

# Karunya Institute of Technology and Sciences

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

A CHRISTIAN MINORITY RESIDENTIAL INSTITUTION

AICTE Approved & NAAC Accredited

#### GUIDELINES FOR PREPARATION OF PROJECT REPORT

Undergraduate course, B.E. / B. TECH. / B. ARCH Postgraduate course, M. Tech. /M. Sc/M. Phil

## 1. ARRANGEMENT OF CONTENTS:

The sequence in which the project report material should be arranged and bound should be as follows:

- 1. Cover Page & Title Page
- 2. Bonafide Certificate
- 3. Abstract
- 4. Table of Contents
- 5. List of Tables
- 6. List of Figures
- 7. List of Symbols, Abbreviations
- 8. Chapters
- 9. Appendices
- 10. References

The table and figures shall be introduced in the appropriate places.

## 2. PAGE DIMENSION AND SIZE OF THE THESIS:

(a) The size of the project report for undergraduate and post graduate degree should not exceed 60 and 80 pages of type matter respectively. The pages will be counted from the first page of Chapter I. the dimension of the project report should be in A4 size.

**(b)** The project report should be bound using flexible cover of the thick art paper. The undergraduate and post graduate projects reports of each school shall have same colour prescribed by their respective schools. The cover should be **printed in black letters** and the text for printing should be identical.

# (c) Page Numbering

All page numbers (whether it is in Roman or Arabic numbers) should be typed without punctuation on the central bottom of each page. The preliminary pages of the reports (such as Title page, Acknowledgement, Table of Contents, etc.) should be numbered in lower case Roman numerals. The title page will be numbered as (i) but this should not be typed. The page immediately following the title page shall be numbered as (ii) and it should appear at the top right hand corner as already specified. Pages of main text, starting with Chapter 1 should be consecutively numbered using Arabic numerals.

## 3. PREPARATION FORMAT:

- 3.1 Cover Page & Title Page A specimen copy of the Cover page & Title page of the project report are given in Appendix 1.
- 3.2 Bonafide Certificate The Bonafide Certificate shall be in double line spacing using Font Style Times New Roman and Font Size 14, as per the format in Appendix 2.

The certificate shall carry the supervisor's signature and shall be followed by the supervisor's name, academic designation (not any other responsibilities of administrative nature), Department and School where the supervisor has guided the student. The term 'SUPERVISOR' must be typed in capital letters between the supervisor's name and academic designation.

- 3.3 Abstract Abstract should be one page synopsis of the project report typed double line spacing, Font Style Times New Roman and Font Size 13.
- 3.4 Table of Contents The table of contents should list all material following it as well as any material which precedes it. The title page and Bonafide Certificate will not find a place among the items listed in the Table of Contents but the page numbers of which are in lower case Roman letters. One and a half spacing should be adopted for typing the matter under this head. A specimen copy of the Table of Contents of the project report is given in Appendix 3.
- 3.5 List of Tables The list should use exactly the same captions as they appear above the tables in the text. One and a half spacing should be adopted for typing the matter under this head.
- 3.6 List of Figures The list should use exactly the same captions as they appear below the figures in the text. One and a half spacing should be adopted for typing the matter under this head.
- **3.7. Table and figures** By the word Table, is meant tabulated numerical data in the body of the project report as well as in the appendices. All other non-verbal materials used in the body of the project work and appendices such as charts, graphs, maps, photographs and diagrams may be designated as figures.

- **3.8 List of Symbols, Abbreviations** One and a half spacing should be adopted for typing the matter under this head. Standard symbols, abbreviations etc. should be used.
- **3.9** Chapters The chapters may be broadly divided into 3 parts
- (i) Introductory chapter,
- (ii) Chapters developing the main theme of the project work
- (iii) Conclusions and scope

The introductory chapter will have sections covering (a) general introduction and importance of the research project.

The main text will be divided into several chapters and each chapter may be further divided into several divisions and sub-divisions.

- **\cdot** Each chapter should be given an appropriate title.
- ❖ Tables and figures in a chapter should be placed in the immediate vicinity of the reference where they are cited.
- **3.10 Appendices** Appendices are provided to give supplementary information, which if included in the main text may serve as a distraction and cloud the central theme.
  - Appendices should be numbered using Arabic numerals, e.g. Appendix
     1, Appendix 2, etc.
  - Appendices, Tables and References appearing in appendices should be numbered and referred to at appropriate places just as in the case of chapters.
  - Appendices shall carry the title of the work reported and the same title shall be made in the contents page also.

- 3.11 List of References –The listing of references should be typed 4 spaces below the heading "REFERENCES" in alphabetical order in single spacing left justified. The reference material should be listed in the alphabetical order of the first author. The name of the author/authors should be immediately followed by the year and other details.
  - (i) If more than one paper by the same first author and same year of publications, the year of citation will be followed by a, b etc to differentiate them.
  - (ii) While citing the paper in the text, the name of the first author and year alone must be cited. e.g Samson (2004) or Jeyaraj (2007a). The reference numbers should not be used in the text of the paper
  - (iii) A paper, a monograph or a book may be designated by the name of the first author followed by the year of publication, placed inside brackets at the appropriate places in the Thesis.

The citation may assume any one of the following forms.

## **Examples of Citation**

- (i) An improved algorithm has been adopted in the literature (Rupf. 2009)
- (ii) (Massey and Mittelholzer 2008) have dealt at length this principle
- (iii) The problem of mechanical manipulators has been studied by Anigstein et al (2010) and certain limitations of the method used, has been pointed out by (Anigstein et al., 2010a).
- (iv) When reports prepared by well known agencies are cited, the name of the organization (Example: World Health Organization, Bureau of Indian Standards) with year of publication may be given as citation. Ex:World Health Organisation (2006).

## **Examples of References**

Abdou. L., Ami Saada. R., Meftah. F. and Mebarki. A. (2006) "Experimental investigations of the joint-mortar behaviour", Mechanics Research Communications 33, 370-379.

Central Ground Water Board Ministry of Water Resources Government of India. (2010) "Groundwater Quality in Shallow Aquifers of India", Faridabad.

Deodhar. S.V. and Patel. A .N. (1996) "Behavior of brick masonry in compression" Journal of Structural Engineering 22, 221-227.

Liu. H., Williams Burkett. and Kirk Haynes. (2005) "Improving freezing and thawing properties of fly ash bricks", World of coal ash conference 11-15.

Sarangapani. G., Venkatarama Reddy. B. V. and Jagadish. K. S. (2009) "Structural characteristics of bricks, mortars and masonry" Journal of Structural Engineering 29(2), 101-110.

Wong. Y. L., Lam L., Poon. C. S. and Zhou. F. P. (1999) "Properties of fly ash-modified cement mortar-aggregate interfaces", Cement and Concrete Research 29, 1905-1911.

### 4. TYPING INSTRUCTIONS:

The impression on the typed copies should be black in colour.

One and a half spacing should be used for typing the general text. The general text shall be typed in the Font style 'Times New Roman' and Font size 13.

# **APPENDIX 1**

A typical Specimen of Cover Page and Title Page <Font Style Times New Roman>

TITLE <Font Size 18> <1.5 line spacing>

a project report submitted by

<Font Size 14> <Italic>

A. FRANSIS (UR14CE281)<Font Size 16>

in partial fulfillment for the award of the degree

<Font Size 14> <Italic> <1.5 line spacing> **of** 

NAME OF THE DEGREE <Font Size 16>

in

NAME OF THE PROGRAMME <Font Size 16>

under the supervision of <Font Size 14> <Italic>

**Dr. F. LEON** <Font Size 16>



# NAME OF THE DEPARTMENT<Font Size 16> KARUNYA INSTITUTE OF TECHNOLOGY AND SCIENCES

<Font Size 16><1.5 line spacing>

(Deemed-to-be-University)

Karunya Nagar, Coimbatore - 641 114. INDIA <Font Size 14><1.0 line spacing>

MONTH & YEAR <Font Size 16>

# ELECTROCHEMICAL TREATMENT OF INDUSTRIAL WASTEWATER

a project report Submitted by

**A.FRANSIS (UR14CE281)** 

in partial fulfillment for the award of the degree

of

**BACHELOR OF TECHNOLOGY** 

in

**CIVIL ENGINEERING** 

under the supervision of

Dr. F. LEON



# KARUNYA INSTITUTE OF TECHNOLOGY AND SCIENCES

<Font Size 16><1.5 line spacing>

(Deemed-to-be-University)

Karunya Nagar, Coimbatore - 641 114. INDIA <Font Size 14><1.0 line spacing>

**APRIL 2018** 

# **BONAFIDE CERTIFICATE**

<Font Style Times New Roman – size -16>

<Font Style Times New Roman – size -14>

This is to certify that the project report PROJECT is the bonaft THE CANDIDATE(S) who supervision.	ide work of "NAME OF
< <signature department="" head="" of="" the="">&gt; SIGNATURE   &lt;<name>&gt; &lt;<size -16=""></size></name></signature>	< <signature of="" supervisor="" the="">&gt; SIGNATURE &lt;<name>&gt; &lt;<size -16=""></size></name></signature>
HEAD OF THE DEPARTMENT	SUPERVISOR
< <academic designation="">&gt;</academic>	< <academic designation="">&gt;</academic>
< <department>&gt;</department>	< <department>&gt;</department>
< <school>&gt;</school>	< <school>&gt;</school>
<font -14="" new="" roman="" size="" style="" times="" –=""></font>	Font Style Times New Roman – size -14>
Submitted for the (Phase I/Phase II/Full Semeste	er/Half Semester)* Viva Voce held on

#### **Internal Examiner**

**External Examiner** 

<sup>\*</sup>Mention whichever is relevant

# **BONAFIDE CERTIFICATE**

This is to certify that the project report entitled "An electrochemical treatment of industrial waste water" is the bonafide work of "A. FRANSIS" who carried out the project work under my supervision.

<b>SIGNATURE</b>
------------------

# Dr. M. Christopher

Professor of Civil Engineering Department of Environmental Engineering School of Civil Engineering

#### **SIGNATURE**

# Dr. F. Leon

Associate professor of Civil Engineering Department of Environmental Engineering School of Civil Engineering

Submitted for the (I	Phase I/Phase	II/Full Semes	ter/Half Semester	)* Viva Voc	e held on
	• • • • •				

#### **Internal Examiner**

**External Examiner** 

<sup>\*</sup>Mention whichever is relevant

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#### **APPENDIX 4**

#### LIST OF SYMBOLS AND ABBREVIATIONS

A - Cross sectional area of masonry wall in mm<sup>2</sup>

A<sub>h</sub> - Design horizontal seismic coefficient of a structure

D - Depth of the brick in mm

d - Effective depth of the wall in mm

E<sub>b</sub> - Elastic modulus of the brick in MPa

F - Flexural strength of the brick in MPa

h - Height of the masonry wall in mm

H - In-plane load in Newtons

Length of the wall panel in mm

m - Mass of the building

MgO - Magnesium oxide

PGA(g) - Peak ground acceleration

R - Response reduction factor

s - Spacing of woven wire mesh in mm

t - Thickness of the wall panel in mm

t<sub>b</sub> - Thickness of the brick unit in mm

URM - Unreinforced masonry

XRD - X-ray diffraction