

GUJARAT TECHNOLOGICAL UNIVERSITY

CIVIL ENGINEERING

B. E. SEMESTER: VII

Subject Name: **Project-I**

Subject Code: **170001**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam (E)		Mid Sem Exam (Theory) (M)	Practical (Internal)
				Theory	Practical		
0	0	4	4	0	100	0	50

Student has to choose any one topic from following civil engineering area. Student can carry out field project/computational project / experimental project/simulation project under the guidance of faculty members. Student has to work for selected topic and at the end of semester project report should be prepared for submission. The examination will be in form of presentation of work.

Sr. No.	Area	Suggestive list of topics
1	Earthquake Related Projects	Earthquake vibration control in building frames, Advanced earthquake resistant techniques, Seismic isolation techniques and devices, Energy dissipation techniques and devices for seismic design, sources of seismicity, geotechnical aspect in earthquake design
2	Engineering Materials Project	Smart materials, Basalt rock fibre, Cellular lightweight concrete, Mineral admixtures for high performance concrete, Glass fibre reinforced concrete, Geosynthetics, Bamboo as a building material, Silica fume concrete, Fly-ash concrete, Non-destructive testing of concrete, Ready mix concrete(RMC)
3	Surveying and Leveling Project	Use of advanced technology in surveying and mapping in civil engineering works
4	Building Planning and Design/ Building Construction Projects	Building Planning and Design, Causes Prevention and Repair of cracks in building, Rehabilitation techniques, Stability of high rise building, Analysis for seismic retrofitting in buildings, Retrofitting using FRP laminates, Rain roof water harvesting in buildings, Formwork types and design, Green buildings, Passive solar energy buildings, Zero energy buildings, Impact of lightening on buildings and remedial measures, Space structures, Rectification of building tilt

5	Transportation Engineering projects	Geometric design, Design of Flexible and Rigid pavements Traffic analysis, Mixed traffic behaviour and control, Intelligent transport system, Rural Road development, Safety aspects in transportation
6	Software and Computer Applications	Computer applications in Civil and Structural engineering- ANN, GIS, GPS and its application for real life problems, Civil and Structural engineering applications using MATLAB, Computer aided design and drafting, Geometry Optimization of space frames structures.