MANUAL FOR THE PREPARATION OF

PROJECT / SEMINAR / INDUSTRIAL TRAINING REPORTS FOR

BTech/MTech/MCA

LBS COLLEGE OF ENGINEERING KASARAGOD

MULIYAR-P.O, KASARAGOD

KERALA-671542

FOREWORD

The LBS College of Engineering Kasaragod brings out a manual for the preparation of seminar/ project/ Industrial training reports for BTech, MTech and MCA students. Its purpose is to help the students to prepare and turn in a professional document. These guidelines include complete descriptions of the organization, general considerations and the submission of the report. All the UG and PG students are instructed to adhere to the standards given in the manual.

LIST OF CONTENTS

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1.	**GENERAL:**

The manual is intended to provide broad guidelines to the B.Tech. / M.Tech. / MCA candidates in the preparation of the project/seminar report. In general, the project report shall report in an organized and scholarly fashion an account of original research work of the candidate leading to the discovery of new facts or techniques or correlation of facts already known (analytical, experiments, hardware oriented etc.)

2.	**NUMBER OF COPIES TO BE SUBMITTED:**

B.Tech. / M.Tech. / MCA:	Students should submit two hard copies and a soft copy to the concerned Head of the Department/Project Co-ordinator/Seminar coordinator on or before the specified date.	The Head of the Department/Project Co-ordinator/seminar coordinator should send the soft copy to the Central library, one hard copy to the Department library and one copy to the student concerned.

3.	**SIZE OF PROJECT REPORT:**

The size of project/seminar report should not exceed 70 pages of typed matter reckoned from the first page of Chapter 1 to the last page.

4.	**ARRANGEMENT OF CONTENTS:**

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

1. Cover Page
2. Inside cover page
3. Declaration
4. Certificate from external guide (if any)
5. Bonafide Certificate from the college
6. Acknowledgements
7. Abstracts

8. Table of contents

9. List of tables

10. List of figures

11. Abbreviations, symbols and nomenclature (if any)

12. Chapters

13. Appendices

14. References

15. List of papers published, based on the report (if any)

5.   PAGE DIMENSION AND BINDING SPECIFICATIONS:

The project/seminar report should be prepared in A4 size, and should be soft bound. Outer cover should be navy blue colour and made of thick glossy art paper.

6.   PREPARATION FORMAT:

6.1   Cover Page & Title Page: A specimen copy of the Cover page & Title page of the seminar and project report are given in **Appendix 1a & 1b** respectively.

SEMINAR REPORT ON (14 Regular all capitals)

TITLE (16 Bold all capitals – Times new roman)

Submitted by (12 Regular lower case letters)
NAME: (14 bold all capitals)
REG NO. (12 Bold)
(EMBLEM)
Department of Mechanical Engineering (14 Bold, leading capitals)
LBS College of Engineering Kasaragod.
Month & Year (14 Regular)

6.2   Inside cover page: Same as cover page

6.3   Declaration - Declaration to be given for the work done by the student as per the format   in **Appendix 2**

6.4   Certificate of external guide (if applicable)

6.5   Bonafide Certificate : The Bonafide Certificate shall be in One and a half line spacing using Font Style 'Times New Roman' and Font Size 12, as per the format in **Appendix 3a** and **3b** respectively for seminar and project**.**

6.6   Acknowledgement – It should be brief and should not exceed one page when typed one and a half spacing. See **Appendix 4.**

6.7   Abstract – Abstract should be a one page synopsis of the project work, typed in 1.5 or double line spacing (about 300 words with max 6 key words). Font Style Times New Roman and Font Size 12. **See Appendix 5**.

6.8   Table of Contents – The table of contents should list all material following it as well as any material which precedes it. The title page, Bonafide Certificate and Declaration will not find a place among the items listed in the Table of Contents: The page numbers for the abstract, list of tables, list of figures and list of symbols should be 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 6.**

6.9   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. See **Appendix 7.**

6.10 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. See **Appendix 8.**

6.11 List of Symbols, Abbreviations and Nomenclature – One and a half spacing should be adopted for typing the matter under this head. Standard symbols, abbreviations etc. should be used. See **Appendix 9 and 10.**

6.12 Chapters – The chapters may be broadly divided into 3 or 4 parts with minimum total pages 50, (i) Introductory chapter, (ii) Literature Review (if any) (iii) Experimental setup (if any) (iii) Chapters developing the main theme of the project work (iv) and Conclusion. The main text will be divided into several chapters and each chapter may be further divided into several divisions and sub-divisions.

- 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.

- Footnotes should be used sparingly. They should be typed single space and placed directly underneath in the very same page, which refers to the material they annotate.

6.13 Appendices – Same format as Chapters

6.14 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. See **Appendix 11.**

References are to be given as follows:

    i.   Journal/conferences/symposium papers. Authors (in bold)(Year), Title of paper, Name of Journal/conferences/symposium (in italics), Issue No. pages

    ii.   Books : Author(s) (Bold), Title (in italics), Publisher, Edition

    iii.   Websites: Give complete web address.

6.15 List of papers published based on the report - See **Appendix 12.**

7. **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 12. Use A4 (210 mm X 297 mm) bond un-ruled paper for all copies submitted. Use one only side of the paper for all printed/typed matter.

7.1 NUMBERING

7.1.1 PAGE NUMBERING

Every page in the seminar/project report, except the seminar/project report title page, must be accounted for and numbered. The page numbering, starting from acknowledgements and till the beginning of the introductory chapter, should be printed in small Roman numbers, i.e, i, ii, iii, iv......

The page number of the first page of each chapter should not be printed (but must be accounted for). All page numbers from the second page of each chapter should be printed using Arabic numerals, i.e. 2,3,4,5...

All printed page numbers should be located at the bottom centre of the page.

7.1.2 CHAPTERS

Use only Arabic numerals. Chapter numbering should be centered on the top of the page using large bold print. < size 16> <Times new Roman>

7.1.3 SECTIONS

Use only Arabic numerals with decimals. Section numbering should be left justified using bold print. Example: **1.1, 1.2, 1.3**, etc.

4.3.1 SUBSECTIONS

Use only Arabic numerals with two decimals. Subsection numbering should be left Justified using bold print. Example: **1.1.1, 1.1.2, 1.1.3**, etc.

7.1.4 EQUATION(S)/FORMULA

Use only Arabic numerals with single decimal. Equation numbers should be right justified using normal print.

Format: (<Chapter number>.<Equation serial number>).

Example:

$$Y = X^2 + 2X + Z \qquad (1.1)$$

$$Z = X^3 + 4Y \qquad (1.2)$$

7.1.5 REFERENCES

Use only Arabic numerals. Serial numbering should be carried out based on Alphabetical order of surname or last name of first author. See **Apendix 11.**

7.2 TEXT

7.2.1   REGULAR   TEXT   - Times New Roman 12 Regular

7.2.2 CHAPTER HEADING - Times Roman 16 pts., bold print and all capitals, No underlining.

7.2.3 SECTION HEADINGS - Times Roman 14 pts., bold print and all capitals, No underlining.

7.2.4 SUBSECTION HEADINGS - Times Roman 12 pts., bold print and leading capitals. ie. Only first letter in each word should be in capital, No underlining.

7.2.5 SPECIAL TEXT - Italics/Superscript /Subscript/Special symbols, etc., as per necessity. Special text may include footnotes, endnotes, physical or chemical symbols, mathematical notations, etc.

7.2.6 REFERENCES - Same font as regular text. Serial number and all authors' names to be in bold print. Journal names and book titles should be in italics.

7.3 PARAGRAPH SPACING

Use 6 pts before & 6 pts after paragraphs.

All paragraphs in the seminar/project report should be left justified completely, from the first line to the last line.

Use 1.5 spacing between the regular text and quotations.

7.3.1 Provide double spaces between Chapter title and first sentence of a chapter,

7.3.2 Use single spacing

(a) in footnotes and endnotes for text.

(b) in explanatory notes for tables and figures.

(c) in text corresponding to bullets, listings, and quotations in the main body of seminar/project report .

7.3.3 Use single space in references and double space between references.

7.4 JUSTIFICATION

The text should be fully justified

7.5 MARGINS

The margins for the regular text are as follows:

LEFT	=	1.50"
RIGHT	=	1.00"
TOP	=	1.00"
BOTTOM	=	1.00"

7.6 TABLES

All tables should have sharp lines, drawn in black ink, to separate rows/columns as and when necessary. Tables should follow immediately after they are referred to for the first time in the text. Splitting of paragraphs, for including tables on a page, should be avoided. Provide double spaces on the top and the bottom of all tables to separate them from the regular text, wherever applicable. The title of the table etc. should be placed on the top of the table. The title should be centered with respect to the table. The titles must be in the same font as the regular text and should be single spaced. The title format is given below:

Table<blank><chapter number>.<serial number><left indent><table title>.

Eg.

Table 5.2. Engine Specifications

Name	Javahar Engine
Type	Four Stroke, single cylinder
BHP	10
Speed	1500 rpm
Bore	102 mm
Stroke Length	110 mm
Diameter of the rope	20 mm
Diameter of the brake drum	300 mm
Maximum Load	30.25kg

7.7 FIGURES

All figures, drawings, and graphs should be drawn in black ink with sharp lines and adequate contrast between different plots if more than one plot is present in the same graph. The title of the figure etc. should be placed on the bottom of the figure. Figures should follow immediately after they are referred to for the first time in the text. Splitting of paragraphs, for including figures on a page, should be avoided. Provide double spaces on the top and the bottom of all figures to separate them from the regular text, wherever applicable. The title of Figures should be centered with respect to the figure. The titles must be in the same font as the regular text and should be single spaced. The title format is given below:

Fig. <blank><chapter number>.<serial number> <left indent><figure title.

Eg.

Fig. 3.1. Bomb calorimeter

Fig.3.2. Pycnometer & Electronic balance

8. SEMINAR REPORT

Seminar reports are to be prepared according to the standards specified above, except that:

i.   The body of seminar report is divided into sections; not into chapters.

ii. Sections re continuously numbered (1,2,3…etc) and are to be typed continuously.

9. INDUSTRIAL TRAINING / INTERACTION

Objective: To orient the student towards their thesis work.

GUIDELINES FOR PREPARATION OF REPORT OF INDUSTRIAL TRAINING

Size- A4   Soft binding   Cover page- **Light green** colour

1. Cover page   & 2. Front page
   REPORT OF INDUSTRIAL TRAINING (16 Bold, all capitals)
   Submitted by (12 Regular)
   Name: (14 Bold)
   Roll No. (12 Bold)
   (EMBLEM)
   Department of Mechanical Engineering
   College of Engineering, Thiruvananthapuram-16. (14Bold)
   Month, Year (14 Regular)

3.   Certificate

Certified that this is the report of Industrial training undergone by "Name &class no." (Bold) submitted in partial fulfillment of the requirement for the award of the Degree of Master of Technology in Mechanical Engineering (Stream) of the University of Kerala.

Course Coordinator   Head of Dept.

1. Acknowledgements
2. Attach certificates obtained from industry. If individual certificates are not issued, attach Photostat copies and underline your name in the group.
3. Summary

Sl no.	Name of company/ Organization.	Date of visit

4. Report.
   i.   Brief introduction about the company.

APPENDIX 1a

SEMINAR REPORT

ON

SEMINAR TITLE

Submitted by

NAME OF STUDENT

REG NO

To The Kannur Univeristy

*in partial fulfillment of the
requirements for the award of the degree of*

BACHELOR OF TECHNOLOGY

in

MECHANICAL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

LBS COLLEGE OF ENGINEERING KASARAGOD

KASARAGOD-671542, KERALA

March 2013

PROJECT TITLE

A Project Report
submitted in partial fulfillment of the
requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

in

MECHANICAL ENGINEERING

by

NAME OF STUDENT
(REG NO)

Under the guidance of
NAME OF GUIDE

DEPARTMENT OF MECHANICAL ENGINEERING

LBS COLLEGE OF ENGINEERING KASARAGOD

KASARAGOD-671542, KERALA

March 2013

DECLARATION

"I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of this Institute or other Institute of higher learning, except where due acknowledgement has been made in the text."

PLACE: NAME:

DATE: REG NO:

APPENDIX 3a

Format of Certificate for seminar report

CERTIFICATE   (14 Bold)

 Certified that this report entitled 'Title in Italics' is the paper presented by 'Name and   Roll No. (in Bold) on 'date' (Bold) in partial fulfillment of the requirement for the award of the Degree of Bachelor of Technology in Mechanical Engineering by the University of Kannur.

Faculty In charge   Head of the Dept.

 Place:

 Date:

APPENDIX 3b

Format of Certificate for project report

CERTIFICATE (14 Bold)

This is to certify that the project report entitled 'Title (14 Bold) submitted by 'Name (12 Bold) to the University of Kannur in partial fulfillment of the requirements for the award of the Degree Bachelor of Technology in Mechanical Engineering is a bonafide record of work carried out by him/her under my/our guidance and supervision. The contents of this report, in full or in parts, have not been submitted to any other Institute or University for the award of any Degree or Diploma. (12 Regular, 1.5 line spacing)

Internal Guide(s)   External Guide
                                                                              (If any)

HEAD OF THE DEPT.

Place:

Date:

APPENDIX 4

ACKNOWLEDGEMENT (14 Bold)

One page maximum. Times New Roman and Font Size 12

ABSTRACT

Keywords: Economic order quantity; Thermodynamics; Entropy cost; Price dependent demand; Constant commodity flow; Supply chain coordination

Ever since its introduction in the second decade of the past century, the economic order quantity (EOQ) model has been the subject of extensive investigations and extensions by academicians. Although the EOQ formula has been widely used and accepted by many industries, some practitioners have questioned its practical application. Accounting for holding and order/set-up costs, as has traditionally been the case for the economic order quantity, can distort the scenario. There are hidden costs not accounted for when modelling inventory systems. This paper postulates that some of these costs, which we refer to as the entropy costs, may be estimated using the principles of thermodynamics. Firstly, a new mathematical model is developed and considered as an enhancement to the EOQ model. Secondly, the developed model is investigated in a two-level (supplier–retailer) supply chain coordination context. Numerical examples are presented and results discussed…………………………………………………………………………………………

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APPENDIX 6

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LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS

h   Capillary rise in cm

θ   Contact angle

r   Radius of capillary tube

V   Volume

P   Density

υ   Kinematic viscosity

LIST OF ABBREVIATIONS

ATDC	After Top Dead Center
BDC	Bottom Dead Center
BTDC	Before Top Dead Center
CA	Crank Angle
CAD	Computer Aided Design
CCS	Combined Charging System
CFD	Computational Fluid Dynamics
CO	Carbon Monoxide
CTC	Characteristic–Time Combustion
DI	Direct Injection
DME	Dimethyl Ether
DNS	Direct Numerical Simulations
EGR	Exhaust Gas Re- Circulation

APPENDIX 11

REFERENCES

[1] Hwanam Kim, Byungchul Choi (2008) "Effect of ethanol diesel blend fuels on emission and particle size distribution in a common-rail direct injection diesel engine with warm-up catalytic converter", Renewable Energy, Vol. 33, Issue 10, pp. 2222-2228.

[2] De Menezes, E., W., Da Silva, R., Catalun, R. and Ortega, R.J.C.(2006) "Effect of ethers and ether/ethanol additives on the physicochemical Properties of diesel fuel and on engine tests," Fuel 85, pp 1-8.

[3] Xiaolu, L., Hongyan, C., Zhiyong, Z. and Zhen, H.(2005) "Study of combustion and emission characteristics of a diesel engine operated with dimethyl carbonate," Energy Conversion & Management.

[4] Guru. M., Karkaya, U., Altiparmak, D. and Alicilar, A. (2001) "Improvement of Diesel fuel properties by using additives," Energy conversion and Management 43, pp. 1021 -1025.

LIST OF PUBLICATIONS

I   JOURNALS

1. **Paul,B and V. Ganesan** (2008) Effect of spiral manifold configuration on in cylinder air motion and turbulence in DI Diesel engine . *Journal of Engineering Application of Computational Fluid Mechanics. (Communicated).*

II   PRESENTATIONS IN INTERNATIONAL CONFERENCES

1. **Paul, B and V. Ganesan** (2005) Study of air motion inside the cylinder of a DI diesel engine with spiral intake port. *14th International Conference of Indian Society of Mechanical Engineers in the Knowledge Age* , New Delhi, December 2005.
2. **Paul, B and V. Ganesan** (2006) Effect of manifold configuration in turbulence inside the cylinder of a direct injection diesel Engine by CFD Simulation. *Third BSME-ASME International Conference on Thermal Engineering,* Dhaka, Bangladesh, December 2006.

III   PRESENTATIONS IN NATIONAL CONFERENCES

1. **Paul, B and V. Ganesan** (2005) CFD Analysis of the effect of port configurations on air motion inside the cylinder of a DI diesel engine.*19th National Conference on IC Engine Combustion, The Combustion Institute,* Chidambaram, India, December 2005.