAHARGAON, PORT BLAIR- 744103
ANDAMAN & NICOBAR ISLANDS



	9. Quantum theory of para magnetism & ferro magnetism 10. Polarisation & its properties	5. Use Searle's method to determine the Young's modulus of given wire 6. Determination of radius of curvature of a planoconvex lens by using Newton's ring method 7. To determine the refractive index of a glass prism by using pin method 8. Vibration magnetometer – calculation of magnetic moment & pole strength 9. To determine the co-efficient of viscosity of the given liquid by using stokes method 10. To determine the buoyancy force on solid immersed in liquid (Archimedes principle)
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Demo Topics for Part Time Instructors

DEPARTMENT	PRATICAL TOPICS
Physics	1. To study of co-efficient of thermal conductivity of a bad conductor by using Lee's disc 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 6. Determination of radius of curvature of a planoconvex lens by using Newton's ring method 7. To determine the refractive index of a glass prism by using pin method 8. Vibration magnetometer – calculation of magnetic moment & pole strength 9. To determine the co-efficient of viscosity of the given liquid by using stokes method 10. To determine the buoyancy force on solid immersed in liquid (Archimedes principle)
Chemistry	1. Determine the pH value of given solution using pH meter & 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 KMnO_4 solution using standard oxalic acid IV & determine the %age of iron present in given Hematite ore by KMnO_4 solution 5. Determination of carbonates & bicarbonates in water 6. Determination of chloride content in a given sample of water 7. Estimation of vinegar 8. Estimation of available chlorine in bleaching powder 9. Estimation of ferrous by permagnometry 10. Estimation of magnesium by EDTA

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