

**Advanced Course on  
Recent Advances in Concrete  
Technology  
&  
Durability of Concrete Structures  
(RACT & DCS 2020)  
26 - 28 August 2020**



**Organised by  
CSIR-Structural Engineering Research Centre  
(An ISO certified organisation)  
CSIR Campus, Taramani  
Chennai – 600 113, India**

**Online  
Advanced Course**

#### Overview:

CSIR-Structural Engineering Research Centre, Chennai, is one of the national laboratories under the Council of Scientific & Industrial Research (CSIR), India. CSIR-SERC has built-up excellent facilities and expertise for the analysis, design and testing of structures and structural components. CSIR-SERC is conducting skill development programmes with the motive of creating skilled work force for the industrial/societal requirements, as a part of skill initiative programme of CSIR. Recent Advances in Concrete Technology & Durability of Concrete Structures (RACT & DCS) is one such programme being carried out for the past three years. COVID-19 has posed several challenges to entire world & various establishments of health, education, R & D, etc. In these challenging times, emerging technologies, played a significant role in their diverse forms, providing solutions and mitigating the current COVID-19 impact. Due to the COVID-19 pandemic, this year CSIR-SERC is offering RACT & DCS 2020 through online mode to reach out many people during this difficult time.

#### Introduction:

Concrete is the second most widely used construction material in the world after water. Many advancements are taking place in concrete technology for the past three decades: which include new materials, mixture proportioning, performance specifications, recycling, structural design, durability performance, condition assessment by NDT, repair & rehabilitation, etc. The growing interest in sustainable materials and structures has led to considerable R & D efforts in the development of viable alternative materials for Portland cement and aggregates. These include: Geopolymer using industrial byproduct as binder source material, recycled aggregate, other alternative aggregates such as copper slag, fly ash aggregate, and blast furnace slag, etc.

In recent years, researchers have focused on the improvement of concrete quality regarding its mechanical and durability parameters, service life and environmental aspects. Generally, concrete structures have the potential to be durable and capable of withstanding different environmental conditions. However, penetration of chlorides, carbon dioxide (CO<sub>2</sub>), moisture, etc., can cause the corrosion of rebars and deteriorate the structure. Making of durable concrete and taking suitable control measures on structures at the appropriate time can enhance the service life.

In view of the present state of practices and technological advancements, it is proposed to organise three days advanced course to disseminate the knowledge to various academicians, researchers, practicing engineers, applicators, etc. The advanced course RACT & DCS 2020 is intended to provide clear exposure to current research activities in India and also to bring out the emerging trends in concrete technology and durability of reinforced concrete structures. The programme is designed to have a series of lectures by the scientists of CSIR-SERC and also the leading experts and technologists in the area of concrete technology, durability of concrete, repair & rehabilitation.

#### Objective:

The primary objective of the course is to provide an opportunity for researchers/scholars, practising engineers, academicians and consultants belonging to the public and private sector organisations/institutions, and other engineering professionals to familiarise themselves with the recent developments in concrete technology, durability related issues such as corrosion of reinforced concrete structures, condition assessment by non-destructive testing (NDT), and repair & rehabilitation.

#### Course contents:

Following are the main course contents

- Advancements in concrete technology
- Geopolymer concrete, ultra-high performance concrete, etc.
- Self-compacting concrete, eco-friendliness of concrete
- Nanotechnology for cementitious composites
- Durability of reinforced concrete, service life corrosion assessment
- NDT, Repair and rehabilitation of concrete structures
- Field experience and problems during concrete construction
- 3D printing of concrete

#### Duration:

Three days; Time 10:00 a.m. to 04.00 p.m.

#### Fee:

**Rs.1500/- per participant inclusive of GST for Indian delegates and US \$ 40/- for foreign delegates.** Course material (pdf format) and participation certificate shall be provided to all the registered participants. The brochure and details of the registration can be downloaded from the CSIR-SERC web site <https://serc.res.in>

#### Registration:

Course registration can be completed through online by using the following link (<http://forms.serc.res.in/view.php?id=33087>). Please select the intended course, fill all the particulars and pay the registration fee by clicking the SBI collect in the registration form.

#### Requirements for the online mode:

Desktop/Laptop/Smartphone with good internet speed and sufficient data pack. A web link will be sent to the registered participants for joining the course.

#### For further details, please contact:

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