SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

www.sathyabama.ac.in

SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF CIVIL ENGINEERING
BOARD OF STUDIES MEETING - Academic year 2018-2019

The periodic Board of studies meeting for the Department of Civil Engineering, School of Building and Environment will be held on 06.06.2018 at 10.00 am
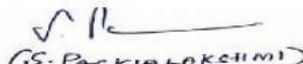
Internal members

1. Dr.S.Packialakshmi, Head and Associate Professor, Department of Civil Engineering
2. Dr.R.Padmapriya, Associate Professor, Department of Civil Engineering
3. Mrs. C. S Danee Joycee, Associate Professor, Department of Civil Engineering
4. Mrs. A. Annadurai, Associate Professor, Department of Civil Engineering

External members

1. Dr. Arul Jayachandran, Structural Engineering Division, IIT Madras, India.
2. Dr. K. Gunasekaran, Associate Professor, Division of Transportation Engineering, Anna University
3. Dr. S.T. Ramesh, Associate Professor, NIT Trichy
4. Dr. V. Balakumar, Senior Consultant at Simplex Infrastructurs Ltd
5. Ar. Rajan Venkateshwaran, Head, centre for Excel & Future Development, L&T

Agenda:

1. Review of Curriculum of both UG and PG programmes for the upcoming Academic Year
2. Implementation of Computer Applications in Civil Engineering for UG Programmes

(S. PACKIALAKSHMI)

HOD/CIVIL

SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF CIVIL ENGINEERING

Minutes of the BOS Meeting - Academic year 2018-2019

The periodic Board of Studies Meeting for the Academic Year 2018-2019 (both UG and PG programme) is held on 06.06.2018 at 10.00 am at CADD Lab - I, Civil Engineering Dept.

Members Present

1. Dr. Arul Jayachandran, Structural Engineering Division, IIT Madras, India.
2. Dr. K. Gunasekaran, Associate Professor, Division of Transportation Engineering, Anna University
3. Dr. S.T. Ramesh, Associate Professor, NIT Trichy
4. Dr. V. Balakumar, Senior Consultant at Simplex Infrastructures Ltd
5. Ar. Rajan Venkateshwaran, Head, centre for Excel & Future Development, L&T
6. Dr. S.Packialakshmi, Head and Associate Professor, Department of Civil Engineering
7. Dr.R.Padmapriya, Associate Professor, Department of Civil Engineering
8. Mrs. C. S Danee Joycee, Associate Professor, Department of Civil Engineering
9. Mrs. A. Annadurai, Associate Professor, Department of Civil Engineering

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

www.sathyabama.ac.in

After a discussion on industrial demands of Civil Engineering field in view of agenda focused, the Board of Studies members Ar. Rajan Venkateshwaran, Head, centre for Excel & Future Development, L&T and Dr. K. Gunasekaran, Associate Professor, Division of Transportation Engineering, Anna University has given suggestions to equip the students, the Computer Applications in Civil Engineering Course must be incorporated in the curriculum of UG programmes.

(S. PACKIALAKSHMI)

1.
2.
3.
4.
5.

HOD/CIVIL   **EXPERT MEMBERS**

SCI1615	COMPUTER APPLICATIONS IN CIVIL ENGINEERING	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

To study and understand the software requirements of computer, programming, optimization techniques, inventory models and scheduling techniques applied to civil engineering.

UNIT 1   INTRODUCTION   9 Hrs.

Overview of software application in civil - Structural engineering, Transportation Engineering, Foundation and Soil mechanics, Construction Management, Environmental Engineering, Water resources and Irrigation Management - Application.

UNIT 2   SOFTWARE APPLICATION IN STRUCTURAL ENGINEERING   9 Hrs.

Introduction - Drafting software - Auto CAD, Building information modeling - Revit Architecture, Design and Analysis of structure - STAAD Pro and ETABS, Structural design and detailing - STRUDS, Simulation software Finite Element Analysis - Casestudy.

UNIT 3   SOFTWARE APPLICATION IN TRANSPORTATION ENGINEERING AND SOIL MECHANICS   9 Hrs.

Introduction - Transportation planning - CUBE and TRANSCAD, Alignment software - MX Roads, Pavement design software - HDM4, Signal Co-ordination - TRANSYT, Simulation software - VISSIM and VISSUM - Case study. Sub soil investigation - DC Software, Finite Element Analysis - Plaxis - 2D and 3D, Soil displacement and stability Oasys - Case study.

**UNIT 4   SOFTWARE APPLICATION IN CONSTRUCTION MANAGEMENT AND
              ENVIRONMENTAL ENGINEERING   9 Hrs.**

Introduction - Planning and resource assessment - Microsoft Project, Project and resource management Primavera, Matchware Mind view, Project kick start, Rational plan multi project - Case study. Introduction - Finite element program for analyzing the ground water seepage - Pak P, Risk assessment tool - E-FRAT, Simulation software - BIOSCREEN - Case study.

UNIT 5   SOFTWARE APPLICATION IN WATER RESOURCES ENGINEERING   9 Hrs.

Surface water models (HMS) - Storm Water Management Models (SWMM) - culvert hydraulic design(HY) River Analysis system models (HEC-RAS)-Ground Water Flow models - Groundwater transport models. Soil water assessment simulation models (SWAT) - Basin simulation models (MITSIM, VASIM) Real time operation models Water Resources Information System, Management Information System. Decision support system for Irrigation management.

Max. 45 Hours

TEXT / REFERENCE BOOKS

1. Billy E.Gillet., "Introduction to Operations Research: A Computer - Oriented Algorithmic Approach", Tata McGraw Hill Education, 1979.
2. Paulson, B.R., "Computer Applications in Construction", Mc Graw Hill, 1995
3. Feigenbaum,L., Construction Scheduling with Primavera Project Planner Prentice Hall Inc., 2002
4. Kazda, I., "Finite element Techniques in ground water flow studies (with Applications in Hydraulic and Geotechnical Engineering)", Elsevier, 1990.

END SEMESTER EXAM QUESTION PAPER PATTERN

Max. Marks: 80   **Exam Duration : 3 Hrs.**
PART A : 10 questions of 2 marks each - No choice   **20 Marks**
PART B : 2 questions from each unit of internal choice, each carrying 12 marks   **60 Marks**