Research Review Presentation on

**TITLE OF THE REPORT (Font 18 or above, bold)**

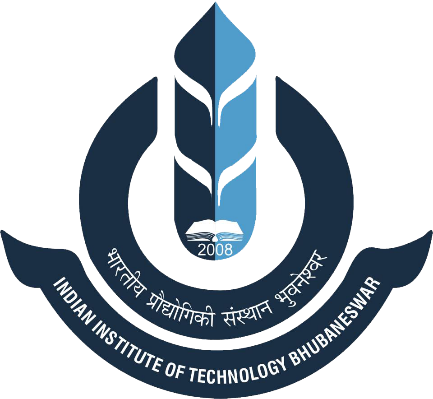
*Submitted By*

Name (Font: 14-16)

Roll No. (Font: 14)

*Under the Supervision of*

Name (Font: 14-16)



School of Mechanical Sciences

Indian Institute of Technology, Bhubaneswar

Month, Year

**Title of the Project (font 14 or 16)**

Name: (Font 12)

Roll No.: (Font 12)

**Abstract:** (heading font 14 bold)

* Abstract should divulge main concept of the whole report, including main objective and importance of the work, some specific observation (preferably no numerical values).
* Preferably in a single paragraph, both side aligned (Justified text)
* Abstract body font size 12, normal (no bold, no italic)
* Line spacing: 1-1.5 (not more than that)
* No reference needed

**Keywords:** 5 to 6 keywords

**CONTENTS** (at new page) - (Heading font 14 bold)

|  |  |
| --- | --- |
| **Contents** (font size 12) | **Page No.** |
| INTRODUCTION  1.1 Theoretical background  1.2 History of development  1.3 Applications  1.4 Advantaged and disadvantages |  |
| REVIEW OF THE TOPIC  2.1 Literature review  2.2 Major focus areas  2.3 Experimentation / Model Formulation  2.4 Important Findings |  |
| CONCLUSION/ SUMMARY |  |
| REFERENCES |  |

**1. INTRODUCTION** (Heading font size 12 or 14, Uppercase/normal, bold/normal)

**1.1 Theoretical Background** (Heading font 12, bold)

Body text: font 12, line spacing 1.5, both side aligned (Justified text).

*1.1.1 Sub-title* (font 12, normal/italic)

Body text: font 12, line spacing 1.5, both side aligned (Justified text).

**2. REVIEW OF THE TOPIC** (Heading font size 12 or 14, Uppercase/normal, bold/normal)

**2.1 Literature Review** (Heading font 12, bold)

This part will include the related literatures, and hence may be divided in sub areas (with sub titles), like State of art, Modelling, effect of process parameters etc.

**\*\* Note:** Literature review should include papers to demonstrate the types of research problems people are working on, in the area related to the topic of RRP. However, the content and the length of the “Literature review” part needs to be decided based on the type of work.

**2.2 Major Focus Areas** (Heading font 12, bold)

This part should include the major problem areas/ issues which will be discussed in details from the published research work in the next/subsequent sections.

**2.3 Experimentation / Model Formulation (Based on the selected research works)**

(Heading font size 12 or 14, Uppercase/normal, bold/normal)

**Experimentation:** This part will include the related experimental set-up, materials, process parameters, processing methods (including post processing) etc. (preferably with sub titles) with proper reference of the research papers.

**Model Formulation:** This part will include the details of the model (numerical, analytical, statistical or others) with basic equations, boundary conditions etc.

**\*\* Note:** This section should be prepared based on the in-depth survey of specific research works (experimental or modelling work, or both). However, one can include some work related to verification or extension of the experimental/modelling results, based on the requirement and scope.

**2.4 Important Findings (Based on the selected research works)**

(Heading font size 12 or 14, Uppercase/normal, bold/normal)

This section will include the related results and in-depth discussion against the observations, (from selected research papers) supported by proper figures (graphs, photographs etc.) or observation table. All the results should have proper reference. This part may be divided into sub heading based on types of observations.

**\*\* Note:** Similar to the previous section, this section should be prepared based on the thorough survey of selected research works (experimental/modelling results with detailed discussion). However, student can include some own results obtained through the verification or extension of the experimentations/modelling, based on the requirement and scope.

**3. CONCLUSION/ SUMMARY** (Heading font size 12 or 14, Uppercase/normal, bold/normal)

* This section will summarize the results or observations and major findings including numerical values against specific observations.
* Either in bullet form or small paragraphs.
* Future scope of the study.
* Body text: font 12, line spacing 1.5, both side aligned (Justified text)

**4. REFERENCES** (Heading font size 12 or 14, Uppercase/normal, bold/normal)

Body text: font 12, line spacing 1.5, both side aligned (Justified text)

* References to be put number wise (in the order they appear in the text), in increasing order (if it is represented by number in the report)
* References to be put alphabetically from “A to Z” (if it is represented by name in the report)
* Put the URL for open source (taken from net)
* Be consistent with the reference style
* Detailed reference style is given below for your reference.
* Typical reference styles for research paper:
* Tsai C. H., Li C. C., Investigation of underwater laser drilling for brittle substrates, Journal of Materials Processing Technology, 209 (2009) : 2838–2846

OR

* C. H. Tsai, C. C. Li, Investigation of underwater laser drilling for brittle substrates, Journal of Materials Processing Technology, 209(3) (2009) : 2838–2846

OR

* C. H. Tsai, C. C. Li, 2009, Investigation of underwater laser drilling for brittle substrates, J Mater Process Tech, 209(3) : 2838–2846
* Typical reference style for book:
  + Steen, W. M. and Mazumder, J. (2010), Laser Material Processing, 4th edition, Springer – Verlag London

***\*\* Note:*** *The reference style may be made different (but constant for a single report). Please refer standard research journal paper for the reference style.*

**OTHER INSTRUCTIONS** (Heading font size 12 or 14, Uppercase/normal, bold/normal)

**5.1 Figure:**

* Figure should come with proper caption (caption font 10-12, middle or both side aligned, with proper reference, if taken from others’ work or from online source)
* Preferably mention about the figure in the main text before (or just after) the appearance of the figure.
* Refer the figure in the main text as per the caption style (like Fig. 1)



**Fig. 1:** Pure water transmission spectrum of light for different wavelengths (Kruusing, 2004)

OR,

Fig. 1: Pure water transmission spectrum of light for different wavelengths [1]

OR,

Figure 1: Pure water transmission spectrum of light for different wavelengths [1]

**5.2 Table:**

* Table should come with proper caption, before the table (caption font 10-12, middle or both side aligned, with proper reference, if taken from others’ work or from online source)
* Preferably mention about the table in the main text before (or just after) the appearance of the table.
* Refer the table in the main text like Table 1 (as per the caption style)

**Table 1:** Range of process parameters for the study of cut quality in 1 mm thick SS304 sheet

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Process parameter | Laser power (Watt) | Cutting speed (mm/min) | Water-jet speed (m/s) | SOD  (mm) | Focal point position | Beam spot diameter (µm) |
| Range/value | 1200–1800 | 400–1600 | 15–19 | 0.5–1.5 | 0.5 mm below orifice | ~600 |

***\*\* Note:*** *Body text of table: font size 10-12, normal*

**5.3 Equation:**

* Equation should be written using “Equation editor” option in word or “Math-type” or similar operations
* Equations must not be pasted from somewhere, or even not to be written using normal text.
* Equation should come with equation number
* Preferably mention about the equation in the main text before the equation.
* Define all the variables (variables which are put into the equation) after the equation.
* Refer the equation in the main text as “Eqn. 1” or, “equation 1”.

**For example:**

|  |  |
| --- | --- |
|  | (1) |

Where *A* is the fraction of laser power absorbed at the work-piece surface, *P*in is the laser power incident at work-piece, w is the kerf-width, *v*c is the cutting speed and *t* is the sheet thickness. *C*p, *ρ*, *L*f and *L*v are the specific heat, density, latent heat of fusion and latent heat of vaporization of the work-piece material, respectively. ∆*T* is the temperature rise at the cut front and *m'* is the fraction of material vaporised.

**5.4 Reference style within the report body**

Reference may be put either in number style or name style. Follow the single style throughout the report.

***By number:***

* It may be single reference, like [1]
* It may be multiple references, like [1–5] or [1, 3, 7–9]
* The reference number will be allotted as per the sequence they appear in the text

***By name:***

* It may be single reference or multiple references (for multiple references, the preferable sequence will be ascending order of the year of publication)
* For single author paper - Kruusing, 2004
* For two authored paper - Curcio and Petty, 1951
* For multiple (more than two) authored paper - Mullick et al. 2011

**5.4 Text Font Style:**

* For both heading and body: Times New Roman
* Text inside the table or Figure: Times New Roman/ Arial/ Calibri
* Text for the equation: Cambria Math

**5.5 Page Numbering:**

* There will not be any page number on the front/cover slide
* In the abstract and content page the page number would preferably in roman number (I, II, …..) and start from II
* The main pages would be numbered in English numerical (1, 2, 3, ….).