ELEMENTS OF CIVIL ENGINEERING (NEW)
CE-101 E (w.e.f. 2015-16)

L T P   **Theory: 75 marks**
3 1   **Sessional : 25 marks**
                                                                      Total: 100 marks
                                                                      Time: 3 Hrs.

Unit-1

Properties and uses of Construction Materials- Stones, Bricks, Cement, Concrete and Steel. Site selection for Buildings- Component of Building-Foundation-Shallow and Deep Foundations-Brick and Stone Masonry-Plastering-Lintels, Beams and Columns.

Unit-II

Surveying-Classification –Chain Survey-Ranging-Compass Surveying,
Types of levels - Fly-levelling, Bench mark & Contours.

Unit- III

Different types of Soils in India, Introduction to different types of Foundations, Bearing capacity, Elementary treatment for improvement of bearing capacity of Soil, Sieve analysis, Fineness modulus.
Roads – Classification of Rural & Urban roads, Road Marking- Traffic Signals

Unit-IV

Water supply and treatment: Water needs, estimation of water demand, impurities in water, water quality standards, water treatment systems, , need for sanitation, systems of sanitation –water borne and conservancy methods of sanitation, sewerage systems-partial, combined and separate systems.

References Books:

1 Building Construction by Sushil Kumar, Standard Publications, New Delhi.
2 Surveying & Levelling-Kanetkar and Kulkarni, PVG Prakashana, Pune.
3 Surveying Vol. I, B.C. Punmia, Laxmi Publications, Delhi.
4 Building Construction –B.C Punmia, Laxmi Publications, Delhi.
5 Soil Mechanics & Foundation Engineering- K.R. Arora, Standard Publishers & Distributors, Delhi.
6 Soil Mechanics & foundation – B.C. Punmia, Laxmi Publications, New Delhi.
7 Basic & Applied Soil Mechanics- Gopal Ranjan & A.S. R. Rao, New Age Publishers, New Delhi.
8 Highway Engineering – S.K. Khanna & C.E.G. Justo, Nem Chand Publishers, Roorkee.
9 Water Supply Engg. By S.K. Garg, Khanna Publishers, New Delhi.

Note: The Examiners will set eight questions, taking two from each unit. The students are required to attempt five questions in all selecting at least one from each unit. All questions will carry equal marks.