Instructional Materials and Learning Resources

1. Printed Materials

The department supports effective teaching and learning through the availability of various printed instructional resources.

1.1 Textbooks

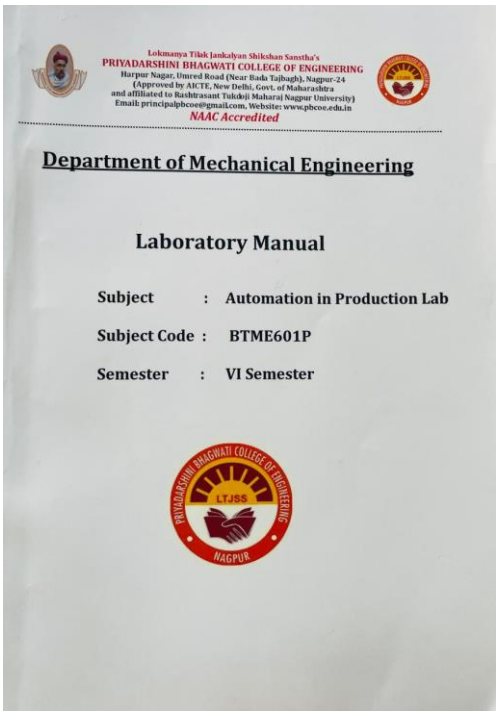
Essential textbooks required for different courses are made available to students through the departmental library and digital learning platforms. These textbooks help students develop strong theoretical foundations in their subjects.

In addition to printed textbooks, students can access e-books, reference materials, research papers, and case studies through online academic resources and institutional portals.

1.2 Handouts (Manuals / Subject Notes / Reading Materials)

The department provides course-specific handouts that support classroom teaching and self-learning. These handouts generally contain summaries of key concepts, formulas, illustrations, diagrams, and practice exercises.

Most handouts are distributed digitally through online platforms such as Google Classroom or institutional learning management systems. Printed copies are also provided whenever necessary, particularly during laboratory sessions, workshops, or practical demonstrations.


Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24
(Approved by AICTE, New Delhi, Govt. of Maharashtra
and affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)
Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in
NAAC Accredited

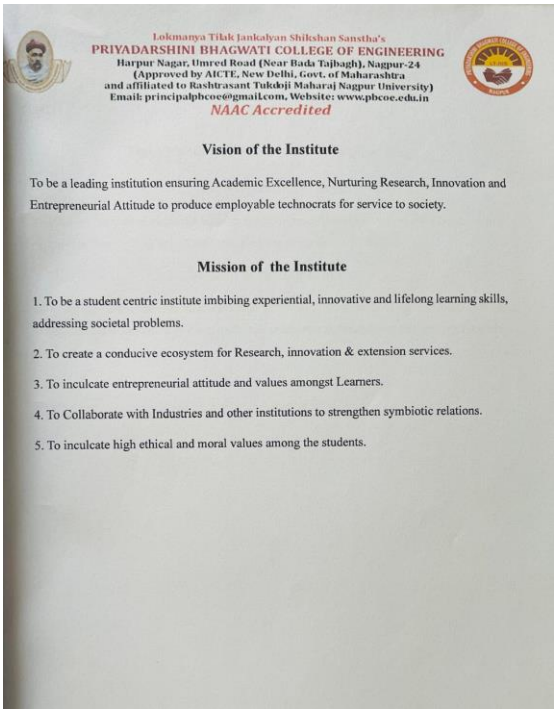
Department of Mechanical Engineering

Laboratory Manual

Subject : Automation in Production Lab

Subject Code : BTME601P

Semester : VI Semester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Vision of the Institute

To be a leading institution ensuring Academic Excellence, Nurturing Research, Innovation and Entrepreneurial Attitude to produce employable technocrats for service to society.

Mission of the Institute

1. To be a student centric institute imbibing experiential, innovative and lifelong learning skills, addressing societal problems.
2. To create a conducive ecosystem for Research, innovation & extension services.
3. To inculcate entrepreneurial attitude and values amongst Learners.
4. To Collaborate with Industries and other institutions to strengthen symbiotic relations.
5. To inculcate high ethical and moral values among the students.

2. Visual Materials

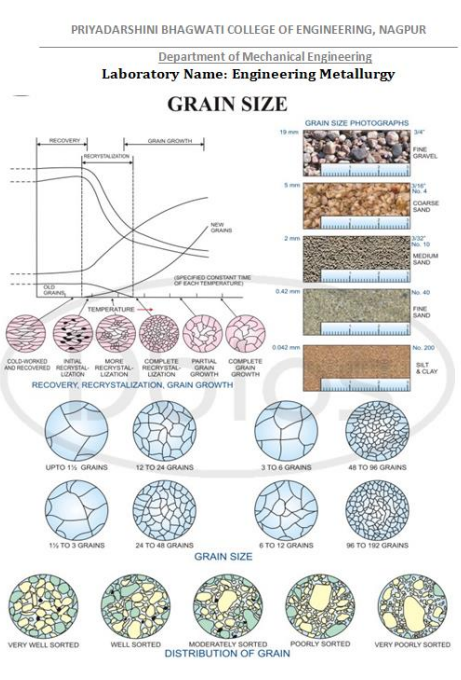
Visual learning resources are used extensively to improve conceptual clarity and make complex topics easier to understand.

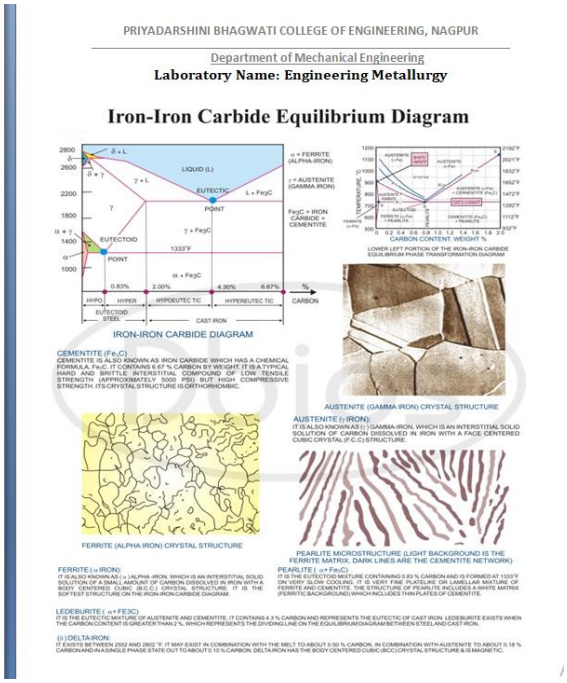
2.1 Charts, Graphs, Diagrams and Maps

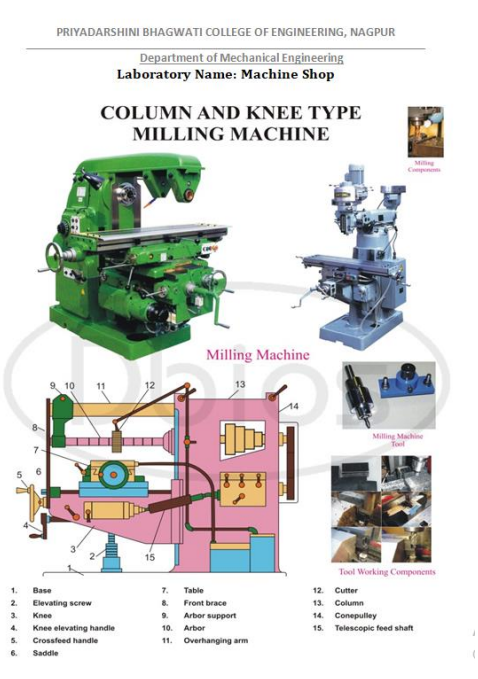
Charts and graphs are used in laboratories and classrooms to present experimental data, comparisons, and trends in a clear visual form.

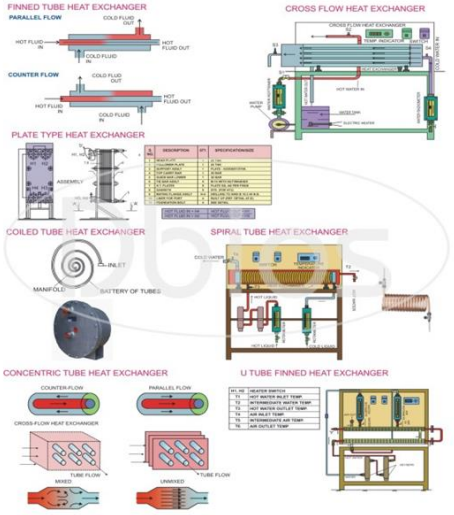
Diagrams and schematic illustrations are commonly included in teaching materials to represent systems, mechanisms, and engineering concepts.

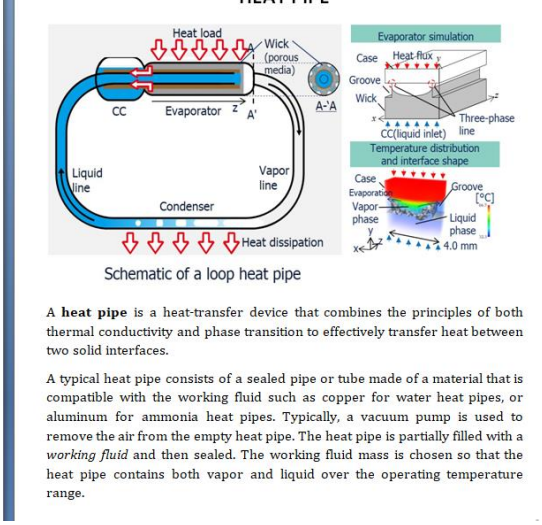
Printed charts and graphical materials are available in laboratories to assist students during practical sessions.











3. Audio & Visual Materials

The department integrates audio and visual learning tools to enhance student engagement and improve the understanding of theoretical and practical concepts.

3.1 Subject Videos

Audio resources include recorded lectures, expert talks, interviews, and explanatory narrations that help reinforce classroom learning.

Visual resources include instructional videos, recorded demonstrations, animations, and educational documentaries that illustrate processes and engineering principles.

4. Slideshow Materials

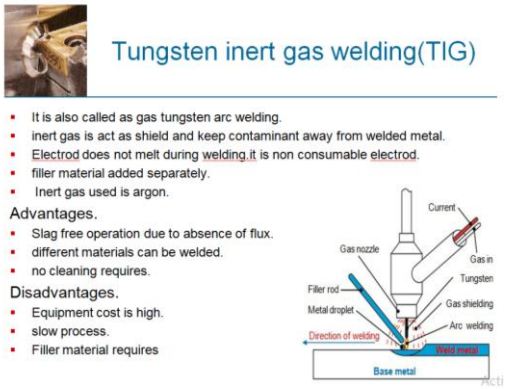
Presentation tools are widely used by faculty members to deliver course content in a structured and visually engaging format.

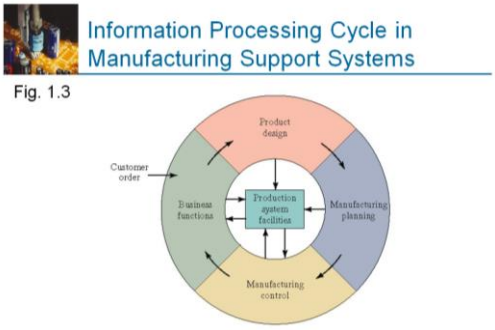
4.1 Presentations and Animations

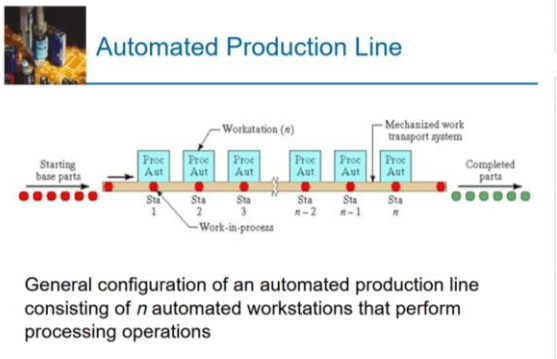
Teachers use presentation software such as PowerPoint and Google Slides to organize lectures, incorporate multimedia content, and improve student interaction.

Animations are often used to explain complex engineering mechanisms, models, and workflows that may be difficult to describe using static images.

Students are also encouraged to prepare presentations as part of assignments, seminars, and project work to enhance communication and analytical skills.







5. Working Models, Charts

The department also uses working models and physical charts to support experiential learning. These teaching aids help students visualize theoretical concepts and understand their practical applications.

Working models demonstrate the functioning of engineering mechanisms, while charts provide quick visual references for important formulas, diagrams, and processes.

These tools make classroom teaching more interactive, promote active learning, and improve students' retention and conceptual understanding.

Working Models