**19CE2104 - COMPUTER AIDED CIVIL ENGINEERING DRAWING**

**(Civil Engineering)**

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| **Course Category**  | Engineering Science | **Credits** | 2.5 |
| **Course Type** | Theory | **Lecture - Tutorial - Practical** | 1-0-3 |
| **Prerequisite**  | Building Materials andBuilding Construction | **Sessional Evaluation**  | 40 |
| **Semester End Exam Evaluation** | 60 |
| **Total Marks** | 100 |

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| **Course Objectives** | 1. To understand the basic concepts of building drawing as per NBC standards.
2. To understand the basics of planning of different types of buildings.
3. To prepare plans, sections and elevations of a residential buildings.
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| **Course Outcomes** | CO1 | Understand the terms in building drawing, and able to apply the NBC standards in building drawing. |
| CO2 | Analyze the basic principles of planning for different types of buildings. |
| CO3 | Prepare detail drawings of residential building and its components. |
| **Course Content** | **PART-A (Theory)****INTRODUCTION:** Terms used in building drawing as per NBC – Factors affecting in selection of site – Functional requirements of a residential building – Minimum size requirements as per NBC – Standard sizes of door, windows and ventilators.**PLANNING:** Principles of planning – Factors to be considered in planning – Planning of residential, Office, School and Hospital buildings – Preliminaries of vaastu – Municipal bye-law – List of documents to be submitted for building plan approval.**PART-B (Drawing)**Standard conventional signs and symbols used in Civil Engineering Drawing – Bonds in brick masonry – Paneled and flush doors – Glazed windows – Steel roof truss.Preparation of plan, section and elevation of simple residential buildings with flat roof not exceeding two storeys.**EVALUATION:**1. For End examination (Internal only), two out of three questions to be answered from Part–A (Theory) for 20 marks (i.e. 2x10=20). And one compulsory drawing question to be answered from Part-B (Drawing) for 40 marks (i,e.,1x40=40).
2. For internal evaluation, a weightage of 20 marks out of a total of 40 marks to be given for day‑to‑day work.
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| **Textbooks****and Reference books** | **TEXTBOOKS:**1. Dr. N. Kumara Swamy and A. KameswaraRao“*Building Planning and Drawing*” Charotar Publishing House Pvt. Ltd, 9thEdition, 2019.
2. Gurucharan Singh and Jagadish Singh, “*Building Planning Design and Scheduling*” Standard Publishers Distributors, 2015.
3. S.S. Bhavikatti and M.V.Chitawaagi, “*Building Planning and Drawing*”,IK International Publishing House, 2014.

**REFERENCE BOOKS:**1. Shah M.H, S.Y. Patkiand Kale C.M., “*Building Drawing with an Integrated Approach to Built Environment*” McGraw Hill Education, 6thEdition, 2020.
2. National Building Code of India 2016 (NBC 2016) (Vol.I&Vol.II), Published by the Bureau of Indian Standards (BIS).
3. Model Building Bye-laws -2016 of Govt. of India (GOI) - A.P building rules – 2017.
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**CO-PO Mapping:**3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

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|   | **a** | **b** | **c** | **d** | **e** | **f** | **g** | **h** | **i** | **j** | **k** | **l** |
| **CO1** | 2 | - | 1 | - | - | 1 | 2 | 1 | - | 2 | 3 | 2 |
| **CO2** | 3 | - | 1 | - | 2 | 2 | 2 | 1 | 2 | 1 | 3 | 2 |
| **CO3** | 3 | - | 1 | - | 3 | 2 | 2 | 1 | 2 | 1 | 3 | 1 |