SARDAR PATEL UNIVERSITY, BALAGHAT (MP)

School of Engineering and Technology

Syllabus

Course: B. Tech. Branch: Civil Engineering Semester: Vth

Academic Session: 2024-25 w.e.f - Date-02-09-2024

BCE051 Environmental Engineering

Course Contents

Course Objectives:

1. To provide fundamental awareness about the water sources, population forecasting, water quality.
2. To develop an interest in pursuing the subject for P.G. studies because environmental pollution and its management is a critical topic of the hour.
3. To develop skills of designing a water treatment plant.
4. Developing a professional skill for design of water distribution system and environmental problems related to civil engineering.

Unit-I

Introduction to Water demand and Quality of water: Necessity and importance of water supply schemes. Sources of water. Classification of water demands, Per capita demand, factors affecting per capita demand, Population Forecasting Techniques. Common impurities, physical, chemical and biological characteristics of water/wastewater, Drinking water quality standards for municipal and domestic supplies.

Unit –II

Water Processing: Objects of water processing Theory of sedimentation, Design of sedimentation tanks, Sedimentation with coagulations, Theory of filtration, Design of slow sand and rapid sand filters, Methods of disinfection, Methods of Softening, Miscellaneous treatment methods.

Unit -III

Distribution System and Sewage and Sewerage Systems: Methods of distribution, layouts of distribution system, functions and its types of distribution reservoirs, storage capacity of distribution reservoir. System of sanitation, Estimation of domestic and storm sewage, Design of circular sewers, Sewer appurtenances, Sewage Treatment: Preliminary treatment systems, Screens, grit chamber, detritus tanks. Primary treatment systems Plain Sedimentation Process, Design of Septic Tanks.

Unit -IV

Secondary treatment Systems: Trickling filters, Design of standard and high rates, Activated Sludge Process, Oxidation Pond and oxidation ditch, Aeration and Mixing Techniques, Sewage sludge Treatment: Importance, amount and characteristics of sludge, Sludge digestion process, Design of sludge digestion tank.

Unit -V

Sewage disposal: Disposal by dilution, self-purification of polluted streams, Oxygen Sag curve, Disposal on land surfaces. Stream standards and Effluent standards, Theories of waste treatment (Volume reduction, strength reduction, new Equalization and proportioning) Summery of Industrial waste, its origin, character and treatment.

Course Outcome

CO1: Analysis Estimation of Water Quality and Population forecasting Estimation of ground and surface water resources.

CO2: To understand Design of Sewer, Estimation of Sewage Discharge. Design periods. Hydraulic Design of Sewers

CO3: To understand Quality of water and Wastewater Qualities of water and wastewater and their significance.

CO4: Analysis Treatment of Waste Water Treatment methods.

CO5: Analysis Treatment of Waste Water Treatment Technologies.

Reference Books:-

1. Water Supply Engineering by B.C. Punmia - Laxmi Publications (P) Ltd. New Delhi
2. Water Supply & Sanitary Engg. by G.S. Birdi - Laxmi Publications (P) Ltd. New Delhi
3. Water & Waste Water Technology by Mark J.Hammer - Prentice - Hall of India, New Delhi
4. Environmental Engineering - H.S. Peavy & D.R.Rowe-Mc Graw Hill Book Company, New Delhi
5. Water Supply & Sanitary Engg. by S.K. Husain
6. Water & Waste Water Technology - G.M. Fair & J.C. Geyer
7. Relevant IS Codes

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Course: B. Tech. Branch: Civil Engineering Semester: Vth

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BCE052 Quantity Surveying & Costing

Course Contents

Course Objectives:

1. To provide the student with the ability to estimate the quantities of item of works involved in buildings,
2. Water supply and sanitary works, road works and irrigation works,
3. To also to equip the student with the ability to do rate analysis,
4. Valuation of properties and preparation of reports for estimation of various items.

Unit-I

Introduction: Purpose and importance of estimates, principles of estimating. Methods of taking out quantities of items of work. Mode of measurement, measurement sheet and abstract sheet; bill of quantities. Types of estimate, plinth area rate, cubical content rate, preliminary, original, revised and supplementary estimates for different projects.

Unit-II

Rate Analysis: Task for average artisan, various factors involved in the rate of an item, material and labour requirement for various trades; preparation for rates of important items of work. Current schedule of rates. (C.S.R.)

Unit-III

Detailed Estimates: Preparing detailed estimates of various types of buildings, R.C.C. works, earth work calculations for roads and estimating of culverts Services for building such as water supply, drainage and electrification.

Unit-IV

Cost of Works: Factors affecting cost of work, overhead charges, Contingencies and work charge establishment, various percentages for different services in building. Preparation of DPR.

Unit –V

Valuation: Purposes, depreciation, sinking fund, scrap value, year's purchase, gross and net income, dual rate interest, methods of valuation, rent fixation of buildings.

Course Outcome

CO1: Illustrate basics of estimating and costing, To understand purpose of estimates, principles of estimates, types of estimates.

CO2: Identify rate analysis, current schedule of rates.

CO3: To understand detailed estimates of various types of buildings, RCC work, earth work, roads and culverts, water supply, drainage and electrification.

CO4: To understand factors affecting cost of work, contingencies and work charge establishment, detailed project reports.

CO5: To understand method of valuation, sinking fund, scrap value gross and net income rent fixation of building.

Reference Books :-

1. Quantity Surveying & Costing – B.N. Datta
2. Estimating & Costing for Civil Engg. – G.S. Birdi
3. Quantity surveying & costing – Chakraborty
4. Estimating & Costing – S.C. Rangawala

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BCE053 Structural Analysis-II

Course Contents

Course Objectives:

1. To learn about the approximate methods of analysis of multistory frames.
2. To learn about the flexibility method of analysis of structures.
3. To learn about the stiffness method of analysis of structures.
4. To learn about the finite element method of analysis of structures.
5. To learn about the basics of plastic analysis and methods of plastic analysis of beams and frames

Unit-I

Moment distribution method in analysis of frames with sway, analysis of box frames, analysis of portals with inclined members, analysis of beams and frames by Kani's method.

Unit-II

Plastic analysis of beams and frames.

Unit-III

Analysis of tall frames, wind and earthquake loads, codal provisions for lateral loads. Approximate analysis of multistory frames for vertical and lateral loads.

Unit-IV

Matrix method of structural analysis: force method and displacement method.

Unit-V

Influence lines for intermediate structures, Muller Breslau principle, Analysis of Beam-Columns.

Course Outcome

CO1: To understand analysis of frames and beams by moment distribution method and Kani's method.

CO2: To understand plastic analysis of bems and frames

CO3: Illustrate analysis of tall frames, codal provisionsfor lateral loads.

CO4: To understand matrix method of structural analysis

CO5: Analysis of beam-columns.

Reference Books:-

1. B.C. Punamia, AK Jain, Theory of Structure. Laxmi Publication
2. Wang C.K. Intermediate structural analysis, McGraw Hill, New York.
3. Kinney Streling J. Indeterminate structural Analysis, Addison Wesley.
4. Reddy C.S., Basic Stgructural Analysis, Tata McGraw Hill Publishing Company, New Delhi.
5. Norris C.H., Wilbur J.B. and Utkys. Elementary Structural Analysis, McGraw Hill International, Tokyo.
6. Weaver W & Gere JM, Matrix Methods of Framed Structures, CBS Publishers & Distributors, Delhi

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Course: B. Tech. Branch: Civil Engineering Semester: Vth

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BCE054 Construction Planning & Management

Course Contents

Course Objectives:

1. Understand Project Life Cycle: Grasp the stages of a construction project from initiation to completion, including planning, design, execution, monitoring, and closure.
2. Learn Planning Techniques: Familiarize students with project planning tools and techniques, such as Gantt charts, critical path method (CPM), and program evaluation and review technique (PERT).
3. Resource Management: Develop skills in managing human, material, and financial resources to optimize project efficiency and effectiveness.
4. Risk Management: Identify potential risks in construction projects and learn strategies to mitigate them.

Unit-I

Preliminary and detailed investigation methods: Methods of construction, form work and centering. Schedule of construction, job layout,

principles of construction management, modern management techniques like

CPM/PERT with network analysis.

Unit-II

Construction equipments: Factors affecting selection, investment and operating cost, output of various equipments, brief study of equipments required for various jobs such as earth work, dredging, conveyance, concreting, hoisting, pile driving, compaction and grouting.

Unit-III

Contracts: Different types of controls, notice inviting tenders, contract document, departmental method of construction, rate list, security deposit and earnest money, conditions of contract, arbitration, administrative approval, technical sanction.

Unit-IV

Specifications & Public Works Accounts: Importance, types of specifications, specifications for various trades of engineering works. Various forms used in construction works, measurement book, cash book, materials at site account, imprest account, tools and plants, various types of running bills, secured advance, final bill.

Unit-V

Site Organization & Systems Approach to Planning: Accommodation of site staff, contractor's staff, various organization charts and manuals, personnel in construction, welfare facilities, labour laws and human relations, safety engineering. Problem of equipment management, assignment model, transportation model and waiting line modals with their applications, shovel truck performance with waiting line method.

Course Outcome

CO1: To understand methods of construction, management techniques

CO2: Illustrate equipments required for various jobs ,earth work ,concreting pile driving

CO3: To understand contract document, security deposit ,condition of contract administrative approval.

CO4: Analyze specifications for various trades of engineering works, running bills, final bill.

CO5: To understand various organization charts and manuals, labour laws ,safety ,various problems of equipment management.

Reference Books:-

1. Construction Equipment by Peurify
2. CPM by L.S. Srinath
3. Construction Management by S. Seetharaman
4. CPM & PERT by Weist & Levy
5. Construction, Management & Accounts by Harpal Singh
6. Tendering & Contracts by T.A. Talpasai

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Elective – I BCE0551 Water Resources Engineering

Course Contents

Course Objectives:

1. To understand basic concepts of irrigation and water requirements of crops.
2. To understand the concepts of design of canal.
3. To learn about water logging
4. Be familiar with the concepts of river training.
5. To understand the concepts of reservoir planning.

Unit-I

Irrigation water requirement and Soil-Water-Crop relationship: Irrigation, definition, necessity, advantages and disadvantages, types and methods. Irrigation development. Soils - types and their occurrence, suitability for irrigation purposes, wilting coefficient and field capacity, optimum water supply, consumptive use and its determination. Irrigation methods surface and subsurface, sprinkler and drip irrigation. Duty of water, factors affecting duty and methods to improve duty, suitability of water for irrigation, crops and crop seasons, principal crops and their water requirement, crop ratio and crop rotation, intensity of irrigation.

Unit-II

Ground Water and Well irrigation:

Confined and unconfined aquifers, aquifer properties, hydraulics of wells under steady flow conditions, infiltration galleries. Ground water recharge-necessity and methods of improving ground water storage. Water logging-causes, effects and its prevention. Salt efflorescence causes and effects. reclamation of water logged and salt affected lands. Types of wells, well construction, yield tests, specific capacity and specific yield, advantages and disadvantages of well irrigation.

Unit-III

Hydrology : Hydrological cycle, precipitation and its measurement, recording and non recording rain gauges, estimating missing rainfall data, rain gauge net works, mean depth of precipitation over a drainage area, mass rainfall curves, intensity-duration curves, depth-area duration curves, Infiltration and infiltration indices, evaporation stream gauging, run off and its estimation, hydrograph analysis, unit hydrograph and its

derivation from isolated and complex storms, S-curve hydrograph, synthetic unit hydrograph.

Unit-IV

Canals and Structures: Types of canals, alignment, design of unlined and lined canals, Kennedy's and Lacey's silt theories, typical canal sections, canal losses, lining-objectives, materials used, economics. Introductions to Hydraulic Structures viz. Dams, Spillways, Weirs, Barrages, Canal Regulation Structures.

Unit-V

Floods: Types of floods and their estimation by different methods, probability and frequency analysis, flood routing through reservoirs and channels, flood control measures, economics of flood control,

Course Outcome

CO1: To understand Necessity of irrigation, methods of irrigation, duty, crop ratio and crop rotation.
CO2: To understand ground water flow ,water logging, types of wells, specific yield.
CO3: to understand hydrological cycle, rain gauge, hydrographic analysis.
CO4: Analysis of design of canals, economics, hydraulic structures.
CO5: Illustrate flood estimation, probability and frequency analysis, flood control measures.

Reference Books:-

1. Irrigation & Water Power Engg. by Punmia & Pandey B.B.Lal
2. Engg. Hydrology by K. Subhramanya - Tata Mc Graw Hills Publ. Co.
3. Engg. Hydrology - J.NEMEC - Prentice Hall
4. Hydrology for Engineers Linsley, Kohler, Paulnus - Tata Mc.Graw Hill.
5. Hydrology & Flood Control by Santosh Kumar - Khanna Publishers
6. Engg. Hydrology by H.M. Raghunat

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Course: B. Tech. Branch: Civil Engineering Semester: Vth

Academic Session: 2024-25

Elective – I BCE0552 IPR (Intellectual Property Rights)

Course Contents

Course Objectives:

1. Legal Framework: Familiarize students with the legal frameworks and international agreements governing intellectual property rights, including the TRIPS Agreement and relevant national laws.
2. Application of IPR: Learn how to apply intellectual property laws in real-world scenarios.
3. Critical Analysis: Foster critical thinking skills by analyzing case studies
4. Engaging in discussions about current IPR controversies and policies.

Unit-I Introduction

Introduction and Justifications of IPR, Nature of IP, Major forms of IP- Copyright, Patent, Trade Marks Designs, Geographic indication, layout design of Semi conductors, Plant varieties, Concept & Meaning of Intellectual Property.

Major international documents relating to the protection of IP - Berne Convention, Paris Convention, TRIPS. The World Intellectual Property Organization (WIPO).

Unit-II Copyright

Meaning and historical development of copyright, Subject matter, Ownership of copyright, Term of copyright, Rights of owner, Economic Rights, Moral Rights. Assignment and license of rights, Infringement of copyright, Exceptions of infringement, Remedies, Civil, Criminal, Administrative, Registration Procedure.

Unit- III Patents

Meaning and historical development, Criteria for obtaining patents, Non patentable inventions, Procedure for registration, Term of patent, Rights of patentee, Compulsory licence, Revocation, Infringement of patents, Exceptions to infringement, Remedies, Patent office and Appellate Board.

Unit-IV Trade Marks, Designs & GI Trade Marks:

Functions of marks, Procedure for registration, Rights of holder, Assignment and licensing of marks, Infringement, Trade Marks Registry and Appellate Board.

Designs: Meaning and evolution of design protection, Registration, Term of protection, Rights of holder, unregistered designs.

Geographical Indication: Meaning and evolution of GI, Difference between GI and Trade Marks, Registration, Rights, Authorized user.

Unit-V Contemporary Issues & Enforcement of IPR

IPR & sustainable development, The Impact of Internet on IPR. IPR Issues in biotechnology, E-Commerce and IPR issues, Licensing and enforcing IPR, Case studies in IPR

Course Outcome

CO1: Students will be able to understand Primary forms of IPR

CO2: Students will be able to asses and critique some basic theoretical justification for major forms of IP Protection

CO3: Students will be able to compare and contrast the different forms of IPR in terms of key differences and similarities.

CO4: Students will be able understand the registration procedures related to IPR.

CO5: Students will be exposed to contemporary issues and enforcement policies in IPR.

References Books:

1. P. Narayanan, Intellectual Property Law, Eastern Law House
2. . Neeraj Pandey and Khushdeep[Dharni, Intellectual Property Rights, PHI, 2014
3. N.S Gopalakrishnan and T.G. Agitha, Principles of Intellectual Property, Eastern Book Co. Lucknow, 2009.
4. Anand Padmanabhan, Enforcement of Intellectual Property, Lexis Nexis Butterworths, Nagpur, 2012.
5. Managing Intellectual Property The Strategic Imperative, Vinod V. Sople, PHI.
6. Prabuddha Ganguli, "Intellectual Property Rights" Mcgraw Hill Education, 2016.

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Course: B. Tech. Branch: Civil Engineering Semester: Vth

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Elective – I BCE0553 Open Channel Flow

Course Contents

Course Objectives:

1. To develop a basic knowledge of open channel flow relationships by applying fluid properties, hydrostatics,
2. The conservation equations for mass, momentum, and energy.

Unit-I: Introduction:

Basic concepts of free surface flows, velocity and pressure distribution, Mass, energy and momentum principle for prismatic and non-prismatic channels, Review of Uniform flow: Standard equations, hydraulically efficient channel sections, compound sections.

Unit-II: Gradually Varied Flow (GVF):

Equation of gradually varied flow and its limitations, flow classification and surface profiles, Control sections, Computation methods and analysis: Integration of varied flow equation by analytical, graphical and advanced numerical methods, Transitions of subcritical and supercritical flow, flow in curved channels.

Unit-III: Rapidly Varied Flow (RVF):

Characteristics of rapidly varied flow, Classical hydraulic jump, Evaluation of the jump elements in rectangular and non-rectangular channels on horizontal and sloping beds, Hydraulic jump in gradually and suddenly expanding channels, submerged hydraulic jump, rolling and sky jump, use of jump as an energy dissipater, Flow measurement: by sharp crested and broad crested weirs, critical depth flumes, sluice gate, Free over fall. Rapidly varied unsteady flow: Equation of motion for unsteady flow, “Celerity” of the gravity wave, deep and shallow water waves, open channel positive and negative surge.

Unit-IV: Spatially Varied Flow (SVF):

Basic principles, Differential SVF equations for increasing and decreasing discharge, Classifications and solutions, Numerical methods for profile computation, low over side-weir and Bottom-rack.

Unit-V:

Flow in channel of non-linear alignment and non-prismatic channel sections, Design considerations for sub critical and super critical flows, Design of culvert.

Course Outcome

CO1: Apply knowledge of fluid flow for designing of channel sections.
CO2: Analyze the gradually varied flow in channel section.
CO3: Analyze the rapidly varied flow in channel sections.
CO4: Apply numerical methods for profile computation in channels.
CO5: Design channels for sub critical and super critical flows.

Reference Books:-

1. Chow, V.T., Open channel Hydraulics, McGraw Hill International
2. Henderson, F.M., Open Channel Flow, McGraw Hill International
3. Subramanya, K., Flow in Open Channels, Tata McGraw Hill
4. Ranga Raju, K.G., Flow through open channels, T.M.H.
5. M. Hanif Chaudhry, Open Channel Flow, PHI
6. French, R.H., Open channel Hydraulics, McGraw Hill International
7. Srivastava, Flow through Open Channels, Oxford University Press.
8. Open Channel Flow by Madan Mohan Das

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Course: B. Tech. Branch: Civil Engineering Semester: Vth

Academic Session: 2024-25

Elective – I BCE0554 Renewable Energy Resources

Course Contents

Course Objectives:

1. Understand the various forms of conventional energy resources.
2. Learn the present energy scenario and the need for energy conservation
3. Explain the concept of various forms of renewable energy
4. Outline division aspects and utilization of renewable energy sources for both domestics and industrial application
5. Analyze the environmental aspects of renewable energy resources.

Unit-I

Renewable Energy Systems Energy Sources, Comparison of Conventional and nonconventional, renewable and non-renewable sources. Statistics of world resources and data on different sources globally and in Indian context. Significance of renewable sources and their exploitation. Energy planning, Energy efficiency and management.

Unit-II

Wind Energy System Wind Energy, Wind Mills, Grid connected systems. System configuration, working principles, limitations. Effects of wind speed and grid conditions. Grid independent systems - wind-battery, wind- diesel, wind-hydro biomass etc. wind operated pumps, controller for energy balance. Small Hydro System Grid connected system, system configuration, working principles, limitations. Effect of hydro potential and grid condition. Synchronous versus Induction Generator for stand alone systems. Use of electronic load controllers and self excited induction generators. Wave Energy System: System configuration: grid connected and hybrid Systems.

Unit-III

Solar Radiation Extraterrestrial solar radiation, terrestrial solar radiation, Solar thermal conversion, Solar Phototonic System Solar cell, Solar cell materials, efficiency, Characteristics of PV panels under varying insulation. PV operated lighting and water pumps, characteristics of motors and pumps connected to PV panels. Biomass Energy System: System configuration, Biomass engine driven generators, feeding loads in stand-alone or hybrid modes, Biomass energy and their characteristics.

Unit-IV

Energy from oceans Ocean temperature difference, Principles of OTEC, plant operations, Geothermal Energy Electric Energy from gaseous cells, Magneto-hydro generated energy,

Non hazardous energy from nuclear wastes, Possibilities of other modern nonconventional energy sources.

Unit-V

Electric Energy Conservation Energy efficient motors and other equipment. Energy saving in Power Electronic controlled drives. Electricity saving in pumps, air conditioning, power plants, process industries, illumination etc. Methods of Energy Audit. Measurements systems; efficiency measurements. energy regulation, typical case studies, various measuring devices analog and digital, use of thyristers.

Course Outcome

CO1: Able to understand the renewable energy sources available at present.
CO2: To educate the wind energy operation and its types.
CO3: Able to understand the solar energy operation and its characteristics.
CO4: To educate the oceans energy operation and modern nonconventional energy sources.

CO5: Illustrate the concepts of Direct Energy Conversion systems & their applications.

Reference Books:-:

1. John Twidell & Toney Weir, Renewable Energy Resources, E & F N Spon.

2. El-Wakil, Power Plant Technology, McGraw Hill.

3. Rai G D, Non-conventional Energy Resources, Khanna.

4. F Howard E. Jordan, "Energy-Efficient Electric Motor & their Application-II", Plenum Press, New York USA

5. Anna Mani, "Wind Energy Resource Survey in India-Ill", Allied Publishers Ltd., New Delhi,

6. S.P. Sukhatme: Solar Energy, TMH- 4e,

7. Dr. A. Ramachandran, Prof B.V Sreekantan & M F.C. Kohli etc, "TERI Energy Data Directory & Year book 1994-95", Teri Tata Energy Research Institute, New Delhi,

8. Solanki –Renewable Energy Technologies – PHI Learning
9. Sawhnew –Non Conventional Energy Resources – PHI Learning

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BCE051P Environmental Engineering Lab

List of Experiments:

1. To determination of Alkalinity/Acidity of the water sample.
2. To determination of pH in water.
3. To determination of Color in water.
4. To determination of Turbidity in water.
5. To determination of Hardness in water.
6. To determine the conc. of chlorides in a given water samples.
7. Determination of C.O.D
8. Determination of Dissolved Oxygen (DO) in the water sample
9. Determination of B.O.D

Reference Books:-

1. Environmental Engineering Lab Manual – Dr. B. Kottaiah & N. Kumaraswamy
2. (Charotar Publications)
3. Water Supply Engineering – S.K. Garg (Khanna Publication).
4. Water Supply Engineering – B.C. Punmia (Laxmi Publication, New Delhi)
5. Environmental Science and Engineering – Henry and Heinke (Pearson Education)

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BCE052P – Quantity Surveying & Costing Lab

List of Experiments:

1. Preparation of detailed estimate.
2. Detailed estimate for services of plumbing and water supply or Electrification work.
3. Detailed estimate for earth work for the road construction or arched culvert.
4. Rate analysis for at least 8 items of construction.
5. Preparation of DPR of Civil Engineering Project.

Reference Books:-

1. Estimating and Costing in Civil Engineering – B.N. Dutta (UBS Publishers, New Delhi)
2. Estimating and Costing and specifications – M. Chakrabarty (UBS Publishers, New Delhi)
3. Textbook of Estimating and Costing – G.S. Birdi (Dhanpat Rai Publications

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BCE053P Structural Analysis-II

List of experiments:

1. To verify the Betti's law.
2. Study of a three hinged arch experimentally for a given set of loading and to compare the results with those obtained analytically.
3. To obtain experimentally the influence line diagram for horizontal thrust in a three hinged arch and to compare the same with the theoretical value.
4. To determine the flexural rigidity of a given beam.
5. To study the behavior of different type of struts.
6. To verify moment area theorem for slopes and deflection of a beams.

Reference Books:-

1. Intermediate Structural Analysis – Wang. C.K. (Tata McGraw Hill)
2. Fundamentals of Structural Analysis – Harry H. West and Louis F. Gesch windner (Wiley India)
3. Theory of Structures (Vol. I & Vol. II) – G. Pandit, S. Gupta & R. Gupta. (Tata McGraw Hill)
4. Structural Analysis – Hibbeler (Pearson Education)
5. Fundamentals of Structural Mechanics and Analysis – M. L. Gambhir (PHI Learning)

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BCE056P Summer Internship

Course Contents

The T&P cell of the department/college will arrange internship for students in industries/organization after fourth Semester or as per AICTE/ Gujarat Technological University (GTU) guidelines. The general procedure for arranging internship is given below:

Step 1: Request Letter/ Email from the office of Training & Placement cell of the department/college should go to industry to allot various slots of Summer Internship-II (6 weeks) during summer vacation after 4th semester as internship periods for the students. Students request letter/profile/ interest areas may be submitted to industries for their willingness for providing the training.

Step 2: Industry will confirm the summer internship-II slots and the number of seats allocated for internships via Confirmation Letter/ Email. In case the students arrange the summer internship-II themselves the confirmation letter will be submitted by the students in the office of Training & Placement cell of concerned department. Based on the number of slots agreed to by the Industry / University guideline, TPO in consultation with Head of the Department (HOD) will allocate the students to the industry. In addition, the Internship slots may be conveyed through Telephonic or Written Communication (by Fax, Email, etc.) by the TPO or other members of the T&P cell / Faculty members who are particularly looking after the Summer Internship-II of the students.

Step 3: Students on joining summer internship-II at the concerned Industry / Organization, submit the Joining Report/Letters / Email.

Step 4: Students undergo industrial training/ summer internship-II at the concerned Industry / Organization. In-between internship guide/supervisor evaluate(s) the performance of students once/twice by visiting the Industry/Organization or if field visit is not possible then he/she may contact students by video calling and evaluate accordingly.

Step 5: Students will submit training report after completion of internship to their internship guide/supervisor.

Step 6: Department will keep all the record of the students

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BCE057P Field Visit/ Survey Camp

Course Contents

FIELD VISITS –

Visit to a construction site where the RCC work is in progress.
Visit to a construction site where the irrigation work is in progress.
Visit to a bridge site. Batching plant for cement concrete and bituminous road Visit to water treatment plant.
Visit to a dam site Canal site.
Visit for a power plant site.
Visit for a construction site where construction of multistoried mall /shopping complex.

Structured industrial visits shall be arranged and report of the same should be submitted by the individual student, to form a part of the term work. Following are the suggested type of Industries Fields – (Any three visits)

i) Irrigation project for observing components of dam and canal.
ii) Concrete mixing & batching plant
iii) Residential apartment /public building to study plumbing system.
iv) Market rate analysis of different materials and labour rate for different type of civil works.
v) Visit to a site where RCC work is in progress, slab casting Road work, Thermal Power Plant.