

Course Number and Name	
BCE7L2 - COMPUTER AIDED DESIGN AND DRAFTING LABORATORY	
Credits and Contact Hours	
2 & 45	
Course Coordinator's Name	
Ms.R.Chitra	
Text Books and References	
TEXT BOOK:	
<ol style="list-style-type: none"> 1. Satyanarayana Murthy, "Irrigation Design and Drawing", Published by Mrs. L. Banumathi, Tuni, East Godavari District, A.P. 1998 2. Punmia, B.C., Jain, A.K., and Jain.A., Environmental Engineering, Vol.I& Vol.II, Lakshmi Publications, Newsletter, 2005. 	
REFERENCES:	
<ol style="list-style-type: none"> 1. Krishnamurthy D, Structural Design Drawing CBS Publication. New Delhi 1985. 2. Shah M.G & Kale C.M, Building Drawing to Built to Environment –Tata McGraw Hill Co. 3. Manual on Water Supply and Treatment, CPHEEO, Ministry of Urban Development, Government of India, New Delhi, 1999. 4. Manual on Sewerage and Sewage Treatment, CPHEEO, Ministry of Urban Development, Government of India, New Delhi, 1993. 5. H.S.Peavy, D.R.Rowe and George Tchobanoglous, Environmental Engineering MoGrawHill Company, New Delhi, 1995. 6. Shah C.S, Water Supply and Sanitation, Galgotia Publishing Company, New Delhi 1994 	
Course Description	
<ul style="list-style-type: none"> • The student shall be able to conceive, design and draw all types of irrigation structures in detail showing plan, elevation and sections. • This subject includes process design (excluding Structural Design) of major units associated with water and sewage treatment and transport including house building drainage. At the end of the course, the student is expected to know about the sizing of treatment plant units and draw the general arrangement. • To understand the techniques for designing of reinforced concrete structures and steel structures 	
Prerequisites	Co-requisites
Computer Aided Building Drawing	NIL
required, elective, or selected elective (as per Table 5-1)	
Course Outcomes (COs)	
CO1	Have a fundamental knowledge of the design of irrigation structures.
CO2	Have a fundamental knowledge of the design of environmental works which can describe real life phenomena.
CO3	To learn about design and Drawing for concrete structures
CO4	To learn about design and Drawing for steel structures

Student Outcomes (SOs) from Criterion 3 covered by this Course												
COs/SOs	a	b	c	d	e	f	g	h	i	j	k	
CO1	H		H				L		M		H	
CO2	H		H				L		M		H	
CO3	H		H				L		M		H	
CO4	H	M	H		M		M		M		H	
List of Topics Covered												
UNIT I											11	
Detailed design and drawing (Not to scale) of the following reinforced concrete structures.												
1. a. Typical building floors consisting of slabs and beams.												
b. Flat slabs using BIS code formula.												
2. Isolated and combined footings.												
UNIT II											11	
Detailed design and drawing (Not to scale) of the following steel structures :												
1. a. Columns and base plate												
b. Grillage foundation												
2. Plate Girder												
UNIT III											12	
Design of following irrigation works are to be worked out and drawing (Not to Scale) are to be drawn.												
1. Earthen Dams – Sections of different types of earth dams, plan showing drainage systems.												
2. Tank Sluice Wing type												
3. Tank Surplus Weir												
4. Canal Regulator (Head regulator)												
UNIT IV											11	
Design of the following Environmental works are to be worked out and detailed drawing (Not to Scale) to be drawn.												
1. General layout of water supply scheme												
2. Mixing basin, flocculation and sedimentation tanks												
3. Slow and rapid sand filters – Service and clear water reservoirs												