

## **Self Compacting Concrete by using GGBS**

The Aim of the project is to increase the durability characteristic properties of the concrete. Generally in concrete the evolution of carbon dioxide is high and it causes pollution in the environment. By adding GGBS in the cement to reduce the pollution and to improve the durability property of the structure. In this project I am trying to improve the quality of concrete and also trying to improve the mechanical properties of the material. Self-Compacting Concrete is a kind of concrete which is capable of flowing into the form work uniformly, without segregation and bleeding, better finishes, easier placement, solvent concrete sections, no vibration, safer working environment without any application of vibration. Nowadays the waste materials like silica fume, fly ash are keep on increasing so if these materials are replaced for cement then the emission of carbon dioxide will be reduced and the pollution will be reduced. If we add GGBS we would attain maximum durability and emission will be reduced.

### **Reference**

- 1) A review on GGBS in Concrete.
- 2) Study on Self Compacting Concrete.

# Anna University



Reg.No. 960415413007/RG

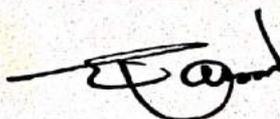
*The Syndicate of the Anna University hereby makes known that*  
**NAINAR E** *has been admitted to the* **DEGREE OF MASTER OF**  
**ENGINEERING** *in* **STRUCTURAL ENGINEERING** *under the*  
*Faculty of Civil Engineering, having completed the prescribed programme of*  
*study and having been certified by the duly appointed examiners to be qualified to*  
*receive the same, and has been placed in* **FIRST CLASS** *at the Examination held*  
*in* **JUNE 2017** .

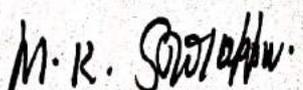
*Given under the Seal of the University*



Chennai 600 025  
India  
June 2018

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor



**ANNA UNIVERSITY, CHENNAI - 25**  
**M.E. DEGREE EXAMINATIONS**  
**CONSOLIDATED STATEMENT OF GRADES**



N1132073010017E

Folio No. AUU1638492

|                            |                                |        |      |                                 |              |  |
|----------------------------|--------------------------------|--------|------|---------------------------------|--------------|--|
| NAME OF THE CANDIDATE      | NANAR E                        |        |      | REGISTER NO.                    | 960415413007 |  |
| DATE OF BIRTH              | 11-SEP-88                      | GENDER | MALE | MONTH & YEAR OF LAST APPEARANCE | JUN 2017     |  |
| COLLEGE OF STUDY           | C.S.I. INSTITUTE OF TECHNOLOGY |        |      | REGULATIONS                     | 2013         |  |
| PROGRAMME & SPECIALIZATION | M.E. Structural Engineering    |        |      |                                 |              |  |

| SEMI NO | COURSE CODE | COURSE TITLE                                  | CREDITS | LETTER GRADE | GRADE POINT | MONTH & YEAR OF PASSING |
|---------|-------------|---|---------|--------------|-------------|-------------------------|
| 01      | MA7154      | Advanced Mathematical Methods                 | 4       | D            | 6           | JUN 2016                |
| 01      | ST7101      | Concrete Structures                           | 3       | C            | 7           | JAN 2016                |
| 01      | ST7102      | Structural Dynamics                           | 3       | D            | 6           | JAN 2016                |
| 01      | ST7103      | Theory of Elasticity and Plasticity           | 3       | C            | 7           | JAN 2016                |
| 01      | CN7001      | Advanced Concrete Technology                  | 3       | C            | 7           | JAN 2016                |
| 01      | ST7002      | Maintenance and Rehabilitation of Structures  | 3       | B            | 8           | JAN 2016                |
| 02      | ST7201      | Finite Element Analysis                       | 3       | D            | 6           | JUN 2016                |
| 02      | ST7202      | Experimental Techniques and Instrumentation   | 3       | D            | 6           | JUN 2016                |
| 02      | ST7203      | Steel Structures                              | 3       | C            | 7           | JUN 2016                |
| 02      | ST7204      | Earthquake Analysis and Design of Structures  | 3       | C            | 7           | JUN 2016                |
| 02      | ST7008      | Pre-Stressed Concrete                         | 3       | C            | 7           | JUN 2016                |
| 02      | ST7010      | Design of Sub Structures                      | 3       | B            | 8           | JUN 2016                |
| 02      | ST7211      | Advanced Structural Engineering Laboratory    | 2       | S            | 10          | JUN 2016                |
| 03      | ST7013      | Design of Steel Concrete Composite Structures | 3       | C            | 7           | NOV 2016                |
| 03      | ST7016      | Prefabricated Structures                      | 3       | C            | 7           | NOV 2016                |
| 03      | ST7018      | Stability of Structures                       | 3       | C            | 7           | NOV 2016                |
| 03      | ST7311      | Seminar                                       | 1       | S            | 10          | NOV 2016                |
| 03      | ST7312      | Practical Training (4 Weeks)                  | 1       | S            | 10          | NOV 2016                |
| 03      | ST7313      | Project Work (Phase I)                        | 6       | S            | 10          | NOV 2016                |
| 04      | ST7411      | Project Work (Phase II)                       | 12      | S            | 10          | JUN 2017                |

\*\*\* End of Statement \*\*\*

**Cumulative Grade Point Average : 7.87**

**Classification : FIRST CLASS**

Medium of instruction : ENGLISH

Chennai - 600 025.

Date : 31/08/2017

SIGNATURE OF THE STUDENT



*[Signature]*

CONTROLLER OF EXAMINATIONS



# C.S.I. INSTITUTE OF TECHNOLOGY

(An ISO 9001 : 2000 Certified Institution)

THOVALAI, KANYAKUMARI DISTRICT - 629 302, TAMIL NADU.

(A Christian Minority Engineering College Approved by AICTE

Vide No. F730-52-270 RC/84 dated 30-06-1995 and Affiliated to Anna University)



## TRANSFER CERTIFICATE

Sl. No: 6434

Date: 01-07-2017

1. Name : NAINAR E
2. Sex : MALE
3. Name of Father : Mr. N. EASWARAMOORTHY
4. Nationality : INDIAN
5. Religion & Caste : HINDU VELLALAR
6. Community : OC
7. Date of Birth : 11-09-1993
8. Date of Admission : 03-06-2015
9. Class to which admitted : M.E. - FIRST YEAR
10. Branch of Study : STRUCTURAL ENGINEERING
11. Admission No. : ST1507
12. Date on which the student left the college : 30-06-2017
13. Class in which the student was studying at the time of leaving : 4<sup>TH</sup> SEMESTER (FINAL YEAR)
14. Reason for leaving the college : COURSE COMPLETED
15. Name of the University Exam. & Reg. No. the student last appeared : ANNA UNIVERSITY, 960415413007
16. Whether passed the examination or not : REFER MARK SHEET
17. Conduct & Character : *Good*



*[Signature]*  
Signature of Principal  
Principal

C.S.I. INSTITUTE OF TECHNOLOGY  
THOVALAI - 629 302



# ST. JOSEPH UNIVERSITY

(A State Private University Established under Nagaland Govt. Act No. 6 of 2016, Recognized by UGC)  
(Approved by All India Council for Technical Education (AICTE), F.No. Eastern /2018-19/1-3702691021)

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Website: [www.stjosephuniv.edu.in](http://www.stjosephuniv.edu.in)  
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+91 9485238534

Dr. A. Kanchana, M.Sc., M.Phil., Ph.D.,  
Registrar

No.: SJU/APT/TS/2017-18/

Dated 28-05-2018

To

Mr. E.NAINAR  
No: 1/84 Kamalnagar,  
Thovalai.  
Kanyakumari -629302  
Tamilnadu

Sub: SJU – Establishment – Mr. E.NAINAR, M.E.,-Appointment –Assistant Professor- Civil  
Engineering Department-Orders-Issued-regarding

\*\*\*\*\*

Based on the recommendation of staff selection committee **Mr. E.NAINAR, M.E.**, is appointed as Assistant Professor in the Department of **Civil Engineering**, subject to the provisions of the St. Joseph University Act, 2016 and the Statutes, Ordinances and Regulations made thereunder and such other rules and orders issued from time to time by the St. Joseph University or by such other authority who may be competent to issue such rules, orders, etc., under the said Statutes.

You will be offered a basic pay of Rs. 25,000/- per month in the pay band 15,600-39,100/-

## Terms & Conditions:

### General:

1. The appointment takes effect from the date of reporting to duty or date of acceptance but for the purpose of computing salary the date of reporting to duty shall be taken into consideration.
2. He / She have to work under the supervision and guidance of the Head of the Institution and discharge the duties as assigned from time to time.
3. He / She should not take up any other employment (paid or honorary) or carry out similar activities (including studies) elsewhere without the explicit permission of the management.
4. He / She will be governed by the rules of the institution, which is now in force and which may come into force in future.



# Loyola Institute of Technology & Science

( A Christian Minority Institution - Guided by Jesuits )

Loyola Nagar, Thovalai – Rajavoor Road, Thovalai Post - 629 302, Kanyakumari District, Tamilnadu  
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e-mail : lites2008@hotmail.com, chairman@lites.edu.in, principal@lites.edu.in website : www.lites.edu.in

Approved by AICTE  
No: 06/05/TN/ENGG/2007/33 dt.16/5/08

Affiliated to Anna University, Chennai  
No. 104/Affiliation/2008 dt.3/7/08

**DR. J.D. DARWIN, M.E., Ph.D.,**  
Principal

Ref: LITES/PRI/HRD/EC/2018-19/04

Date: 17-09-2018

## EXPERIENCE CERTIFICATE

This is to certify that **Mr. E. Nainar, M.E.**, was employed as **Assistant Professor** in the **Civil Engineering** Department of our Institute from 10-07-2017 to 26-06-2018.

During the period of service, his conduct and character were found to be good.



Principal

**Dr. J. D. DARWIN, M.E., Ph.D.,**  
**PRINCIPAL**

LOYOLA INSTITUTE OF TECHNOLOGY & SCIENCE  
LOYOLA NAGAR, THOVALAI - RAJAVOOR ROAD  
THOVALAI - 629302 KANYAKUMARI DIST.

आयकर विभाग  
INCOME TAX DEPARTMENT



भारत सरकार  
GOVT. OF INDIA

स्थायी लेखा संख्या कार्ड  
Permanent Account Number Card  
**ADBPE7124P**



नाम / Name  
**E NAINAR**

पिता का नाम / Father's Name  
**EASWARAMOORTHY**

जन्म की तारीख / Date of Birth  
**11/09/1993**

*E. Nainar*  
हस्ताक्षर / Signature





# India Driving Licence(Tamilnadu)

Form 7

DOI 01/07/2013

D.L.No TN74 20130005325  
Name NAINAR E  
S D W of EASWARAMOORTHY N  
Address  
1/84, KAMAL NAGAR  
THOVALAI, THOVALAI TK  
KANYAKUMARI DIST 629704  
Temp.Addr:  
NEW BHARATH DRIVING SCHOOL  
D.O.B. : 11/09/1993 B.G. :



Punishments:



Naug