SUBJECT NO-CE31111, SUBJECT NAME- DESIGN OF HYDRAULIC STRUCTURES

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Concrete dams â force and stress analysis for components like piers, bridges and trash rack and their reinforcement detailing; stress analysis around galleries, adits and shafts and reinforcement provisions; integrated stability analysis of concrete dams considering foundation rock; construction methods for concrete dams. Embankment dams âseepage analysis (finding the phreatic line) for different types of embankment dams; seepage control measures for embankment dams; construction methods for embankment dams. Spillways and energy dissipators â design of ogee spillways; calculations for chute spillway profiles; flow characteristics of shaft and syphon spillways; types of energy dissipators, their selection and dimensioning; flow characteristics of radial gates; introduction to relevant BIS codes and guidelines. Barrages â design of barrage structure and canal head regulator; construction methods for barrages. Irrigation structures â Canals, cross drainage works, falls and energy dissipators.