



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

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SCHOOL OF BUILDING AND ENVIRONMENT

DEPARTMENT OF CIVIL ENGINEERING

BOARD OF STUDIES MEETING - Academic year 2020-2021

The periodic Board of studies meeting - Virtual, for the Department of Civil Engineering, School of Building and Environment will be held on 01.02.2021 at 11.00 am

Internal members

1. Dr.Devyani Gangopadhyay, Dean, School of Building and Environment
2. Dr.S.Packialakshmi, Associate Professor, Department of Civil Engineering
3. Dr.R.Padmapriya, Associate Professor, Department of Civil Engineering
4. Dr.V.Sampathkumar, Professor, Department of Civil Engineering
5. Dr.S.Nandhakumar, Assistant Professor, Department of Civil Engineering

External members

1. Dr.R.Santhakumar, Professor, Department of Civil Engineering, NITTTR, Chennai
2. Dr.R.Saravanan, Associate Professor, CWR, Anna University, Chennai

Agenda:

1. Review of Curriculum for the upcoming semester courses
2. Implementation of Public Health Engineering as Choice Based Credit System Course all branches of UG Programme

Convenor/Dean

HOD

Expert member



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Minutes of the BOS Meeting - Academic year 2020-2021

The Board of Studies Meeting - Virtual for both UG and PG programme is held on 1st February, 2021 at 11.00 AM.

Members Present

- | | |
|--|---------------|
| 1. Dr.Devyani Gangopadhyay
Dean, School of Building and Environment | Convenor |
| 2. Dr.R.Santhakumar
Professor, Department of Civil Engineering, NITTTR, Chennai | Expert Member |
| 3. Dr.R..Saravanan
Associate Professor, CWR, Anna University, Chennai | Expert Member |
| 4. Dr.R.Padmapriya
Associate Professor, Department of Civil Engineering | Member |
| 5. Dr.S.Packialakshmi,
Associate Professor, Department of Civil Engineering | Member |
| 6. Dr.V.Sampathkumar,
Professor, Department of Civil Engineering | Member |
| 7. Dr.S.Nandhakumar
Assistant Professor, Department of Civil Engineering | Member |



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEPARTMENT OF PUBLIC HEALTH ENGINEERING)

After a brief introduction, the agenda were taken up for discussion and as per the constructive suggestions given by Dr. R. Santhakumar, Professor, Department of Civil Engineering, NITTTR, Chennai and Dr. R. Saravanan, Associate Professor, CWR, Anna University, Chennai, the following discussions were taken up into considerations;

- The syllabus for the Public Health Engineering for all UG Programmes was approved by Expert Committee members and implemented as CBCS for the academic year 2020-2021
- The Curriculum for the courses (both Undergraduate and Post Graduate) in the upcoming semester is meeting out the requirements of skill development / Employability / Entrepreneurship liability for the students.

Convenor/Dean

HOD

Expert member

SCIA4002	PUBLIC HEALTH ENGINEERING	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- To provide knowledge about the solid waste management and its disposal.
- To implicate the importance of wastewater treatment.
- To create awareness and importance of the Rainwater Harvesting and Artificial Recharge Techniques.
- To provide an awareness about the health impacts due to water, air and land pollution.
- To gain knowledge on various regulatory bodies and acts.

UNIT – I – SOLID WASTE MANAGEMENT

Importance of public health engineering - Role of public health engineer - Sources and types of solid wastes - Waste generation rates and variation - Components of Integrated SWM - Sustainable SWM techniques at source - Segregation and sorting, reduce, reuse, and recycle. Present scenario of SWM in Urban Local Bodies - Dumping of solid waste- sanitary landfills- waste disposal options - Case studies related to reuse of waste.

UNIT – II – WASTEWATER MANAGEMENT

Sewage - classification - Waste water treatment - primary, secondary and tertiary stages - Standards for Disposal - Methods - Self-purification of river- Oxygen sag curve - Land disposal - Sewage farming - Objectives - Sludge characterization - Thickening - Design of gravity thickener- Sludge digestion - Sludge Conditioning and Dewatering - Sludge drying beds- ultimate residue disposal - recent advances - Case studies related to wastewater reclamation.

UNIT – III – WATER QUALITY MANAGEMENT

Role of Environmental Engineer - Water supply - development of public water supply - need for protected water supplies - objectives of water supply systems – Quality of water - physical, chemical and biological aspects - analysis of water - water quality standards - Sustainable Development - Rainwater Harvesting-Artificial Recharge Techniques - Case studies related to water management.

UNIT – IV – HEALTH IMPACTS

Health and environmental effects of water, air and land pollution - Chemicals in drinking water - Sources of air pollution - Sources of land pollutants - Disease - Preventive measures - Case studies related to pollution effects.

UNIT – V – GUIDELINES FOR WATER ACT & AIR ACT

Role of regulatory bodies & Local bodies-CPCB-TWAD Board- CMWSSB etc - Case Studies related to Effective Water Management - National concern for environment: Important environmental protection acts in India - water, air (prevention and control of pollution) act.

COURSE OUTCOMES:

On completion of the course, student will be able to

- CO1 - Understand the segregation and 3R from the solid waste.
- CO2 - Perform basic design of the unit operations and processes that are used in sewage treatment.
- CO3 - Analysis of water quality criteria and standards and their relation to public health.
- CO4 - Study on health impacts and its preventive measures.
- CO5 - Understand about the various boards for water and air acts.
- CO6 - Understand the prevention and control of water and air pollution acts.

TEXT / REFERENCES BOOKS:

1. Khan, I. H., & Ahsan, N. (2019). Textbook of solid waste management. New Delhi: Satish Kumar Jain for CBS Publisher and Distributors.
2. Mantell C.L., (1975), "Solid Waste Management", John Wiley.
3. "Wastewater Engineering - Treatment and Reuse", Metcalf and Eddy Inc., (2012), 4th Edition, Tata McGraw Hill Publishing Co. Ltd., New Delhi.
4. Viessman Jr, Hammer J. M, Perez, E.M, and Chadik, P. A, Water Supply and Pollution Control, PHI Learning, New Delhi, 2009
5. CPHEEO (2016). Manual on Municipal Solid Waste Management, Central Public Health and Environmental Engineering Organisation, Ministry of Urban Development, Govt. of India, New Delhi.