



SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING, SHEGAON
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOMES OF ALL COURSES OF EIGHTH SEMESTER
BE MECHANICAL ENGINEERING

8ME01 Operation Research Techniques

After successfully completing the course, students will be able to:

- 1 Apply graphical and simplex methods to solve Linear Programming (LP) problems.
- 2 Apply Transportation Models and Assignment Models to determine optimal solutions.
- 3 Analyze PERT and CPM Network Models to assess project timelines and resource efficiency.
- 4 Solve waiting line and sequencing models to determine optimal solution.
- 5 Solve Simulation and Dynamic Programming problems for optimal strategies.
- 6 Apply replacement models for individual and group policies.

8ME02 I.C. Engines

After successfully completing the course, students will be able to:

- 1 Analyze the various performance parameters of IC engines by using principles of thermodynamics.
- 2 Compare the major fuel groups for IC engines
- 3 Explain the normal & Abnormal combustion processes in SI and CI engines
- 4 Identify relevance of environment and emissions from IC engine

8ME03 Production Planning & Control

After successfully completing the course, students will be able to:

- 1 Understand the importance of production planning and control, its functions and advantages.
- 2 Apply the skills of calculating for sales forecasts using various forecasting methods.
- 3 Formulate production order and Production Plan for given batch size
- 4 Explain concept of machine capacity, loading of machines man machine activity charts.

- 5 Explain concept of inventory control & various cases of inventory system
- 6 Apply the modern philosophies of management like CIM, JIT, MRP-I and MRP-II.

8ME03 Artificial Intelligence

After successfully completing the course, students will be able to:

- 1 Illustrate the concept of knowledge and knowledge base.
- 2 Explain the structure and working of an Expert System.
- 3 Illustrate the methods of knowledge representation.
- 4 Explain the design pre-requisites and design procedure of expert system
- 5 Explain the skills of development of expert system for industrial problems.
- 6 Illustrate the concept of fuzzy logic and fuzzy engineering.

8ME04 Refrigeration & Air Conditioning

After successfully completing the course, students will be able to:

- 1 Analyze the effect of different parameters on performance of Vapour Compressor Refrigeration System (VCR) with different types of refrigerant.
- 2 Analyze the elementary treatment of multistage pressure system along with fundamental of cryogenics engineering.
- 3 Explain various components of refrigeration system and applications including leak detection.
- 4 Apply the use of psychometric chart in the design of air-conditioning systems.
- 5 Illustrate the details Classification of air conditioning systems & its its applications.
- 6 Analyze cooling load for different Air Conditioning System

8ME04 Robotics & Industrial Applications

After successfully completing the course, students will be able to:

- 1 Explain the concept of robotics and its applications.
- 2 Illustrate robot anatomy and various configurations for different industrial applications.
- 3 Apply the concept of kinematic analysis of robots.
- 4 Apply the concept robot programming, its methods and programming languages.

8ME07 Project

After successfully completing the course, students will be able to:

- 1 Analyze relevant literature and define a research problem with well-formulated objectives.

- 2 Plan and execute the project using appropriate methodologies and systematic work distribution.
- 3 Demonstrate technical proficiency through structured presentations, demonstrations, and effective communication.
- 4 Interpret and analyze feedback, refine project implementation, and present meaningful results and conclusions.
- 5 Exhibit professional ethics, teamwork, and project documentation skills through effective report writing and participation in research dissemination activities.