



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

(2015-2016)

| S.No | One credit course need analysis sheet | |
|------|---|--------------------------------------|
| 1. | Name of the Course | Blg - Precast Technology in Building |
| 2. | Name of the Industry | L & T Bangalore |
| 3. | Name of the SIG associated with | Structures - Analysis & Design |
| 4. | Motivation for offering the course | |
| 4.1 | Feedback (If yes, Details of the feedback as per the annexure I) | |
| | From Recruiter | Y/N |
| | From Employer | Y/N |
| | From Alumni | Y/N |
| | From Academic Council members | Y/N |
| | From Board of Studies members | Y/N |
| | From Senior students | Y/N |
| | From current students | Y/N |
| | From Performance Assessment Committee | Y/N |
| | From Department Advisory committee | Y/N |
| 4.2 | Faculty participation in Seminar/FDP (If yes, details) | |
| | At higher learning institutes | NIL |
| | At Industry | NIL |
| 5. | Outcomes expected | |
| | Technology transfer | ✓ |
| | Student Internship | - |
| | Placement | - |
| | Organizing FDP/seminar at TCE | - |
| | Collaborative research/consultancy projects | - |
| | Faculty as Trainee/Trainer in the Industry | - |
| | Joint publications | - |
| | Setting up of Lab/Infrastructure | - |



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

Attendance sheet for the one/~~two~~ credit

Name of the Course: Blm - Precast Technology in Buildings
 Name of the Industry: Larsen & Tubson Ltd, Bangalore
 Name of the Expert: Mr. R. Karunanithi
 Number of Students enrolled: 102
 Name of the Faculty: R. SANKARANARAYANAN
 Date/Time/Venue: 29.08.15 & 30.8.15
 9.00 to 5.00PM
 Cini - Conference Hall

| S.No | Reg.No | Name | Department | Signature |
|------|--------|-------------|------------|-----------|
| | | | | |
| | | | | |
| | | As enclosed | | |
| | | | | |
| | | | | |

R. Sankaranarayan
Signature of the Faculty Coordinator



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

TCE-III

Course Schedule

Name of the Course: *BN - Precast Technology in Buildings*
 Name of the Industry: *Larsen & Turbo Ltd, Bangalore*
 Name of the Expert: *Er. R. Karunanithi*
 Number of Students enrolled: *102*
 Name of the Faculty: *R. SANKARANARAYANAN*
 Date/Time/Venue: *29.08.15 & 30.8.15*
Civ. Conference Hall

| Date | Time | Topics | Remarks |
|------|-----------------|------------------------|---------------------|
| Day1 | 9.00 to 11.00AM | Module No 1.0 & 1.1 | } Syllabus enclosed |
| | 11.30 to 1.00PM | 1.2 & 1.21 & 1.3 | |
| Day2 | 2.00 to 3.00 | 2.0, 2.1, 2.1.1, 2.1.2 | |
| | 3.15 to 5.00PM | 2.2 & 2.3 | |
| | — | | |

R. Sankaranarayanan
 Signature of the Faculty coordinator


THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

 Course Instructor Feedback for One/~~Two~~ credit course


TCE-III

Name of the Course: Blk - Precast Technology in Buildings.
 Name of the Industry: Laisen & Tesson Ltd, Bangalore
 Name of the Expert: Er. R. Karunanithi
 Date/Time/Venue: 29.8.15 & 30.8.15.

one-page writeup (enclosed)

| | Comments |
|---|--------------|
| Student attendance | Satisfactory |
| Level of the students in understanding the concepts | Very good |
| Any suggestions regarding new content to be included as Prerequisites/Special electives | NIL |
| Hall/Lab arrangements | good |
| Hospitality | good |

for 
 Signature of the Course Instructor


 Signature of Head of the Department



ONE CREDIT COURSE
BIG – PRECAST TECHNOLOGY IN BUILDINGS
ATTENDANCE

Branch: Civil Engineering

| Sl No | Roll No | Sec | Name | 29.8.15 | 29.8.15 | 30.8.15 | 30.8.15 | % |
|-------|---------|-----|------------------------|---------|---------|---------|---------|-----|
| 1 | 13B02 | V | AJEETH, A.N. | / | / | / | / | 100 |
| 2 | 13B05 | V | ARJUN, S. | / | / | / | / | 100 |
| 3 | 13B07 | V | ARUNKUMAR, S. | / | / | / | / | 100 |
| 4 | 13B09 | V | BALAMURUGAN, R. | / | / | / | / | 100 |
| 5 | 13B12 | V | BOOPATHI, K.S. | / | / | / | / | 100 |
| 6 | 13B13 | V | CHANDRA SHEKAR, V. | / | / | / | / | 100 |
| 7 | 13B15 | V | DHIVAKARAN, K.S. | / | / | / | / | 100 |
| 8 | 13B16 | V | DHIVYASHRI, H. | / | / | / | / | 100 |
| 9 | 13B17 | V | DINESH DEVANANDH, K. | / | / | / | / | 100 |
| 10 | 13B18 | V | DINESH KUMAR, G. | / | / | / | / | 100 |
| 11 | 13B23 | V | GANGA SINGH, J. | / | / | / | / | 100 |
| 12 | 13B26 | V | GOKULNATH, R. | / | / | / | / | 100 |
| 13 | 13B27 | V | GOPAL, P. | / | / | / | / | 100 |
| 14 | 13B38 | V | MANEMARAN, C. | / | / | / | / | 100 |
| 15 | 13B42 | V | MANISHA, K. | / | / | / | / | 100 |
| 16 | 13B46 | V | MEENAKSHI, S. | / | / | / | / | 100 |
| 17 | 13B45 | V | MATHIVANAN, K.M. | / | / | / | / | 100 |
| 18 | 13B135 | V | TAMILSELVAN, P. | / | / | / | / | 100 |
| 19 | 13B55 | V | MUZAMMIL AHAMED, A. | / | / | / | / | 100 |
| 20 | 13B126 | V | MUTHUKUMAR, S. | / | / | / | / | 100 |
| 21 | 13B132 | V | SHAKTHI PRIYA, D.S. | / | / | / | / | 100 |
| 22 | 13B139 | V | VENKATESH, K.K. | / | / | / | / | 100 |
| 23 | 14TB01 | V | PRETHIVI RAAJAN | / | / | / | / | 100 |
| 24 | 13B53 | V | MUNIRATHINAM, M. | A | / | / | / | 75 |
| 25 | 13B129 | V | PAVITHRA SANGARI, P.V. | / | / | / | / | 100 |
| 26 | 13B41 | V | MANIKANDAN, S. | / | / | / | / | 100 |
| 27 | 13B25 | V | GOKULHASAN, S. | / | / | / | / | 100 |
| 28 | 13B28 | V | ILAKKIYA, B. | / | / | / | / | 100 |
| 29 | 13B01 | V | ABDUS SALAM JAWAHAR, U | A | / | / | / | 75 |
| 30 | 13B61 | V | NIVETHA, S. | / | / | / | / | 100 |
| 31 | 13B62 | V | NIVETHITHA, S. | / | / | / | / | 100 |
| 32 | 13B64 | V | PAVITHRA SANGAVI, V. | / | / | / | / | 100 |
| 33 | 13B65 | V | PRADEEP REYNOLD, A. | / | / | / | / | 100 |
| 34 | 13B67 | V | PRAKASH, R. | / | / | / | / | 100 |
| 35 | 13B70 | V | PRAVEEN KUMAR, GR. | / | / | / | / | 100 |
| 36 | 13B71 | V | PRAVEEN, K. | / | / | / | / | 100 |
| 37 | 13B72 | V | PREETHA, M | / | / | / | / | 100 |
| 38 | 13B75 | V | PRIYADHARSHINI, E. | / | / | / | / | 100 |
| 39 | 13B76 | V | PRIYANKA, A.J. | / | / | / | / | 100 |
| 40 | 13B79 | V | RAHUZL, A.D.P. | / | / | / | / | 100 |
| 41 | 13B81 | V | REETHIKA MEENAKSHI, P. | / | / | / | / | 100 |
| 42 | 13B83 | V | SANGILIPANDI, M. | / | / | / | / | 100 |

| | | | | | | | | |
|----|--------|-----|--------------------------------|---|---|---|---|-----|
| 43 | 13B84 | V | SANKAVI, C.S. | / | / | / | / | 100 |
| 44 | 13B85 | V | SARAVANAKANNAN, M. | / | / | / | / | 100 |
| 45 | 13B86 | V | SARAVANAN, P. | / | / | / | / | 100 |
| 46 | 13B90 | V | SELVENDRAN, B. | / | / | / | / | 100 |
| 47 | 13B92 | V | SHIVAPARAMAESHWARI, S. | / | / | / | / | 100 |
| 48 | 13B93 | V | SIDDHARTH, S. | / | / | / | / | 100 |
| 49 | 13B95 | V | SIVA, P.E. | / | / | / | / | 100 |
| 50 | 13B96 | V | SOUNDAR RAJ, S. | / | / | / | / | 100 |
| 51 | 13B97 | V | SUBANITHA, R. | / | / | / | / | 100 |
| 52 | 13B98 | V | SUNANTHAPRIYA, S. | / | / | / | / | 100 |
| 53 | 13B99 | V | SURENDRAN, S. | / | / | / | / | 100 |
| 54 | 13B101 | V | SWEETY, S. | / | / | / | / | 100 |
| 55 | 13B102 | V | VALLIAMMAI, MR. | / | / | / | / | 100 |
| 56 | 13B103 | V | VEERA SELVI, S. | / | / | / | / | 100 |
| 57 | 13B107 | V | VIGNESH WARAN, G. | / | / | / | / | 100 |
| 58 | 13B108 | V | VIGNESH, M. | / | / | / | / | 100 |
| 59 | 13B109 | V | VIGNESH, V. | / | / | / | / | 100 |
| 60 | 13B110 | V | VIGNESHWARI, S.N. | / | / | / | / | 100 |
| 61 | 13B111 | V | VIKRAM, C. | / | / | / | / | 100 |
| 62 | 13B112 | V | VIMAL KUMAR, S. | / | / | / | / | 100 |
| 63 | 13B114 | V | VISHNUVARDHAN, S. | / | / | / | / | 100 |
| 64 | 13B115 | V | VISHNUVARDHINI, S. | / | / | / | / | 100 |
| 65 | 13B116 | V | ZUBIN SIDDHARTH KRISHNA, D. | / | / | / | / | 100 |
| 66 | 13B133 | V | SHANKARA NARAYANAN, M. | / | / | / | / | 100 |
| 67 | 13B141 | V | VISHNU, M. | / | / | / | / | 100 |
| 68 | 13B80 | V | RAJGANESH, P. | / | / | / | / | 100 |
| 69 | 13B88 | V | SATHISH KUMAR, P. | / | / | / | / | 100 |
| 70 | 13B32 | V | KARTHIK, M | / | / | / | / | 100 |
| 71 | 13B08 | V | ARUN RAJA, M. | / | / | / | / | 100 |
| 72 | 13B20 | V | DURRAVASAN, G. | / | / | / | / | 100 |
| 73 | 13B54 | V | MUNISH KUMAR, M | / | / | / | / | 100 |
| 74 | 13B137 | V | THIRUVENKATAM, S. | / | / | / | / | 100 |
| 75 | 13B94 | V | SINDHU, S. | / | / | / | / | 100 |
| 76 | 12B01 | VII | ABIRAMI, M. | / | / | / | / | 100 |
| 77 | 12B02 | VII | AJITHAKALAIVANI, C. | / | / | / | / | 100 |
| 78 | 12B03 | VII | AJITESH, K. | / | / | / | / | 100 |
| 79 | 12B04 | VII | AMIT BINGLESH, J. | / | / | / | / | 100 |
| 80 | 12B08 | VII | ANUSHA, S. | / | / | / | / | 100 |
| 81 | 12B13 | VII | ARUN PRAVEENA, S. | / | / | / | / | 100 |
| 82 | 12B16 | VII | ASWINVENKAT, B. | / | / | / | / | 100 |
| 83 | 12B22 | VII | DHIVYA, M. | / | / | / | / | 100 |
| 84 | 12B28 | VII | EVANGELIN ABISHA, J. | / | / | / | / | 100 |
| 85 | 12B30 | VII | GOWTHAM, R. | / | / | / | / | 100 |
| 86 | 12B43 | VII | KAVYA, P.M. | / | / | / | / | 100 |
| 87 | 12B45 | VII | KRISHNAMOORTHY, T. | / | / | / | / | 100 |
| 88 | 12B46 | VII | KRISHNAVENI, K. | / | / | / | / | 100 |
| 89 | 12B47 | VII | KUMAR VAIRAVAN, AR. | / | / | / | / | 100 |
| 90 | 12B50 | VII | MADHAVAN, M. | / | / | / | / | 100 |
| 91 | 12B53 | VII | MANIBALAN, G. | / | / | / | / | 100 |
| 92 | 12B55 | VII | MANOJ KUMAR, R.M. | / | / | / | / | 100 |
| 93 | 12B57 | VII | MARISELVAM, M. | / | / | / | / | 100 |

| | | | | | | | | |
|-----|--------|-----|---------------------|---|---|---|---|-----|
| 94 | 12B58 | VII | MATHRI RAGHISHA, S. | / | / | / | / | 100 |
| 95 | 12B60 | VII | MEENA ROSHENI, K. | / | / | / | / | 100 |
| 96 | 13LB06 | VII | DINESH, M. | / | / | / | / | 100 |
| 97 | 13LB10 | VII | KEERTHANA, P. | / | A | / | / | 75 |
| 98 | 13LB23 | VII | SIVAPRAKSH.K | / | / | / | / | 100 |
| 99 | 13LB03 | VII | CHARUMALAR,M. | / | / | / | / | 100 |
| 100 | 13TB01 | VII | MONISA SIVAGAMI,M. | / | / | / | / | 100 |
| 101 | 13LB25 | VII | SUDHAKAR,M | A | / | / | / | 75 |
| 102 | 13LB12 | VII | MANCHUNATHAN, T.A | A | / | / | / | 75 |

R. Sankaranarayanan
Staff-In-Charge


HDCE

B1G

PRECAST TECHNOLOGY IN BUILDINGS

Category L T P Credit
OC 1 0 0 1

Preamble

Precast is an industrialized way to build. It means transfer of work from sites to factories which improves productivity, quality and shortens construction time of a building. Precast also has lower lifetime costs than any other building solution. This is possible due to consistent high quality of industrially produced products.

Precast suits well for any type of building namely; residential, commercial, industrial, public etc. This course gives an exposure on the need and importance of using precast technology along with awareness on the technology.

Prerequisite

- Knowledge on building construction

Course Outcomes

On the successful completion of the course, students will be able to:

- (CO1) Compare Precast and cast in-situ technology with implementation challenges Understand
- (CO2) Explain the details of production / erection of Hollow core slab with precautions to be taken Understand
- (CO3) Identify the planning aspects for precast projects along with Machinery usage Understand
- (CO4) Enumerate the details of Stacking, Handling, Transportation and Erection of precast elements with precautions Apply
- (CO5) Discuss the fixing and jointing in precast buildings with construction sequence Apply

Mapping with Programme Outcomes

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| CO1. | - | - | - | - | - | - | M | - | - | - | - | - |
| CO2. | - | - | - | - | - | - | - | - | - | M | - | - |
| CO3 | - | - | M | - | - | M | L | - | M | M | M | L |
| CO4 | - | - | - | - | - | - | L | - | L | M | - | - |
| CO5. | - | - | M | - | - | - | - | - | - | M | - | - |

S- Strong; M-Medium; L-Low

Assessment Pattern

| S. No. | Bloom's Category | Test 1 | End -semester Examination |
|--------|------------------|--------|---------------------------|
| 1. | Remember | 20 | 20 |
| 2. | Understand | 50 | 40 |
| 3. | Apply | 30 | 40 |
| 4. | Analyze | 0 | 0 |
| 5. | Evaluation | 0 | 0 |
| 6. | Create | 0 | 0 |

Course Level Assessment Questions

Course Outcome 1 (CO1):

1. Mention the need and advantages of using precast technology

2. Define the term modular co-ordination mentioning its purpose
3. Discuss the challenges that would be faced while implementing precast technology in relation to Indian context
4. Enumerate the factors you would consider when deciding to implement precast concrete construction

Course Outcome 2 (CO2):

1. Explain the details to be noted in the production of hollow core slabs
2. Discuss the merits of hollow core slabs over solid slabs mentioning the applications of each
3. Enumerate the precautions to be taken in erection of hollow core slabs mentioning its need

Course Outcome n (CO3)

1. Explain the points you would consider in planning of precast projects
2. As an engineer in-charge of precast installation illustrate the provisions and precautions you would consider in jointing of components
3. Discuss the machinery used with purpose in precast construction

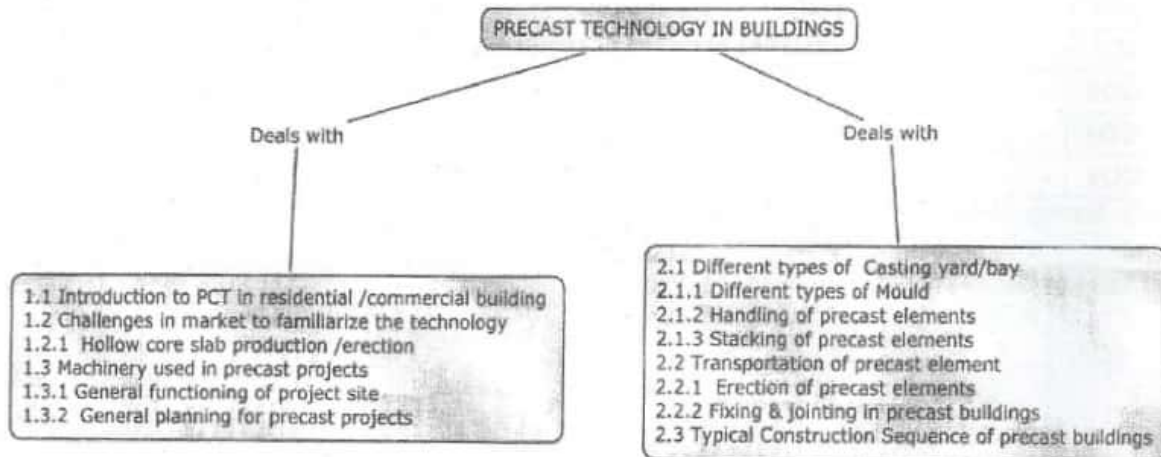
Course Outcome n (CO4)

1. As an engineer discuss the process of stacking of precast units considering a specific unit with precautions to be taken
2. Discuss the points to be considered in transportation of precast units
3. Discuss the precautions to be taken while erection of precast elements

Course Outcome n (CO5)

1. As a site engineer identify the sequence of fixing and jointing of wall panels in a building
2. Discuss the tolerances to be provided while fixing and jointing of precast elements
3. Discuss the good practices in jointing of elements

Concept Map



Syllabus

Introduction to precast technology in residential /commercial building -
 Challenges in market to familiarize the technology - Hollow core slab production

/erection - Machinery used in precast projects - General functioning of project site - General planning for precast projects - Different types of Casting yard/bay - Different types of Mould - Handling of precast elements - Stacking of precast elements -Transportation of precast element - Erection of precast elements - Fixing & jointing in precast buildings - Typical Construction Sequence of precast buildings.

Reference Books

1. IS: 15916 -2011, "Building Design and Erection using Prefabricated Concrete - Code of Practice"
2. NBN EN 1168-2005, "Precast Concrete Products - Hollow Core Slabs"

Course Contents and Lecture Schedule

| Module No. | Topic | No. of Lectures |
|-------------|--|-----------------|
| 1.0 | Precast Technologies in Buildings | |
| 1.1 | Introduction to Precast Technologies in residential and commercial buildings | 1 |
| 1.2 | Challenges in implementation of Precast Technologies | 1 |
| 1.2.1 | Hollow Core slab production/ erection | 1 |
| 1.3 | Machineries used for precast projects | 1 |
| 1.3.1 | General functions of project site | 1 |
| 1.3.2 | General planning for precast projects | 1 |
| 2.0 | Installation of precast products | |
| 2.1 | Types of casting yards/ bay for precast products | 1 |
| 2.1.1 | Different types of moulds used for precast products | 1 |
| 2.1.2 | Handling of precast elements | 1 |
| 2.1.3 | Stacking of precast elements | 1 |
| 2.2 | Transportation of precast elements | 1 |
| 2.2.1 | Erection of precast elements | 1 |
| 2.2.2 | Fixing and jointing in precast buildings | 1 |
| 2.3 | Typical construction sequence of precast buildings | 1 |
| Total Hours | | 14 |

Course Designers:

1. Mr. R. Karunanithi,
L&T, Bangalore

karunanithi@Intecc.com

TEQIP SPONSORED 1 Credit Course titled

"B1G – Precast Technology in Buildings"

TEQIP sponsored 1 credit course titled "B1G – Precast Technology in Buildings" was organized by the Department of Civil Engineering for the students of B.E Civil Engineering programme. The resource person for the course was **Mr. R. Karunanithi**, Manager, Precast Production, Larsen & Toubro Ltd., Bangalore. Around hundred students of V and VII semester B.E Civil Engineering programme registered for the course. The course was conducted on 29.8.15 (Saturday) and 30.8.15 (Sunday) with 5 sessions each. Each session was conducted for 1½ hours.

The students were given exposure on various aspects of precast technology in residential /commercial buildings – challenges to familiarize the technology - hollow core slab production/erection- machinery used in precast projects - planning of precast projects - handling, stacking, transportation and erection of precast elements - fixing and jointing with typical construction sequence of precast buildings. Assessment of student learning was done through assignments. It is also proposed to conduct the end semester examination for the students by the mid of October 2015.

PAID BY CHEQUE No / CASH
237218
Date: 19.10.15



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

(2015 - 2016)

| S.No | One credit course need analysis sheet | |
|------|---|--|
| 1. | Name of the Course | BIH - FRAMING OF VARIOUS STRUCTURES AND OPTIMUM FOUNDATION SYSTEMS |
| 2. | Name of the Industry | L & T, CHENNAI |
| 3. | Name of the SIG associated with | STRUCTURES - ANALYSIS AND DESIGN |
| 4. | Motivation for offering the course | |
| 4.1 | Feedback (If yes, Details of the feedback as per the annexure I) | |
| | From Recruiter | Y/N |
| | From Employer | Y/N |
| | From Alumni | Y/N |
| | From Academic Council members | Y/N |
| | From Board of Studies members | Y/N |
| | From Senior students | Y/N |
| | From current students | Y/N |
| | From Performance Assessment Committee | Y/N |
| | From Department Advisory committee | Y/N |
| 4.2 | Faculty participation in Seminar/FDP (If yes, details) | |
| | At higher learning institutes | NIL |
| | At Industry | NIL |
| 5. | Outcomes expected | |
| | Technology transfer | ✓ |
| | Student Internship | — |
| | Placement | * — |
| | Organizing FDP/seminar at TCE | — |
| | Collaborative research/consultancy projects | — |
| | Faculty as Trainee/Trainer in the Industry | — |
| | Joint publications | — |
| | Setting up of Lab/Infrastructure | — |



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

(2015-16)

Attendance sheet for the one/~~two~~ credit

Name of the Course: BIH - FRAMING OF VARIOUS STRUCTURES AND OPTIMUM FOUNDATION SYSTEMS
 Name of the Industry: LRT, CHENNAI
 Name of the Expert: Ex. S. PRASANNA
 Number of Students enrolled: 104
 Name of the Faculty: R. INDRADITH KRISHNAN
 Date/Time/Venue: 29-08-2015 & 19-09-2015
 09.00 AM to 05.00PM
 C5 Hall & Conference hall

| S.No | Reg.No | Name | Department | Signature |
|------|--------|------|------------|-----------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

R. Indradith Krishnan

Signature of the Faculty Coordinator



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

TCE-III

(2015-16)

Course Schedule

Name of the Course: **BIH - FRAMING OF VARIOUS STRUCTURES AND OPTIMUM FOUNDATION SYSTEMS**

Name of the Industry: **L & T, CHENNAI**

Name of the Expert: **EX. S. PRASANNA**

Number of Students enrolled: **104**

Name of the Faculty: **R. INDRAJITH KRISHNAN**

Date/Time/Venue: **29-08-2015 & 19-09-2015**
09.00 AM to 05.00 PM
C5 Hall & Civil seminar hall

| Date | Time | Topics | Remarks |
|------|----------------------|------------------------------------|---------------------|
| Day1 | 09.00 to 11.00 AM | Components of structures | } Syllabus enclosed |
| | 11.30 AM to 01.00 PM | Load transfer, Framing arrangement | |
| Day2 | 2.00 to 3.00 PM | steel structures | |
| | 3.15 to 05.00 PM | foundation systems | |

R. Indrajith Krishnan

Signature of the Faculty coordinator



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

(2015-16)

Course Instructor Feedback for One/~~Two~~ credit course

TCE-III

Name of the Course: BIH-FRAMING OF VARIOUS STRUCTURES AND
OPTIMUM FOUNDATION SYSTEMS

Name of the Industry: L & T, CHENNAI

Name of the Expert: Ex. S. P. LAKSHANNA

Date/Time/Venue: 29-08-2015 & 20-09-19-09-2015
09:00 AM to 05:00 PM
CS Hall & Civil Seminar hall

| | Comments |
|---|--------------|
| Student attendance | Satisfactory |
| Level of the students in understanding the concepts | Very good |
| Any suggestions regarding new content to be included as Prerequisites/Special electives | NIL |
| Hall/ lab arrangements | Good |
| Hospitality | Good |

for *S. P. Lakshanna*
Signature of the Course Instructor

[Signature]
Signature of Head of the Department

TEQIP SPONSORED 1 Credit Course titled

"B1H – Framing of Structures and Optimum Foundation Systems"

TEQIP sponsored 1 credit course titled "B1H – Framing of Structures and Optimum Foundation Systems" was organized by the Department of Civil Engineering for the students of B.E Civil Engineering programme. The resource person for the course was **Mr. S. Prasanna**, Assistant Manager, Civil & Structural Larsen & Toubro limited, Chennai. Around hundred students of V and VII semester B.E Civil Engineering programme registered for the course. The course was conducted on 29.8.15 (Saturday) and 19.9.15 (Saturday) with 5 sessions each. Each session was conducted for 1½ hours.

The students were given exposure on various types of structures with practical suitability of framed structures and load bearing structures, Components of structures namely slab, beam, column & footing in RCC structures- Chequered plate flooring/grating, Steel beams & Columns, bracings-vertical & horizontal. They were also introduced to behaviour of RCC & steel structures and their framing concepts. Students were finally exposed to various foundation systems. Discussion through Question & Answer/ Case studies/Practical challenges in design and construction were made in the sessions.

Assessment of student learning was done through assignments. It is also proposed to conduct the end semester examination for the students by the end of October 2015.

1) Approval - Lr.

PAID BY CHEQUE No / CASH
237220
Date: 19.10.15

Prasanna Kishan



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

(2015-16)

| S.No | One credit course need analysis sheet | |
|------|---|------------------------|
| 1. | Name of the Course | BIK - Interior Design |
| 2. | Name of the Industry | Chris Brown Architects |
| 3. | Name of the SIG associated with | Structures - Design |
| 4. | Motivation for offering the course | |
| 4.1 | Feedback (If yes, Details of the feedback as per the annexure I) | |
| | From Recruiter | Y/N |
| | From Employer | Y/N |
| | From Alumni | Y/N |
| | From Academic Council members | Y/N |
| | From Board of Studies members | Y/N |
| | From Senior students | Y/N |
| | From current students | Y/N |
| | From Performance Assessment Committee | Y/N |
| | From Department Advisory committee | Y/N |
| 4.2 | Faculty participation in Seminar/FDP (If yes, details) | |
| | At higher learning institutes | - |
| | At Industry | - |
| 5. | Outcomes expected | |
| | Technology transfer | ✓ |
| | Student Internship | - |
| | Placement | - |
| | Organizing FDP/seminar at TCE | - |
| | Collaborative research/consultancy projects | - |
| | Faculty as Trainee/Trainer in the Industry | - |
| | Joint publications | - |
| | Setting up of Lab/Infrastructure | - |



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

TCE-III

Course Schedule

Name of the Course: BIK - Interior Design
 Name of the Industry: Chris Brown Architects, Bangalore
 Name of the Expert: Mr. Immanuel B Samuel
 Number of Students enrolled: 111
 Name of the Faculty: R. Sankaranarayanan
 Date/Time/Venue: 19. 3. 16 & 20. 3. 16
 Civil - Conference Hall

| Date | Time | Topics | Remarks |
|------|------|-------------|---------|
| Day1 | | | |
| Day2 | | As enclosed | |
| | | | |
| | | | |

R Sankaranarayanan
 Signature of the Faculty coordinator



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

Attendance sheet for the one/~~two~~ credit

Name of the Course: BIK - Interior Design
 Name of the Industry: Chris Brown Architects, Bangalore
 Name of the Expert: Mr. Immanuel B Samuel
 Number of Students enrolled: 111
 Name of the Faculty: R. Sankaranarayanan
 Date/Time/Venue: 19.3.16 & 20.3.16
 Civil - Conference Hall

| S.No | Reg.No | Name | Department | Signature |
|------|--------|-------------|------------|-----------|
| | | | | |
| | | | | |
| | | As enclosed | | |
| | | | | |
| | | | | |

R Sankaranarayanan
Signature of the Faculty Coordinator



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

Course Instructor Feedback for One/~~Two~~ credit course

TCE-III

Name of the Course: *Blk - Interior Design*
 Name of the Industry: *Chris Brown Architects, Bangalore*
 Name of the Expert: *Mr. Immanuel B. Samuel*
 Date/Time/Venue: *19.3.16 & 20.3.16*
Civil - Conference Hall

| | Comments |
|---|-------------|
| Student attendance | <i>Good</i> |
| Level of the students in understanding the concepts | <i>Good</i> |
| Any suggestions regarding new content to be included as Prerequisites/Special electives | <i>Nil</i> |
| Hall/Lab arrangements | <i>Good</i> |
| Hospitality | <i>Good</i> |

R. Sankaranarayanan
 Signature of the Course Instructor

[Signature]
 Signature of Head of the Department



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015

Course Instructor Feedback for One/~~Two~~ credit course

TCE-III

Name of the Course: *BIK - Interior Design*
 Name of the Industry: *Chris Brown Architects, Bangalore*
 Name of the Expert: *Mr. Immanuel B. Samuel*
 Date/Time/Venue: *19.3.16 & 20.3.16*
Civil - Conference Hall

| | Comments |
|---|-------------|
| Student attendance | <i>Good</i> |
| Level of the students in understanding the concepts | <i>Good</i> |
| Any suggestions regarding new content to be included as Prerequisites/Special electives | <i>NIL</i> |
| Hall/Lab arrangements | <i>Good</i> |
| Hospitality | <i>Good</i> |

R. Sankaranarayanan
 Signature of the Course Instructor

[Signature]
 Signature of Head of the Department

INTERIOR DESIGN - AN INSIGHT
Immanuel B Samuel

DAY-1

1. Introduction to Interior Design - 1.5hrs

- i) Outward Looks - Aesthetics
- ii) Inside Stuff - Services

2. Different Types of Interior Design -1.5hrs

- i) Corporate Office Interiors
- ii) Retail Interiors
- iii) Residential Interiors
- iv) Hospitality Sector - Hotels
- v) Health Sector - Hospitals
- vi) Commercial Interiors - Auditoriums etc...

3. Outward Looks - Aesthetics -3hrs

- i) Different Materials
- ii) Color Scheme
- iii) Lighting

4. Discussion & Question/Answer Session - 1hr

DAY-2

5. Inside Stuff - Services - 4hrs

- i) Electrical
- ii) HVAC
- iii) Networking
- iv) Security Systems

5. Miscellaneous - 2hrs

- i) Presentation
- ii) Costing
- ii) Project Management
- iii) Softwares Used-
- iv) Role of consultants

6. Question/Answer Session & Test - 1hr

R. Sankaranarayanan

THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI-15
(A Govt. Aided ISO 9001:2008 Certified Autonomous Institution affiliated to Anna University)

DEPARTMENT OF CIVIL ENGINEERING

TEQIP SPONSORED 1 Credit Course titled

“B1K – Interior Design”

TEQIP sponsored 1 credit course titled “B1K – Interior Design” was organized by the Department of Civil Engineering for the students of VI semester B.E Civil Engineering programme. The resource person for the course was **Mr. Immanuel B Samuel**, Principal Architect Chris Brown Architects, Bangalore. Around 40 students of VI semester B.E Civil Engineering programme registered for the course. The course was conducted on 19.3.16 and 20.3.16 with total of 10 sessions. Each session was conducted for 1½ hours.

The students were given exposure on various aspects of interior design and its need. Exposure was also given on types of interior design for different buildings such as corporate offices, retail shops, residential buildings, hospitals, hotels, auditoriums etc. Exposure on components of outward looks namely aesthetics – different materials, colours, lighting was given along with details on services. Assessment of student learning was done through assignments. It is also proposed to conduct the end semester examination for the students by the mid of May 2016.

R. Sankaranarayanan