**Syllabus for Water and Wastewater Engg.(2160604) Semester-VI(Civil)**

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| 1. Collection and conveyance of raw water from source: Intakes, types of intakes, conveyance of water, design of pumps and gravity and rising mains  |  | | --- | | 1. Layout plan and section of water treatment plant, Estimation of raw water discharge for treatment plant, Design period, and factors considered for selection of design period. Treatment plant site selection, factors considered, future stages of expansion, selection of treatment train | |

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| 1. Water treatment processes and treatment units:   Plain sedimentation, aeration, sedimentation tank & its design, sedimentation with coagulation, types of coagulants, optimum dose of coagulants, mixing devices, design of flocculation unit |
| Layout plan and section of municipal wastewater treatment plant, Physical unit operation screening, flow equalization, mixing, flocculation, sedimentation. Chemical unit processes-chemical precipitation. Biological unit processes: Aerobic attached growth and aerobic suspended growth treatment processes |