

**Santosh N Darade Polytechnic****Department of Civil Engineering****Course Outcomes****Semester – 1 (CE11)**

| <b>Course</b>   | <b>CO's</b>   | <b>Course Outcomes</b>  |
|---|---------------|---|
| <b>(22101)</b><br>English<br><b>C101</b>                      | <b>C101.1</b> | Formulate grammatically correct sentences.  |
|   | <b>C101.2</b> | Summarize comprehensive passages.   |
|   | <b>C101.3</b> | Composes dialogues & paragraphs for different situations.                           |
|   | <b>C101.4</b> | Use relevant words as per contexts.   |
|   | <b>C101.5</b> | Deliver; prepare speeches to express ideas, thoughts, and emotions.                 |
| <b>(22102)</b><br>Basic Science<br>(PHY & CHY)<br><b>C102</b> | <b>C102.1</b> | Estimate error in the measurement of physical quantities.                           |
|   | <b>C102.2</b> | Apply the principle of electricity and magnetism to solve Engg. problems            |
|   | <b>C102.3</b> | Use the basic principles of heat & optics in related Engg. Applications.            |
|   | <b>C102.4</b> | Apply the catalysis process in industries.  |
|   | <b>C102.5</b> | Use corrosion prevention measures in industries.                                    |
|   | <b>C102.6</b> | Use relevant Engg. Materials in industries.   |
| <b>(22103)</b><br>Basic<br>Mathematics<br><b>C103</b>         | <b>C103.1</b> | Apply the concept of algebra to solve Engg. related problems                        |
|   | <b>C103.2</b> | Utilize basic concepts of trigonometry to solve elementary Engg. Problems.          |
|   | <b>C103.3</b> | Solve basic Engg. Problems under given conditions of straight lines.                |
|   | <b>C103.4</b> | Solve the problems based on measurement of regular closed figures & regular solids. |
|   | <b>C103.5</b> | Use basic concepts of statistics to solve Engg. related problems                    |
| <b>(22001)</b><br>Fundamentals<br>of ICT<br><b>C104</b>       | <b>C104.1</b> | Use computer systems & its peripherals.   |
|   | <b>C104.2</b> | Prepare business documents using word processing tools.                             |
|   | <b>C104.3</b> | Interpret data & represents it graphically using spread sheets.                     |
|   | <b>C104.4</b> | Prepare professional presentations  |
|   | <b>C104.5</b> | Use different types of web browsers.  |
| <b>(22002)</b><br>Engineering<br>Graphics<br><b>C105</b>      | <b>C105.1</b> | Draw geometric figures & engineering curves.  |
|   | <b>C105.2</b> | Draw a view of given object using principles of orthographic projection.            |
|   | <b>C105.3</b> | Draw isometric view of given components or from orthographic projection.            |
|   | <b>C105.4</b> | Use drawing codes conventions & symbols as per IS SP/46 in Engg. Drawing.           |
|   | <b>C105.5</b> | Draw free hand sketches of given engineering components.                            |
| <b>(22004)</b><br>Workshop<br>Practice<br><b>C106</b>         | <b>C106.1</b> | Select tools & machineries according to jobs.                                       |
|   | <b>C106.2</b> | Use hand tools in different shops for performing different operations.              |
|   | <b>C106.3</b> | Operate equipment & machinery in different shops.                                   |
|   | <b>C106.4</b> | Prepare job according to drawing.   |
|   | <b>C106.5</b> | Maintain workshop related tools equipment's & machinery.                            |

Jagdamba Education Society's  
**Santosh N Darade Polytechnic**

**Department of Civil Engineering**

**Course Outcomes**

**Semester – 2 (CE2I)**

| Course   | CO's          | Course Outcomes  |
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| (22201)<br>Applied Mathematics<br><i>C107</i>            | <b>C107.1</b> | Calculate the equation of tangent, maxima, minima, radius of curvature by differentiation. |
|  | <b>C107.2</b> | Solve the given problem(s) of integration using suitable methods.                          |
|  | <b>C107.3</b> | Apply the concept of integration to find area and volume.                                  |
|  | <b>C107.4</b> | Solve the differential equation of first order and first degree using suitable methods.    |
|  | <b>C107.5</b> | Apply the concept of numerical integration to investigate the area.                        |
| (22202)<br>Applied Science<br>(PHY & CHY)<br><i>C108</i> | <b>C108.1</b> | Select relevant materials in industry by analyzing its physical properties.                |
|  | <b>C108.2</b> | Apply law of motion in various applications.   |
|  | <b>C108.3</b> | Use LASER's X Rays & Photoelectric sensors.  |
|  | <b>C108.4</b> | Select relevant metallurgical process related to industrial applications.                  |
|  | <b>C108.5</b> | Use relevant water treatment process to solve industrial problems.                         |
|  | <b>C108.6</b> | Use relevant fuel in relevant applications.  |
| (22203)<br>Applied Mechanics<br><i>C109</i>              | <b>C109.1</b> | Identify the force system for given conditions by applying the basics of Mechanics.        |
|  | <b>C109.2</b> | Select the relevant simple lifting machines for given purposes.                            |
|  | <b>C109.3</b> | Determine unknown forces of different engineering systems.                                 |
|  | <b>C109.4</b> | Check the stability of various force system.   |
|  | <b>C109.5</b> | Apply the principles of friction in various conditions for useful purposes.                |
|  | <b>C109.6</b> | Find the centroid & center of gravity of various components in engineering system.         |
| (22204)<br>Construction Materials<br><i>C110</i>         | <b>C110.1</b> | Identify relevant construction materials.  |
|  | <b>C110.2</b> | Identify relevant natural construction materials.  |
|  | <b>C110.3</b> | Select relevant artificial construction materials.   |
|  | <b>C110.4</b> | Select relevant special type of construction materials.                                    |
|  | <b>C110.5</b> | Select relevant finishing materials for construction.                                      |
| (22205)<br>Basic Surveying<br><i>C111</i>                | <b>C111.1</b> | Select the type of survey required for given situation.                                    |
|  | <b>C111.2</b> | Conduct area of open field using chain, tape and cross staff.                              |
|  | <b>C111.3</b> | Conduct traversing in the field using chain and compass.                                   |
|  | <b>C111.4</b> | Use leveling instruments to determine reduced level of ground points.                      |
|  | <b>C111.5</b> | Draw/interpret contour maps of an area collecting field data.                              |
|  | <b>C111.6</b> | Use digital planimeter to calculate the areas.   |

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| <b>(22008)</b><br>Civil<br>Engineering<br>Workshop<br>and Practice<br><i>C112</i> | <b>C112.1</b> | Identify the various construction activities at site.                                 |
|   | <b>C112.2</b> | Perform masonry job activities.   |
|   | <b>C112.3</b> | Perform plumbing job activities.  |
|   | <b>C112.4</b> | Identify finishing job related to building construction.                              |
|   | <b>C112.5</b> | Identify the various components of typical civil structure like road, culvert/bridge. |
|   |               |   |
| <b>(22009)</b><br>Business<br>Communication<br>Using Computers<br><i>C113</i>     | <b>C113.1</b> | Communicate effectively by avoiding barriers in various formal & informal Situations. |
|   | <b>C113.2</b> | Communicate skillfully using non verbal method of communication.                      |
|   | <b>C113.3</b> | Give presentation by using Audio-Visual aids.   |
|   | <b>C113.4</b> | Write report using correct guidelines.  |
|   | <b>C113.5</b> | Compose emails and formal business letters.   |

**Course Outcomes****Semester – 3 (CE3I)**

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| <b>(22301)</b><br>Advanced<br>Surveying<br><b>C201</b>     | <b>C201.1</b> | Prepare plans using Plane Table Surveys.   |
|  | <b>C201.2</b> | Prepare plans using Theodolite surveys.  |
|  | <b>C201.3</b> | Find distances and elevations using Tacheometer.   |
|  | <b>C201.4</b> | Set out simple circular curves.  |
|  | <b>C201.5</b> | Prepare plans using Total Station instrument.  |
|  | <b>C201.6</b> | Locate coordinates of stations using GPS.  |
| <b>(22302)</b><br>Highway<br>Engineering<br><b>C202</b>    | <b>C202.1</b> | Identify the types of roads as per IRC recommendations.  |
|  | <b>C202.2</b> | Implement the geometrical design features of different highways.   |
|  | <b>C202.3</b> | Perform different tests on road materials.   |
|  | <b>C202.4</b> | Evaluate traffic flow characteristics.   |
|  | <b>C202.5</b> | Implement hill road construction using relevant materials, techniques and methods.                           |
|  | <b>C202.6</b> | Undertake maintenance of roads and drainage.   |
| <b>(22303)</b><br>Mechanics<br>of Structure<br><b>C203</b> | <b>C203.1</b> | Articulate practical applications of moment of inertia of symmetrical and unsymmetrical structural sections. |
|  | <b>C203.2</b> | Interpret structural behaviour of materials under various loading conditions.                                |
|  | <b>C203.3</b> | Select material considering engineering properties for various structural applications.                      |
|  | <b>C203.4</b> | Interpret shear force and bending moment diagrams for various types of beams and loading conditions.         |
|  | <b>C203.5</b> | Determine the bending and shear stresses in beams under different loading conditions.                        |
|  | <b>C203.6</b> | Check the column safety for various loading and end conditions.  |
| <b>(22304)</b><br>Building<br>Construction<br><b>C204</b>  | <b>C204.1</b> | Identify components of building structures.  |
|  | <b>C204.2</b> | Propose suitable type of foundation for building structures.   |
|  | <b>C204.3</b> | Select suitable type of masonry for building structures.   |
|  | <b>C204.4</b> | Propose relevant means of communications for different types of buildings.                                   |
|  | <b>C204.5</b> | Select the relevant material for finishing works.  |
|  | <b>C204.6</b> | Execute safe practices in building construction activities.  |
| <b>(22305)</b><br>Concrete<br>Technology<br><b>C205</b>    | <b>C205.1</b> | Use relevant types of cement in different site conditions.   |
|  | <b>C205.2</b> | Use relevant aggregates for required concrete works.   |
|  | <b>C205.3</b> | Prepare concrete of desired compressive strengths.   |
|  | <b>C205.4</b> | Prepare concrete of required specifications.   |
|  | <b>C205.5</b> | Maintain the quality of concrete.  |
|  | <b>C205.6</b> | Use relevant admixtures for concreting for different weather conditions                                      |
| <b>(22022)</b><br>Computer Aided<br>Drawing<br><b>C206</b> | <b>C206.1</b> | Interpret the given 2-dimensional drawing.   |
|  | <b>C206.2</b> | Use CAD software for drafting and editing 2-dimensional drawings.  |
|  | <b>C206.3</b> | Locate the dimensions of the drafted drawing.  |
|  | <b>C206.4</b> | Draw the isometric and 3- dimensional drawings.  |

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| Semester – Semester – 4 (CE4I)                    |        |   |
|---|--------|---|
| (22401)<br>Hydraulics<br>C207                     | C207.1 | Interpret the pressure parameters from pressure measuring devices in flowing liquids.             |
|   | C207.2 | Determine total hydrostatic pressure and centre of pressure for different conditions.             |
|   | C207.3 | Use relevant fluid flow parameters in different situations.                                       |
|   | C207.4 | Determine the loss of head of fluid flow through pipes.   |
|   | C207.5 | Select relevant hydraulic pumps for different applications.                                       |
|   | C207.6 | Interpret the pressure parameters from pressure measuring devices in flowing liquids.             |
| (22402)<br>Theory of Structures<br>C208           | C208.1 | Analyze stresses induced in vertical members subjected to direct and bending loads.               |
|   | C208.2 | Analyze slope and Deflection in beams under different loading conditions.                         |
|   | C208.3 | Analyze end moments of fixed beams.   |
|   | C208.4 | Analyse continuous beam under different loading conditions using the principles of Three Moments. |
|   | C208.5 | Analyze continuous beam using Moment Distribution Method under different loading                  |
|   | C208.6 | Evaluate axial forces in the members of simple truss  |
| (22403)<br>Railway and Bridge Engineering<br>C209 | C209.1 | Identify the components of railway tracks.  |
|   | C209.2 | Maintain the railway tracks.  |
|   | C209.3 | Diagnose the condition of bridges.  |
|   | C209.4 | Maintain different types of railway bridges and their components.                                 |
|   | C209.5 | Maintain different types of tunnels.  |
| (22404)<br>Geo-Technical Engineering<br>C210      | C210.1 | Identify types of rocks and sub soil strata of earth.   |
|   | C210.2 | Interprete the physical properties of soil related to given construction activities.              |
|   | C210.3 | Use the results of permeability and shear strength test for foundation analysis.                  |
|   | C210.4 | Interpret the soil bearing capacity results.  |
|   | C210.5 | Compute optimum values for moisture content for maximum dry density of soil                       |
| (22405)<br>Building Planning and Drawing<br>C211  | C211.1 | Interpret the symbols, signs and conventions from the given drawing.                              |
|   | C211.2 | Prepare line plans of residential and public buildings using principles of planning.              |
|   | C211.3 | Prepare submission and working drawing from the given requirement for Load Bearing Structure.     |
|   | C211.4 | Prepare submission and working drawing from the given requirement for Framed                      |
|   | C211.5 | Draw Two point perspectives drawing for given small objects.                                      |
| (22447)<br>Environmental Studies<br>C212          | C212.1 | Develop Public awareness about environment  |
|   | C212.2 | Select alternative energy resources for Engineering Practice                                      |
|   | C212.3 | Conserve Ecosystem and Biodiversity   |
|   | C212.4 | Apply techniques to reduce Environmental Pollution  |
|   | C212.5 | Manage social issues and Environmental Ethics as lifelong learning                                |

**Course Outcomes****Semester – 5 (CE5I)**

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|---|---------------|---|
| <b>(22501)</b><br>Water Resource<br>Engineering<br><i>C301</i>  | <b>C301.1</b> | Estimate hydrological parameters.   |
|   | <b>C301.2</b> | Estimate crop water requirements of a command area and capacity of canals.                                |
|   | <b>C301.3</b> | Maintain irrigation structures.   |
|   | <b>C301.4</b> | Execute the Minor and Micro Irrigation Schemes.   |
|   | <b>C301.5</b> | Select the relevant Diversion Head works for the specific site conditions.                                |
|   | <b>C301.6</b> | Design, construct and maintain simple Canal structures.   |
| <b>(22502)</b><br>Design of<br>Steel and RCC<br>Structures<br><i>C302</i>                                   | <b>C302.1</b> | Use steel table and IS code 800:2007 at work sites.   |
|   | <b>C302.2</b> | Design the connections for the given steel joints.  |
|   | <b>C302.3</b> | Analysis and design of singly reinforced rectangular beams.   |
|   | <b>C302.4</b> | Design of shear reinforcement and development length for beam and slabs.                                  |
|   | <b>C302.5</b> | Design various slabs for the given edge condition.  |
|   | <b>C302.6</b> | Design of axially loaded short columns and footings.  |
| <b>(22503)</b><br>Estimating and<br>Costing<br><i>C303</i>  | <b>C303.1</b> | Select the modes of measurements for different items of works.  |
|   | <b>C303.2</b> | Prepare approximate estimate of a civil engineering works.  |
|   | <b>C303.3</b> | Prepare detailed estimate of a civil engineering works.   |
|   | <b>C303.4</b> | Justify the rate for given items of work using rate analysis techniques.                                  |
|   | <b>C303.5</b> | Use relevant software for estimating the quantities and cost of items of works.                           |
| <b>(22504)</b><br>Public<br>Health<br>Engineering<br><i>C304</i>  | <b>C304.1</b> | Identify the sources and characteristics of water and wastewater.   |
|   | <b>C304.2</b> | Estimate the quantity of drinking water and wastewater generated.   |
|   | <b>C304.3</b> | Draw labeled systems of plumbing for building sanitation.   |
|   | <b>C304.4</b> | Draw the flow diagram for process of treatment of water and wastewater.                                   |
|   | <b>C304.5</b> | Identify various accessories for efficient conveyance and distribution of water.                          |
| <b>(22505)</b><br>Rural<br>Development<br>( <i>Elective- I</i> )<br><i>C305</i>                             | <b>C305.1</b> | Undertake surveys to decide the status of socio-economic significance.                                    |
|   | <b>C305.2</b> | Identify the need of watershed management in rural areas.   |
|   | <b>C305.3</b> | Suggest relevant government schemes for construction of roads, housing and energy conservation. .         |
|   | <b>C305.4</b> | Suggest the relevant cottage and agro based industries for the rural areas.                               |
|   | <b>C305.5</b> | Select the relevant schemes of Central/State Government for the rural areas.                              |
|   | <b>C305.6</b> | Apply the principles of rural development in rural areas.   |
| <b>(22506)</b><br>Energy<br>Conservation<br>and Green<br>Building<br>( <i>Elective- II</i> )<br><i>C306</i> | <b>C306.1</b> | Identify various sources of environmental pollution.  |
|   | <b>C306.2</b> | Implement the different steps in environmental impact assessment.   |
|   | <b>C306.3</b> | Relate the construction of green building with the prevailing energy conservation policy and regulations. |
|   | <b>C306.4</b> | Construct the building using the principles of Green building and the relevant materials.                 |
|   | <b>C306.5</b> | Select the relevant rating system for assessment of given Green building                                  |

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| <b>(22507)</b><br>Traffic<br>Engineering<br><i>(Elective- III)</i><br><b>C307</b>                  | <b>C307.1</b> | Analyze the road traffic characteristics.   |
|  | <b>C307.2</b> | Undertake various types of road traffic studies.                                      |
|  | <b>C307.3</b> | Use the relevant road traffic signs and markings.                                     |
|  | <b>C307.4</b> | Select the relevant road signals for the given traffic islands                        |
|  | <b>C307.5</b> | Maintain the road environment.  |
|  | <b>C307.6</b> | Suggest preventive measures to avoid accidents by analyzing the traffic conditions at |
| <b>(22508)</b><br>Precast and Pre-<br>Stressed<br>Concrete<br><i>(Elective- IV)</i><br><b>C308</b> | <b>C308.1</b> | Select the relevant precast concrete element for a given type of construction.        |
|  | <b>C308.2</b> | Use the relevant components for the prefabricated structure .                         |
|  | <b>C308.3</b> | Justify the relevance of pre-stressed element in a given situation.                   |
|  | <b>C308.4</b> | Select the relevant methods / systems for given construction work.                    |
|  | <b>C308.5</b> | Evaluate losses in a given pre-stressed concrete construction.                        |
|  | <b>C308.6</b> | Propose a suitable cable profile for the given pre-stressed concrete member.          |
| <b>(22057)</b><br>Industrial<br>Training<br><b>C309</b>  | <b>C309.1</b> | Illustrate the relation between theory and experience based learning                  |
|  | <b>C309.2</b> | Develop awareness of current technologies in field of civil engineering.              |
|  | <b>C309.3</b> | Build understanding of the management issues such as employees welfare,               |
|  | <b>C309.4</b> | Summarize and illustrate the work done during the internship, both in writing and     |
| <b>(22058)</b><br>Capstone<br>Project<br>Planning<br><b>C310</b>                                   | <b>C310.1</b> | Write the problem/task specification in existing systems related to the occupation.   |
|  | <b>C310.2</b> | Select, collect and use required information/knowledge to solve the problem/complete  |
|  | <b>C310.3</b> | Logically choose relevant possible solutions  |
|  | <b>C310.4</b> | Consider the ethical issues related to the project (if there are any)                 |
|  | <b>C310.5</b> | Assess the impact of the project on society (if there is any)                         |
|  | <b>C310.6</b> | Prepare 'project proposals' with action plan and time duration scientifically before  |
|  | <b>C310.7</b> | Communicate effectively and confidently as a member and leader of team.               |

**Course Outcomes****Semester – 6 (CE6I)**

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| <b>(22509)</b><br>Management<br><i>C311</i>                                     | <b>C311.1</b> | Use basic management principles to execute daily activities.                                     |
|   | <b>C311.2</b> | Use principles of planning and organising for accomplishment of tasks.                           |
|   | <b>C311.3</b> | Use principles of directing and controlling for implementing the plans.                          |
|   | <b>C311.4</b> | Apply principles of safety management in all activities.   |
|   | <b>C311.5</b> | Understand various provisions of industrial acts.  |
| <b>(22601)</b><br>Contracts<br>and Accounts<br><i>C312</i>                      | <b>C312.1</b> | Execute the method of PWD for initiating the works.  |
|   | <b>C312.2</b> | Execute the contract for civil engineering works.  |
|   | <b>C312.3</b> | Prepare the tender documents for civil engineering work.   |
|   | <b>C312.4</b> | Use the relevant type of form used in PWD to pay the bill of the executed work                   |
|   | <b>C312.5</b> | Prepare the detailed specification for various items of construction.                            |
|   | <b>C312.6</b> | Justify the rent fixation of civil structures.   |
| <b>(22602)</b><br>Maintenance<br>and Repairs<br>of Structures<br><i>C313</i>    | <b>C313.1</b> | Select the relevant method of maintaining different building structures.                         |
|   | <b>C313.2</b> | Test the structures to predict its stability   |
|   | <b>C313.3</b> | Select the relevant materials for repair of structures.  |
|   | <b>C313.4</b> | Apply the relevant methods of repair for the masonry structures.                                 |
|   | <b>C313.5</b> | Restore the damages of building structural elements using suitable method of repair.             |
|   | <b>C313.6</b> | Prepare the structural audit and budget for the maintenance of structures.                       |
| <b>(22603)</b><br>Emerging<br>Trends in Civil<br>Engineering<br><i>C314</i>     | <b>C314.1</b> | Reveal different applications of softwares for planning, designing and execution of projects.    |
|   | <b>C314.2</b> | Suggest the advanced materials as per site condition.  |
|   | <b>C314.3</b> | Recommend the suitable tools and equipments for the given situation.                             |
|   | <b>C314.4</b> | Suggest the advanced resource management techniques for the given project.                       |
|   | <b>C314.5</b> | Use the feasible advance techniques for various civil engineering projects.                      |
| <b>(22604)</b><br>Building<br>Services<br>( <i>Elective- I</i> )<br><i>C315</i> | <b>C315.1</b> | Identify the building services for the requisite functional requirements.                        |
|   | <b>C315.2</b> | Estimate the space requirements for vertical communication services.                             |
|   | <b>C315.3</b> | Propose the fire safety requirements for multi-storeyed buildings.                               |
|   | <b>C315.4</b> | Devise the water supply and sanitation system for buildings.                                     |
|   | <b>C315.5</b> | Evaluate the potential of rain water harvesting and solar water heater system for the buildings. |
|   | <b>C315.6</b> | Execute the relevant system of lighting, ventilation and acoustics for buildings.                |
| <b>(22605)</b><br>Solid Waste<br>Management                                     | <b>C316.1</b> | Identify the different sources of solid wastes.  |
|   | <b>C316.2</b> | Execute the relevant method of collection and transportation of solid wastes.                    |
|   | <b>C316.3</b> | Execute an action plan for disposal of solid wastes.   |



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| <i>(Elective – II)</i><br><b>C316</b>  | <b>C316.4</b> | Implement the relevant method for disposal of Bio-medical wastes.                             |
|  | <b>C316.5</b> | Implement the relevant method for disposal of Industrial wastes and E-waste.                  |
|  | <b>C316.6</b> | Implement the relevant laws related to solid waste management.                                |
| <b>(22606)</b><br>Earthquake Resistant Buildings<br>(Elective- III)<br><b>C317</b> | <b>C317.1</b> | Execute the principles of earthquake resistant buildings in the constructions.                |
|  | <b>C317.2</b> | Relate the failure in the structures on the basis of the intensity of damage.                 |
|  | <b>C317.3</b> | Select the relevant shape of building for seismic sustainability of structures.               |
|  | <b>C317.4</b> | Execute the relevant method of removal of defect in structures causing failure.               |
|  | <b>C317.5</b> | Execute the relevant provisions of IS code in construction of earthquake resistant buildings. |
|  | <b>C317.6</b> | Execute the post-earthquake management system.  |
| <b>(22607)</b><br>Advanced Design of Structures<br>(Elective- IV)<br><b>C318</b>   | <b>C318.1</b> | Design the steel tension members under different loading conditions.                          |
|  | <b>C318.2</b> | Design the steel compression members under different loading conditions.                      |
|  | <b>C318.3</b> | Design the doubly-reinforced rectangular RCC beams under different loading conditions.        |
|  | <b>C318.4</b> | Design the Flanged RCC beams under different loading conditions.                              |
|  | <b>C318.5</b> | Design waist slabs of RCC dog legged staircase.   |
|  | <b>C318.6</b> | Design the circular columns and the isolated RCC rectangular column footings.                 |
| <b>(22060)</b><br>Capstone Project- Execution & Report Writing<br><b>C319</b>      | <b>C319.1</b> | Implement the planned activity individually and/or as team.                                   |
|  | <b>C319.2</b> | Select, collect and use required information/knowledge to solve the identified problem.       |
|  | <b>C319.3</b> | Take appropriate decisions based on collected and analysed information.                       |
|  | <b>C319.4</b> | Ensure quality in product.  |
|  | <b>C319.5</b> | Incorporate energy and environment conservation principles.                                   |
|  | <b>C319.6</b> | Consider the ethical issues related to the project (if there are any).                        |
|  | <b>C319.7</b> | Assess the impact of the project on society (if there is any).                                |
|  | <b>C319.8</b> | Communicate effectively and confidently as a member and leader of team.                       |
|  | <b>C319.9</b> | Prepare project report after performing due plagiarism check using appropriate tools.         |
| <b>(22061)</b><br>Construction Management<br><b>C320</b>                           | <b>C320.1</b> | Organize the human resources for the Civil engineering project.                               |
|  | <b>C320.2</b> | Prepare networks and bar charts for the given construction project.                           |
|  | <b>C320.3</b> | Apply safety measures at construction projects  |
| <b>(22032)</b><br>Entrepreneurship Development<br><b>C321</b>                      | <b>C321.1</b> | Identify your entrepreneurial traits.   |
|  | <b>C321.2</b> | Identify the business opportunities that suit you.  |
|  | <b>C321.3</b> | Use the support systems to zero down to your business idea.                                   |
|  | <b>C321.4</b> | Develop comprehensive business plans.   |
|  | <b>C321.5</b> | Prepare plans to manage the enterprise effectively.   |