20SA8551 – COMPUTER AIDED BUILDING DRAWING USING AUTO CAD

Course Category:	Skill oriented Course	Credits:	2
Course Type:	Laboratory	Lecture-Tutorial-Practical:	1-0-2
Prerequisites:	20ES1351 – Construction materials and Concrete Technology	Continuous Evaluation:	-
		Semester End Evaluation:	50
		Total Marks:	50

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	**Develop** the ability to draft civil engineering drawing using CAD software	K4
CO2	**Demonstrate** the knowledge of local bylaws and will be able to design the building in accordance with local regulations**.**	K3
CO3	**Design** the different types of building in accordance with climatic conditions, with environmentally responsibility and as per the requirements of the owner**.**	K4
CO4	**Create** working drawings for construction**.**	K6
CO5	**Create** detailed drawing of utilities including water supply, sanitary and electrical layout as layers**.**	K6

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		2	3		3	2	2					1	3	3
CO2	1	2	3		2		2					1	3	3
CO3		2	3		3	2	2					1	3	3
CO4	1	2	3		3		2					1	3	3
Avg.		2	3		3	2	2					1	3	3

1- Low **2-Medium** **3-High**

Course Content

Experiment No.1	**PRINCIPLES OF CIVIL ENGINEERING** drawing and introduction to AutoCAD, Concept of setbacks, carpet area, plinth area, floor area ratio, and floor space index, super built-up area, bubble diagram and coverage. Introduction to urban and municipal bylaws as per national building codes.	CO1, CO2
Experiment No.2	**Foundations**: Plan and sectional elevation of Stepped wall footing, isolated R.C.C stepped and sloped footing (with Reinforcement details)	CO1
Experiment No.3	**Openings**: a. Plan and sectional elevation of Doors (Fully panelled, half panelled, flush) b. Plan and sectional elevation of Windows (Fully panelled, half panelled, glazed)	CO3
Experiment No.4	Concept of plan, elevation, cross section, schedule of opening and site plan of a single bed residential building	CO3
Experiment No.5	Concept of plan, elevation, cross section, schedule of opening and site plan of a single bed residential building	CO3
Experiment No.6	Development of plan, elevation and section of building from single line diagram.	CO3
Experiment No.7	Space design of a apartment building using circulation diagram satisfying the given requirement.	CO3
Experiment No.8	Space design of a primary health Centre.	CO3
Experiment No.9	Space design of a educational building.	CO3
Experiment No.10	Space design office building.	CO3

Experiment No.11	Space design of post office and bank building.	CO3
Experiment No.12	Development of water supply, sanitary and electrical drawing for a given residential building as a layer.	CO5
Experiment No.13	Development of center line drawing for a storied building- footing, column, beam locations.	CO4
	Learning Resources	
Text Books & Reference Manuals	1. Shah M.H and Kale C.M,"Building Drawing", Tata Mc Graw Hill Publishing co. Ltd., New Delhi 2. Gurucharan Singh and Subash Chander, "Civil Engineering Drawing". (2014), English Standard Publishers and Dist., Delhi. N. Chakraborti, "Civil Engineering Drawing", 2004, Bhaktivedanta Book Trust, Kolkata.	
Reference Books	1. Shah M H and Kale C M, "Building drawing", Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi. 2. 2. Gurucharan Singh, "Building Construction", Standard publishers and distributors, NewDelhi. 3. National Building Code, BIS, New Delhi. 4. Sham Tickoo, "Understanding AUTOCAD 2004 A beginner's Guide", Wiley Dreamtech India Pvt Ltd. Jayaram M A., Rajendra Prasad D S., "A referral on CAD Laboratory", Sapna Publications.Pvt. Ltd	
e- Resources & other digital material	http://nptel.ac.in/courses.php http://jntuk-coeerd.in/	