

Govt. Polytechnic Diglipur

DEMO TOPICS FOR GUEST FACULTY SELECTION PROCESS FOR THE SESSION 2023-24 (ODD SEM)

| S.NO. | DEPARTMENT | DEMO TOPIC | |
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| | | THEORY | PRACTICAL |
| 1 | CIVIL (GL) | Concrete Technology: properties of concrete, methods of testing, mix design | Concrete Tehnology:test for aggregates (course & fine), test for cement, test for concrete |
| | | Public Health Engg: calculation of water demand, quality of water, primay & secondary treatment of water | Public Health Engg: test for physical properties of water, test for chemical properties of water |
| | | Highway geometrics, pavement construction, road maintenance | Surveying: chain surveying, compass surveying, levelling |
| 2 | CSE (GL) | Principle of database: normalization, ER model | Advance Java programming: write programme to implement chat server using server socket & socket class, design form with components list, choice, label, checkbox, text field. |
| | | Advance java programming: socket programming, AWT | Client side scripting: develop java script to implement function, develop web page for creating session & persistent cookies |
| | | Cleint side scripting: Function, cookies | Applied multimedia techniques:design wallpaper showing water drop effect of an image, design poster using different text effect, develop web page which shows animation with sound effect |
| | | Data structure: stack queue | Data structure - radix sort, binary searching |
| | | Computer graphics: windowing clipping | Computer graphics: DDA, Brehenham's algorithm |
| | | Operating system: memory management | OS: CPU scheduling (FCFS) |
| | | Software testing: test management, defect management | Workshop practice: assemble & dissemble of various part of computer system |
| | | Object oriented programming using C++: inheritance and its types | OOP using C++: implementing concept of multiple inheritences based on the given scenario, implement concept of copy constructor |
| | | Advance Computer network: IP addressing, transition from IPv4 to IPv6 | Advance Computer Network: configure OSPF & RIP using packet tracer, establish cleint-server arhitecture using IPv6 addressing in packet tracer |
| Database management system: triggers, transaction, processing | DBMS:implement trigger for insert, updating & deleting from the data base, design database on the given requirement &execute required DML commands by follwing referential integrity constraints if required | | |

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| 3 | MATHS (GL) | Differentiation of implicit function | |
| | | Lagrange method of undetermined multipliers | |
| | | Area by double integration and volume by triple integration | |
| | | First order linear differential equations | |
| | | Partial fraction of proper and improper fraction | |
| | | Reduction of quadratic form into conical by orthogonal transformation | |
| | | Expansion of periodic function into Fourier Series | |
| | | Solution of linear simultaneous in the three variables by crammers rule | |
| | | Point of intersection of two lines, equation of line passing through point of intersectin with given condition | |
| | | Fourier's Transformation and its transverse | |
| 4 | PHYSICS (GL) | Ultrasounic Wave Proiduction | Determnation of specific resistance of given wire. |
| | | Laser and fiber optics | Determination of equivalent resistance in series connection of resistors and parallel. |
| | | Electric current resistance in series and parallel, resistivity, Kirchoff's law | Determination of the refractive index of glass slab. |
| | | Non destructive testing of materials | Determination of elasticity of a metallic wire by using searle's apparatus |
| | | Nanomaterials - its synthesis, properties and application | determination of law resistance by using meter bridge/determination of velocity of sound by resonance column |
| | | Metre bridge and potentiometer | to determine the refractive index of glass prism by using Pin method |
| | | Semiconductor intrinsic and extrinsic , forward bias and reverse bias | to determine the buoyancy force on solid immersed in liduid (Archemedies principle) |
| | | Magnetic field and magnetic field intensity | to determine the internal resistance of primary cell by using potentiometer |
| 5 | Chemistry (GL) | Conducting polymers- classification & application | to determine pH value of solution using pH meter & universal indicator |
| | | Protective coating & its types in terms of corrosion | determination thinner content in oil plant |
| | | Vulcanization- synthetic tubber | Identyfication of cation in the given sault |
| | | Super conductivity | Identyfication of anionin the given sault |
| | | Desalination process- reverse osmosis & electrodylysis | estimate the chloride content of given water sample |
| | | Moulding constituent of plastics & moulding techniques | Preparation of corrosive medium for aluminium at different temperatures. |
| | | Different types of crystal structures with angle | Determination of electrode potential of copper |