

## **DYP COE June Blog**

# **Production Engineering: A Complete Guide on Course, Career, Scope, Eligibility Criteria**

Production engineering also known as Manufacturing Engineering is all about products, processes, and systems involved in production. Each product or goods that we use go through a complex manufacturing process and a Production Engineer devises how these products will be made. This includes deciding on the machines involved, the efficiency, and safety during the production, and delivering high quality, ready-to-use goods in the end. A Production Engineer is involved almost at every stage of converting raw materials to essential goods. This blog covers various aspects of Production Engineering, including eligibility, admission process, syllabus, career opportunities, career scope, degrees and specializations, etc. So, let's delve right into it!

### **What Is Production Engineering?**

Production Engineering is a subset of Mechanical Engineering. It combines Management Science and Manufacturing Technology. Being interdisciplinary in nature, this field offers a wide career spectrum with diverse specialization options.

Essentially a Production Engineer can find a job wherever a product and production processes are involved. This widens the scope of the field phenomenally! Production engineers can land a job in diverse fields like Automobile Industry, Construction Industry, Refining Industry, IT Companies, Pharmaceuticals, Research Labs, Manufacturing Sectors, Travel, Health, Sports, etc. They get hired in both the public and the private sectors.

### **Scope and Career Advancement Opportunities After Production Engineering**

Production Engineers are crucial in the global market as their expertise is needed in the entire production process. This increases their demand in the manufacturing industry. As mentioned earlier, a Production Engineer will find jobs in various fields and let's take a look at the scope and career advancement opportunities for Production Engineers: -

- Engineering Plant Production Manager
- Process Engineer
- Quality Engineers
- Management Engineer

- Operations Analyst
- Manufacturing Engineer
- Health and Safety Engineers
- Industrial Engineering Technicians
- Industrial Production Managers
- Logisticians
- Management Analysts
- Occupational Health and Safety Specialists and Technicians

### **Degrees and Specialization Options**

In India various Technical Institutes offer graduation and post-graduation degree programs in Production Engineering. For students who are interested in higher studies and research also have an option of Ph.D. programs. Following are the degrees and diploma programs available in Production Engineering: -

Diploma Courses: -

- Diploma in Production Engineering
- Diploma in Industrial & Production Engineering

Bachelor's degree programs: -

- B.E. in Production Engineering
- B.E. in Industrial & Production Engineering

Master's degree programs: -

- M.E. in Production Engineering

Many Specialization options are available in Production Engineering. Here are some options to choose from: -

- Computer-integrated manufacturing (CIM)
- Production systems
- Robotics and automation
- Engineering design
- Quality engineering
- Food manufacturing engineering
- Supply chain management
- Product development
- Systems analysis

## **Eligibility Criteria for B.E. Production Engineering**

The eligibility criterion for B.E. Production Engineering admissions differs from state to state. Following is the eligibility criteria for the state of Maharashtra: -

- Passed HSC (Class 12) Examination with Mathematics and Physics as mandatory subjects along with Chemistry or Biotechnology or Biology.
- The applicants must have 50% of marks in HSC (45% for reserved and PH categories).
- 80% admissions through CAP and 20% at the Institute Level
- Updated guidelines from DTE and State CET Cell Maharashtra

Various States and private universities have their own entrance exams for Production Engineering admissions. Let's take a look at some of these entrance exams: -

- MHT-CET
- AIEEE
- JEE Main
- GATE
- VITEEE
- UPSEE
- BITSAT

## **Syllabus for B.E. Production Engineering**

Following is the syllabus for B.E. Production Engineering: -

### **SEMESTER 1**

1. Machine tool Design
2. Automation and control Engineering
3. Operations Research
4. Elective I
5. Elective II
6. Machine Tool Design
7. Automation and Control Engineering
8. Operations Research
9. Elective II

## 10. Project Phase 1

### Elective I

- (a) Human Factors in Engineering and Ergonomics
- (b) Financial Management and Costing
- (c) Reliability Engineering
- (d) Energy Management

### Elective II

- (a) Advanced Welding
- (b) Materials Technology
- (c) Surface Engineering
- (d) Intelligent Manufacturing Systems

## **SEMESTER 2**

1. Computer Integrated Design & Manufacturing
2. Product Design and Development
3. Elective III
4. Elective IV
5. Computer Integrated Design & Manufacturing
6. Product Design and Development
7. Elective III
8. Elective IV
9. Project Work

### Elective III

- (a) Materials and Logistic Management
- (b) Finite element analysis
- (c) World Class Manufacturing
- (d) Industrial Relations and Human Resources

### Elective IV

- (a) Industrial Robotics
- (b) Simulation and Modelling
- (c) Automobile Engineering
- (d) Mechatronics

Production Engineering curriculum can differ from state to state and Universities. For addition information and detailed explanation about the curriculum refer to: -

### **Admission Process**

As mentioned above, for getting admission into B.E. Production Engineering, applicants need to meet the eligibility criteria based on the state and their preferred institution. Students also need to clear various entrance exams held at the state and national levels like, AIEEE, MH-CET, etc. Combining the HSC results with the entrance exam score, will open the gates to the further admission process. Applicants have both online and offline modes of applications, though most of the universities these days prefer online admission process. The merit list of the selected candidates will be displayed post which the students can advance the admission process of paying fees and getting admitted in the college.

### **Why Choose D.Y. Patil College of Engineering, Akurdi?**

Dr. D. Y. Patil Prathishthan's, [D.Y. Patil College of Engineering, Akurdi](#), (DYPCOE) offers full-time [B.E. \(Production Sandwich\)](#) and [M.E. Production \(Manufacturing Engineering and Automation\) programs](#). These programs are approved by AICTE, New Delhi, and are affiliated to Savitribai Phule Pune University. The B.E. degree program in Production Engineering-Sandwich is different from regular Production Engineering courses. The best part about it is its **unique feature which includes one-year Industrial training as a part of the academics**. This facilitates students to learn practical working procedures as well as latest technical skills. During this training period, students get a chance to apply their theoretical knowledge and acquire industrial skills to enhance their performance in the Production Engineering field. This training also helps to convert students into industry-ready professionals. Most of the students are directly absorbed by the Industries where they have worked for training during the Production Sandwich program.

The college believes in providing the best learning experience to students with robust industrial exposure, excellent placement facilities, advanced laboratories, digital libraries, classrooms equipped with modern facilities, and much more. With a distinguished faculty and a dual approach of theoretical knowledge and practical training, these programs create adept Engineers. The College also offers an innovative pedagogy and regular guest lectures and seminars, conducted by Industry professionals. A regular interaction with faculty members and Industry professionals helps students to explore the latest trends in the Industry. The College has close interactions with a myriad of industries that help in

enhancing the quality of these programs. These features make D.Y. Patil College of Engineering, Akurdi, the best place to kickstart your career in Production Engineering.

### **Skills Required**

The students who are planning to build a career in Production Engineering need to possess the following skills: -

- A keen knowledge of the manufacturing industry, the functions, and processes involved during manufacturing of goods and services.
- Management skills and the ability to plan and execute the production process of various goods.
- Logical problem-solving skills
- Ability to manage people and have strong presentation and communication skills
- Knowledge about the health and safety guidelines in order to ensure the maintenance of safety during production.
- Awareness about the market and the customers' requirements

Hence, we understand how crucial the role of a Production Engineer is in the manufacturing industry and their tremendous demand in the global market. So, if you wish to kickstart your career in Production Engineering with excellent education and global standard facilities, register in [D.Y. Patil College of Engineering, Akurdi](#). Know more about these programs along with [admission process](#), [fee structure](#), program outcomes, etc. You can also fill up a form there to get all the additional details. So, what are you waiting for? Register now!

### **Meta Description –**

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