

**MGM’s POLYTECHNIC AURANGABAD**

**2020-2021**

Micro Project Report

On

**“CASE STUDY ON TWO WIRE METHOD”**

Submitted in partial fulfillment for ‘I’ Scheme third semester of

**Diploma in**

**MECHANICALENGINEERING**

**By**

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Under the guidance of

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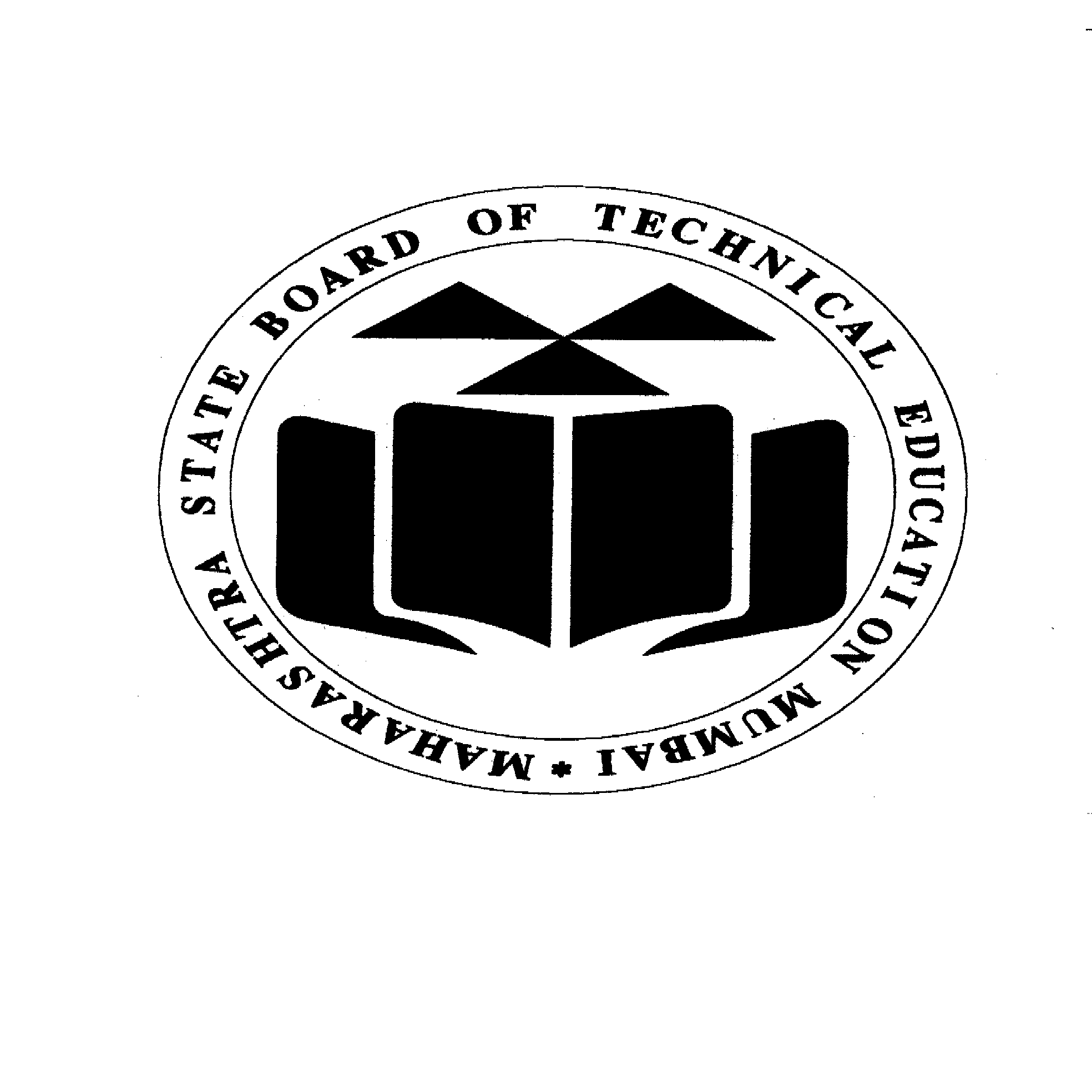
(Lecturer in Mechanical Engineering)

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**Certificate of Completion**

This is to certify that we Dhakne Ramakant Mahendra , Mohammed Saad Sayyed ,Jadhav Swaraj Milind with Enrollment No: 1915010275, 1915010276 and 1915010277 have successfully completed their Micro-Project entitled **" CASE STUDY ON TWO WIRE METHOD "** in the Course/Subject of **"Engineering Metrology (EME-22342)"**in the third semester during thier tenure of completing the Diploma programme in **MechanicaEngineering** From **MGM's Polytechnic** institute with institute code **1501.**

**Prof. N. D. Bankar Prof. Bhalekar B.D**

**Guide HOD**

Mechanical Engineering Mechanical Engineering

**Dr. B.M. Patil**

**Principal**

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**Annexure – I**

**Micro-Project Proposal**

**CASE STUDY ON TWO WIRE METHOD**

1. **Aims/Benefits of the Micro-Project**

* To case study on two wire method .
* To study two wire method in metrology.
* To study types of screw thread in metrology

**2.0 Rationale**

The effective diameter cannot be measured directly but can be calculated from the measurements made. Wires of exactly known diameters are chosen such that they contact the flanks at their straight portions. If the size of the wire is such it contacts the flanks at the pitch line, it is called the ‘best size’ of wire which can be determined by geometry of screw thread. The screw thread is mounted between the centers & wires are placed in the grooves and reading M is taken. Then the effective diameter E =T+P where T =M-2d, & P is a value which depends on diameter of wire, pitch & angle of the screw thread.

1. **Course Outcomes Addressed**

a) Use two wire method in different industrial application

**4.0 Proposed Methodology**

1. We will finalize micro project team.
2. We will finalize topic for micro project.
3. We will prepare certificate and proposal of report.
4. Then we will collect information based on two wire method
5. We will collect required resources given below.
6. Compose, draft and type prototype of report.
7. And we will make report based on micro project.
8. Presentation of micro project.

**5.0 Action Plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Details of activity** | **Planned Start date** | **Planned Finish date** | **Name of Responsible Team Members** |
|  | Finalization of Micro Project Team | 10th Oct 2020 | 11th Oct 2020 | Saad Sayyed |
|  | Finalization of Topic | 12th Oct 2020 | 13th Oct 2020 |
|  | Literature Survey | 14th Oct 2020 | 16th Oct 2020 | Swraj jadhav |
|  | Submission of Micro-Project Proposal (ANNEXURE-I) | 17th Oct 2020 | 19th Oct 2020 | Saad sayyed ramakant dhakne swraj jadhav |
|  | Proposed Methodology | 20th Oct 2020 | 23rd Oct 2020 | Saad sayyed |
|  | Collecting Resources Required (raw material) | 24th Oct 2020 | 25th Oct 2020 | Swraj jadhav |
|  | Making of Prototype/Working Model | 26th Oct 2020 | 31st Oct 2020 | Ramakant dhakne |
|  | Submission of Micro-Project Report (ANNEXURE-II) | 1st Nov 2020 | 2nd Nov 2020 | Sayyed saad swraj jadhav and ramakant dhakne |
|  | Presentation via PPT to Institute | 3rd Nov 2020 | 5th Nov 2020 | Sayyed saad swraj jadhav |

**6.0 Resources Required**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Name of Resource/material** | **Specifications** | **Qty.** | **Remarks** |
|  | Reference books | For gathering details | 1 |  |
| 2 | Microsoft office word | For prototype | 1 |  |
| 3 | Laptop or computer | For making report | 1 |  |
| 4 | Reference website | For reviewing literature | 1 |  |

**Name of Team Members with Roll No’s:**

1. Ramakant Dhakne – 22113
2. Sayyed Mohammed Saad – 22114
3. Swraj Jadhav – 22115

**\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Annexure – II**

**Micro-Project Report**

**Difference between Two wire method and Three wire method**

**1.0 Aims/Benefits of the Micro-Project:**

* To case study on Two wire method .
* To analysis and uses of types of two wire method

**2.0 Literature Review**

Screw threads may either be left or right handed. The left-hand thread is used for special applications and the right-hand thread is the one normally used on nuts and bolts. The Unified system of screw threads are covered by BS 1580, which was introduced by the United Kingdom, Canada, and the United States to provide a common standard thread for use by the three countries. The International Standards Organization (ISO) recommends the system as an international system of screw threads in inch units, in parallel with a similar system in metric units. The square thread is used to transmit force and motion since it offers less resistance to motion than “V” thread forms. This thread is widely used on [lathes](https://www.sciencedirect.com/topics/engineering/lathes) and is sometimes slightly modified by adding a small taper of about 5° to the sides as an aid to production. Acme threads are more easily produced than the square thread, which are often used in conjunction with split nuts for engagement purposes and are applied in valve operating spindles. [Buttress](https://www.sciencedirect.com/topics/engineering/buttress) thread is used for transmitting power in one direction only and a common application of this thread can be found in workshop vices.

**3.0 Actual Methodology Followed**

1. We finalize a micro project team.
2. We finalize micro project topic based on syllabus.
3. We prepared proposal of micro project.
4. We distributed work of micro project into 3 team members as per their skills.
5. Collection of information/details required to analysis and for understanding two wire method was done by sayyed saad and swraj jadhav.
6. Compose, typing and drafting of report done by saad sayyed
7. Literature review is done by ramakant dhakne and swraj jadhav.
8. Collection of required resource done by sayyed saad
9. After completion of proposal and report, we made micro project report with the guidance of guide.
10. At last, we wrote acknowledge and drafted index with it.

**4.0 Outputs of the Micro-Projects**

Micro project givens us information of two wire method such as follows:

* Thread
* Pitch
* Effective Diameter
* Thread angle

**5.0 Skill Developed / Learning outcomes of this Micro-Project**

We developed skills as follows:

* **Communication skills.**
* **Leadership skills.**
* **Team management skills.**
* **Time management skills.**
* **Problem-solving skills.**
* **Technical writing skills.**
* **Reporting skills.**
* **Adaptability.**
* **Project management methodologies.**

**6.0 Applications of this Micro-Project:**

Applications of two wire method are used in industry as per purposes as follow:

* Thread- **Screw threads** have several **applications**: Fastening: Fasteners such as wood **screws**, plastic **screws**, machine **screws**, nuts, and **bolts**. Connecting threaded pipes and hoses to each other and to caps and fixtures.
* Micrometer- used to measure external and internal dimensions of job as like vernier caliper but with more accuracy.
* Thread angle - The included **angle** characteristic of the cross-sectional shape is often called the **thread angle**. For most V-**threads**, this is standardized as 60 degrees, but any **angle** can be **used**. The cross section to measure this **angle** lies on a plane which includes the axis of the cylinder or cone on which the **thread** is produced.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**ACKNOWLEDGEMENT**

We would like to express gratitude towards my guide (**Prof. N.D. Bankar)** for the useful comments, remarks and for giving his valuable guidance and inspiration throughout the learning process of this micro project report.

Furthermore we would like to thank our **HOD (Prof. B.D. Bhalekar)** for making available all the facilities for the successful completion of the work and other staff members of Mechanical Department for their valuable help.

It is with humble gratitude & sense of indebtedness. We thank our respected and esteemed **Principal (Dr. B.M. Patil)** for his valuable guidance, suggestions and constant support which lead towards successful completion of this work.

Date: **20/10/2020**

Place: MGM Polytechnic Aurangabad.

**Student Name Roll No**

Ramakant Dhakne 22113

Sayyed Mohammed Saad 22114

Swraj Jadhav 22115

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