



## FORMAT FOR PREPARATION OF SUMMER INTERNSHIP REPORT-RGUKT

### OBJECTIVE

A summer internship report is a documentation of a student's work—a record of the original work done by the student in the summer internship of 8 week duration.

The objective of this document is to provide a set of guidelines that help a student to prepare the report to satisfy the requirements of internship report.

*The guidelines are general. Student may follow these else any better/ innovative way of presenting the work done during intern in a form of report is always welcome.*

Following is the sequence heading of summer intern report

- Title Page
- Certificate
- Acknowledgement
- Abstract
- Contents
- List of Tables
- List of Figures
- List of Photographs
- List of Symbols, Abbreviations and Nomenclature
- Chapters
- References
- Appendices

### PAGE DIMENSION AND BINDING SPECIFICATIONS:

The dimension of the intern project report should be in A4 size. The project report should be bound using flexible cover of the thick white art paper.

### PREPARATION AND FORMAT:

**Title Page** – The title of the report should be selected in such a way that it should reflect the work carried out by the student. Therefore student should select most appropriate title for the

work carried out during summer internship. Format of title page of the intern report is given in **Appendix 1**.

**Certificate** – The Certificate shall be as per format given in **Appendix-II**. The content should have one and half line spacing using Times New Roman Font Size 14.

The certificate shall have details such as name of the student, roll no, title of the summer intern, duration etc. The above details should be certified by the concern supervisor under whom the work was carried out. Details such as name of the supervisor, designation, name of the organization/ academic along with full address of the institution where the supervisor has guided the student should be furnished. The certificate should be printed on the letter head of the supervisor/organization.

**Acknowledgement:** Student should acknowledge the supervisor, organization and others who have helped for successful completion of the summer internship (one page) .

**ABSTRACT**– Synopsis of the work carried out in the 08 week summer internship (200 to 300 words) should be mentioned under abstract of the report.

For most of the students, internship has two parts (i) Training provided by the organization on facility/system available during initial period of the internship and (ii) Task/problem assigned/selected by you to solve it. In such cases, abstract should include introduction to the summer internship training undergone, type of facility /system that was explained, purpose of it..etc. This should be followed by the information on task assigned to you/task selected to be explained briefly along with major findings/results, discussions and conclusions of it.

Font Style should be Times New Roman and Font Size 12 with one and half line space. Make the page settings of your word processor to A4 format; with the margins: bottom 1.5 cm (0.59 in) and top 2.5 cm (0.98 in), right/left margins must be 2 cm (0.78 in).

**Table of Contents** – The table of contents should list all material following it as well as any material which precedes it. The 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 Times New 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 III**.

**List of Tables** – The list should use exactly the same captions as they appear above the tables in the text. One and half line spacing should be adopted for typing the matter under this head.

**List of Figures** – The list should use exactly the same captions as they appear below the figures in the text. One and half line spacing should be adopted for typing the matter under this head.

**List of Photographs**- The list should use exactly the same captions as they appear below the photographs in the text. One and half line spacing should be adopted for typing the matter under this head.

**List of Symbols, Abbreviations and Nomenclature** – One and half line spacing should be adopted or typing the matter under this head. Standard symbols, abbreviations etc. should be used.

**SI units** should be followed for dimensional quantities. **Appendix-IV** provides some information on SI Units.

**CHAPTERS** – The total summer internship should be broadly divided into two parts (i) Training of the facility/system available with the organization (ii) Task assigned and solved by the students. In case of training on the facility available, following chapters needs to be included in the report. Text should be in Times New Roman 12 font size with one and half line spacing.

# PART-I

## CHAPTER: 1 INTRODUCTION

< Times new roman 14 font, BOLD and CAPITAL >

Under this chapter, student should write, briefly, about the general introductory to the facility/system that was explained to them, its functions, need, benefits, scope of the facility to undertake for problem solving... etc in two pages (maximum).

## CHAPTER: 2 LITERATURE REVIEW

< Times new roman 14 font, BOLD and CAPITAL >

### **Purpose**

*A literature review is collection of a critical, unbiased, and comprehensive evaluation of published information in a chosen and specific area of study of interest. It gives a general understanding of findings of the research work, conclusions, and recommendations and thereby brings out their strengths and weaknesses. This helps in identifying gaps, scope for further work and generalized concepts in the existing body of knowledge. A number of sources of information on literature can be obtained from text books, journals, conference proceedings, project theses, manuals, encyclopedias, bibliographies, government publications, publications by industrial organizations, e-databases, worldwide web (www).. etc.*

Under literature review chapter, student should write about the theory related to the facility/system on which training was provided. Working principle, advantageous and limitations of the system, applications of the system, Other types of systems available (advanced) and their merits and demerits..etc . *Technical papers/books/conference proceeding/ worldwide web should be referred in order to write and explain about “Other types of system available and their merits and demerits”.*

At the end of the chapter, summary on the review of literature should be provided.

There should be separate sub-heading for each topic of the literature as given below.

**For example**

## **2.0 LITERATURE REVIEW**

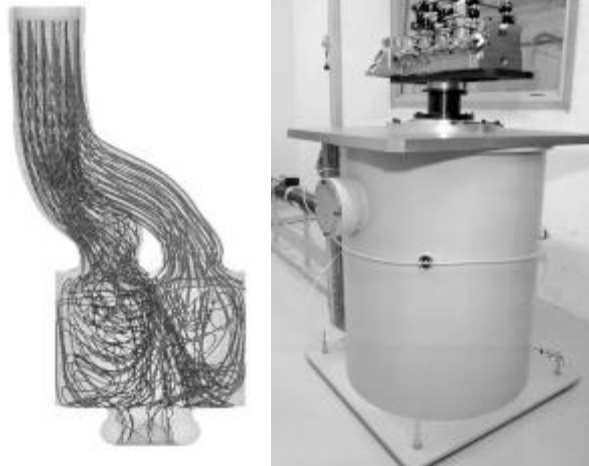
### **2.1 General**

### **2.2 Types of System Available**

### **2.3 Research Works Carried**

Apart from a few notable exceptions—examined in due course—the majority of vehicles produced in developing countries have been based on obsolete or (rarely) current products from western manufacturers. Well-known examples include Iran’s Paykan [5], based on the Rootes/Chrysler Arrow series, India’s Hindustan Ambassador [6], based on the Morris Oxford and the almost ubiquitous former Peugeot models assembled across Africa, including Nigeria, Kenya and Zimbabwe [7]. These models have succeeded largely because the models built were chosen or modified for the road conditions likely to be encountered, or modifications made to the bodies offered to accommodate local needs.

Photograph 2.1 shows the combination of 3D modelling and cylinder head flow test bench.



(Source: IFP - Powertrain Engineering, 2012)

**Photograph 2.1 Combination of 3D modelling and cylinder head flow test bench**

## 2.7 Summary

Tables, figures, photographs should be provided in the appropriate place of the report and each of these should have a caption as given below.

### **Figure**

A figure should have a caption (title). A short one-line caption is desirable. The word “Figure” or the abbreviation “Fig.” and the figure number (followed by a colon and a space) precede the caption. Use the chosen word consistently in both the text and the figure caption.

#### *Example*

### **Figure 2.1: Probability Density Function of Population Density**

Figures are numbered. The figure number follows a double-numeration system (such as Fig. 2.1) where the first number indicates the chapter number and the second number indicates the serial number of the figure in that chapter.

Figure caption (along with figure number) appears below the figure and is usually placed symmetric to the figure.

### **Table**

Every table must have a title. The title appears on the top of the table. It should be short (preferably one line), clear, and self-explanatory. A subtitle, if necessary, could be given in parentheses.

#### *Example*

### **Table 2.1: Population of Metropolitan Cities (in million persons)**

Right-align numbers in a column if they are integers. And, if the numbers contain decimal points then the numbers should be decimal-aligned.

Ex:	<u>Correct</u>	<u>Incorrect</u>	<u>Correct</u>	<u>Incorrect</u>
	345	345	23.46	23.46
	22	22	2.30	2.3

**Photographs**

Every photograph must have a title. The title appears at the bottom of the photograph. It should be short (preferably one line), clear, and self-explanatory.

*Example*

**Photograph 2.1: Diesel Engine of APSRTC Bus**

**CHAPTER 3 IMPROVEMENT TO THE EXISTING FACILITY/SYSTEM**

< Times new roman 14 font, BOLD and CAPITAL >

Based on the existing facility/system available in the organization, student should propose the possible ways to improve the existing system. Improvements may be in the form of low cost technology, better facilities to suit the present and future requirements, modernization of the existing facility..etc.

Also the methodology to be adopted for improvement should be explained along with proper justification. Flow chart, diagrams, calculations ...etc may be provided in support of the methodology.

**CHAPTER 4 : .....**

Proper title should be given that reflect the task/problem undertaken to solve

Under this, student should introduce the task/problem undertaken, need of the study, objectives of the study, scope of the work (2 to 3 pages)

**CHAPTER 5: METHODOLOGY ADOPTED .....**

Various procedure/ methods available to solve the task/problem undertaken should be mentioned from the review of literature under this chapter. For this, a few technical papers and web sources should be referred and the same should be cited in the text at appropriate place. After this, methodology adopted to solve the task to be explained followed by procedures, flow charts, calculations..etc to be reported.

**CHAPTER 6: RESULTS AND DISCUSSIONS**

From the work carried out, the results obtained should be provided in the form of tables and figures under this chapter and each of these should have caption.

Proper reasons and justification for the trends observed in the results should be provided under discussion on the results.

**CHAPTER 7 CONCLUSINS AND SCOPE FOR FUTURE STUDY**

From the work carried out and results obtained, specific conclusions should be drawn. Similarly scope for the further work to be identified and placed under this heading.

**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.



A typical illustrative list given below relates to the citation example quoted above.

### **Reference to Standard**

ASTM D 2872 (2004), *Standard Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin Film Oven Test)*, Annual Book of ASTM Standards, Road and Paving Materials, Philadelphia.

### **Reference to Manual**

MS-2 (1994), *Mix Design Methods for Asphalt Concrete and Other Hot Mixes - Sixth Edition*, Asphalt Institute, USA.

### **Reference to Conference paper**

Kumar A S., Amarnath M.S. and Veeraragavan A (2008), *Effect of Air Voids on Fatigue Performance of Asphalt Mixtures*, Proceedings of 6<sup>th</sup> ICPT, Sapporo, Japan.

### **Reference to Journal paper**

Wang, L., Wei, J. and Zhang, Y. (2009), *Development of Alternative Parameters to Evaluate the Temperature Susceptibility of Asphalt Binders*, International Journal of Pavement Research and Technology, Vol. 2 (2), pp. 75-81

### **Reference to Text Book**

Das, B. M. (1998) *Principles of Geotechnical Engineering*, PWS Publishing Company, Boston.

### **Reference to Website**

[5] Adams, K. 'Iran's Hunter: Paykan,' on The Rootes>Talbot Resource website, 12. ii. 2005:  
<http://www.rootes-chrysler.co.uk/paykanf.htm>

[6] Simeli, A. 'Hindustan Ambassador,' on The Unofficial Austin-Rover Web Resource, 17. viii. 2004: <http://www.austin-rover.co.uk/hindambyf.htm>

[7] Negyesi, P. Country List on Autoindex World Car Catalogue, accessed 11. iv. 2005:  
<http://www.autoindex.org/cntrlist.plt>

**APPENDICES** – Appendices are provided to give supplementary information, which is 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 II, 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.

Example

**APPENDIX A**

**APPENDIX B**

**APPENDIX C**

(A typical Specimen of Cover Page & Title Page)

<Font Style Times New Roman – Bold>

**TITLE OF SUMMER INTERN REPORT**

<Font Size 18><1.0 line spacing>

**A SUMMER INTERN REPORT**

<Font Size 14>

***Submitted by***

<Font Size 14><Italic>

**NAME OF THE CANDIDATE(S)**

<Font Size 16>

**Roll No**

<Font Size 14>

***in partial fulfillment of Summer Internship for the award of the degree***

***of***

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

**BACHELOR OF TECHNOLOGY**

<Font Size 16>

**IN**

**BRANCH OF STUDY**

<Font Size 14>

**RGUKT .....CAMPUS**

<Font Size 14>

***RGUKT LOGO***

**RGUKT ..... Campus**

**Rajiv Gandhi University of Knowledge Technologies**

**Place, District, State**

<Font Size 14><1.0 line spacing>

**MONTH YEAR**

<Font Size 14><1.5 line spacing>

**APPENDIX II**

(The certificate is to be printed on preferably on Departmental Letter-Head )

<<Full address of the organization>>

**CERTIFICATE**

<Font Style Times New Roman – size -16>

<Font Style Times New Roman – size -14>

Certified that the summer internship project report “.....*Title Of The Project*.....” is the bonafide work of “.....**Name of The Candidate(S)**, Roll No.....” 3<sup>rd</sup> Year B.Tech in .....Engineering of RGUKT.....Campus of Rajiv Gandhi University of Knowledge Technologies (RGUKT), Andhra Pradesh carried out under my supervision during.....  
to.....

Place

<<Signature of the Supervisor>>

Date

<<Name>>

**SUPERVISOR**

<<Academic Designation>>

<<Department/organization>>

<<Signature of the Supervisor>> \*

<<Name>>\*

**SUPERVISOR \***

<<Academic Designation>>\*

<<Department/organization>>\*

\*- more than one supervisor



Sample

# MICROWAVE SINTERING AND PROCESSING OF NOVEL MATERIALS

A SUMMER INTERN PROJECT REPORT

*Submitted by*

**A. Krishna Mohan**

Roll No: N082134

**K. Bhaskar**

Roll No: N083453

*in partial fulfillment of Summer Internship for the award of the degree*

*of*

**BACHELOR OF TECHNOLOGY**

*in*

**METALLURGICAL & MATERIALS ENGINEERING**



**RGUKT Nuzvid Campus**  
**Rajiv Gandhi University of Knowledge Technologies (RGUKT)**  
**Nuzvid, Krishna (Dist), Andhra Pradesh**

**July 2013**

Sample

**Name of the Organization**

Postal address

**CERTIFICATE**

Certified that the summer internship project report on *Microwave Sintering and Processing of Novel Materials*” is the bonafide work of **A. Krishna Mohan**, Roll No: N082134 and **K. Bhaskar** , Roll No: N093453, 3<sup>rd</sup> Year B.Tech in Metallurgical & Materials Engineering of RGUKT Nuzvid .Campus of Rajiv Gandhi University of Knowledge Technologies (RGUKT), Andhra Pradesh carried out under my supervision during 17.4.2013 to15.05.2013.

Place

<<Signature of the Supervisor>>

Date

<<Name>>

**SUPERVISOR**

<< Designation>>

<<Department/organization>>

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## Appendix-IV

### International System of Units (SI Units)

Some of the SI units for dimensional quantities as follow (*PhD Guidelines of IIT Kharagpur*)

#### The SI Prefixes

Quantity	Name	Symbol
<u>length</u>	<u>metre</u>	m
<u>mass</u>	<u>kilogram</u>	kg
<u>time</u>	<u>second</u>	s
<u>electric current</u>	<u>ampere</u>	A
<u>thermodynamic temperature</u>	<u>kelvin</u>	K
<u>amount of substance</u>	<u>mole</u>	mol
<u>luminous intensity</u>	<u>candela</u>	cd

#### SI Derived Units

Derived quantity	Name	Symbol
area	square meter	$m^2$
volume	cubic meter	$m^3$
wave number	reciprocal meter	$m^{-1}$
mass density	kilogram per cubic meter	$kg/m^3$
specific volume	cubic meter per kilogram	$m^3/kg$
mass fraction	kilogram per kilogram, which may be represented by the number 1	$kg/kg = 1^*$
speed, velocity	meter per second	m/s
acceleration	meter per second squared	$m/s^2$
current density	ampere per square meter	$A/m^2$
magnetic field strength	ampere per meter	A/m
amount-of-substance concentration	mole per cubic meter	$mol/m^3$
luminance	candela per square meter	$cd/m^2$

\* The symbol 1 for quantities of dimension 1 is generally omitted

## SI Derived Units with Special Names and Symbols

Derived quantity	Name	Symbol	Expression in terms of other SI units	Expression in terms of SI base units
plane angle	radian	rad	-	$\text{m} \cdot \text{m}^{-1} = 1$
solid angle	steradian	sr	-	$\text{m}^2 \cdot \text{m}^{-2} = 1$
frequency	hertz	Hz	-	$\text{s}^{-1}$
force	newton	N	-	$\text{m} \cdot \text{kg} \cdot \text{s}^{-2}$
pressure, stress	pascal	Pa	$\text{N}/\text{m}^2$	$\text{m}^{-1} \cdot \text{kg} \cdot \text{s}^{-2}$
energy, work, quantity of heat	joule	J	$\text{N} \cdot \text{m}$	$\text{m}^2 \cdot \text{kg} \cdot \text{s}^{-2}$
power, radiant flux	watt	W	$\text{J}/\text{s}$	$\text{m}^2 \cdot \text{kg} \cdot \text{s}^{-3}$
electric charge, quantity of electricity	coulomb	C	-	$\text{s} \cdot \text{A}$
electric potential difference, electromotive force	volt	V	$\text{W}/\text{A}$	$\text{m}^2 \cdot \text{kg} \cdot \text{s}^{-3} \cdot \text{A}^{-1}$
capacitance	farad	F	$\text{C}/\text{V}$	$\text{m}^{-2} \cdot \text{kg}^{-1} \cdot \text{s}^4 \cdot \text{A}^2$
electric resistance	ohm	$\Omega$	$\text{V}/\text{A}$	$\text{m}^2 \cdot \text{kg} \cdot \text{s}^{-3} \cdot \text{A}^{-2}$
electric conductance	siemens	S	$\text{A}/\text{V}$	$\text{m}^{-2} \cdot \text{kg}^{-1} \cdot \text{s}^3 \cdot \text{A}^2$
magnetic flux	weber	Wb	$\text{V} \cdot \text{s}$	$\text{m}^2 \cdot \text{kg} \cdot \text{s}^{-2} \cdot \text{A}^{-1}$
magnetic flux	tesla	T	$\text{Wb}/\text{m}^2$	$\text{kg} \cdot \text{s}^{-2} \cdot \text{A}^{-1}$

density				
inductance	henry	H	Wb/A	$\text{m}^2 \cdot \text{kg} \cdot \text{s}^{-2} \cdot \text{A}^{-2}$
Celsius temperature	degree Celsius	°C	-	K
luminous flux	lumen	lm	$\text{cd} \cdot \text{sr}^{(c)}$	$\text{m}^2 \cdot \text{m}^{-2} \cdot \text{cd} = \text{cd}$
illuminance	lux	Lx	$\text{lm}/\text{m}^2$	$\text{m}^2 \cdot \text{m}^{-4} \cdot \text{cd} = \text{m}^2 \cdot \text{cd}$
activity (of a radionuclide)	becquerel	Bq	-	$\text{s}^{-1}$
absorbed dose, specific energy (imparted), kerma	gray	Gy	J/kg	$\text{m}^2 \cdot \text{s}^{-2}$
dose equivalent	sievert	Sv	J/kg	$\text{m}^2 \cdot \text{s}^{-2}$
catalytic activity	katal	kat	-	$\text{s}^{-1} \cdot \text{mol}$

### Other SI Derived Units

Derived quantity	Name	Symbol
dynamic viscosity	pascal second	Pa·s
moment of force	newton meter	N·m
surface tension	newton per meter	N/m
angular velocity	radian per second	rad/s
angular acceleration	radian per second squared	$\text{rad}/\text{s}^2$
heat flux density, irradiance	watt per square meter	$\text{W}/\text{m}^2$
heat capacity, entropy	joule per kelvin	J/K
specific heat capacity, specific entropy	joule per kilogram kelvin	J/(kg·K)
specific energy	joule per kilogram	J/kg
thermal conductivity	watt per meter kelvin	W/(m·K)
energy density	joule per cubic meter	$\text{J}/\text{m}^3$

electric field strength	volt per meter	V/m
electric charge density	coulomb per cubic meter	C/m <sup>3</sup>
electric flux density	coulomb per square meter	C/m <sup>2</sup>
permittivity	farad per meter	F/m
permeability	henry per meter	H/m
molar energy	joule per mole	J/mol
molar entropy, molar heat capacity	joule per mole kelvin	J/(mol·K)
exposure (x and $\gamma$ rays)	coulomb per kilogram	C/kg
absorbed dose rate	gray per second	Gy/s
radiant intensity	watt per steradian	W/sr
Radiance	watt per square meter steradian	W/(m <sup>2</sup> ·sr)
catalytic (activity) concentration	katal per cubic meter	kat/m <sup>3</sup>

#### Non-SI Units Accepted for Use with the SI Units

Name	Symbol	Value in SI units
minute (time)	min	1 min = 60 s
hour	h	1 h = 60 min = 3 600 s
day	d	1 d = 24 h = 86 400 s
degree (angle)	°	1° = ( $\pi$ /180) rad
minute (angle)	'	1' = (1/60)° = ( $\pi$ /10 800) rad
second (angle)	''	1'' = (1/60)' = ( $\pi$ /648 000) rad
liter	L	1 L = 1 dm <sup>3</sup> = 10 <sup>-3</sup> m <sup>3</sup>
metric ton	t	1 t = 10 <sup>3</sup> kg
neper	Np	1 Np = 1
bel	B	1 B = (1/2) ln 10 Np
electronvolt	eV	1 eV = 1.602 18 x 10 <sup>-19</sup> J, approximately
unified atomic mass unit	u	1 u = 1.660 54 x 10 <sup>-27</sup> kg, approximately
astronomical unit	ua	1 ua = 1.495 98 x 10 <sup>11</sup> m, approximately