

**SYLLABUS
DIPLOMA IN MECHANICAL ENGINEERING
SEMESTER – VI**

INDUSTRIAL MANAGEMENT AND QUALITY CONTROL

Sub. Code: DME 601

Credits: 02

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

Unit 1:

Management; Administration and Organization; Difference between them; Scientific Management: Meaning, Characteristics, Object and Advantage; Taylor's Scientific Management; Types of Organization, Different Types and their Charts; Leadership Qualities; Motivation.

Unit 2:

Introduction, Object and Functions of Human Resource Development Department; Recruitment, Sources and Methods of Selection; Need for Effective Training; Method of Training; Duties of Supervisor / Forman; Role of HRD in Industries.

Unit 3:

Definition and Requirements of a Good Wage System Method of Wage Payment; Wage Incentives: Type of Incentive, Difference in Wage Incentive and Bonus, Incentive to Supervisor.

Unit 4:

Purchasing Functions and Duties of Purchase Department. Tender: Necessity, Types of Tenders, Tendering Procedure,. Store and Store Keeping: Functions and Duties of Store Department, Location and Layout of Store., Sales: Function and Duties of Sales, Department Sales Promotion Advertisement, Service after Sales.

Unit 5:

Idea of Income Tax, Sales Tax, Excise Duty and Custom Duty; Industrial and Fire Insurance; Procedure for Industrial Insurance.

Unit 6:

Industrial Acts: Factory Act 1948; Workmen's Compensation Act 1923; Apprentices Act 1961; Water Pollution Contract Act 1974 and 1981; Air Pollution Contract Act 1981; Environmental Protection Act 1986; Forest (Animal Conservation Act 1972); Pollution Control Provisions In Motor Vehicle Act.

Suggested Readings:

1. Industrial Management, V.K. Sharma & O.P. Harkut, Khanna Publishers
2. Industrial Engineering. & Management, O.P. Khanana, Dhanpat Rai Publications
3. Industrial Engineering. & Management, T.R. Banga, Khanna Publishers

Note:

1. Eight questions are to be set.. Students will have to attempt five questions in all.
2. Use of non-programmable scientific calculator is allowed in Examination Hall.

**SYLLABUS
DIPLOMA IN MECHANICAL ENGINEERING
SEMESTER – VI**

INTRODUCTION TO CONTROL SYSTEM

Sub. Code: DME 602

Credits: 02

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

Unit I:

Types of Control Systems; Block Diagram: Performance Analysis;

Unit 2:

Machine Tool Control; Boiler Control; Engine Governing; Aerospace Control; Active Vibration Control; Representation of Processes & Control Elements.

Unit 3:

Mathematical Modeling: Block Diagram Representation; Representation of Systems or Processes; Comparison Elements; Representation of Feedback Control systems; Block Diagram & Transfer Function Representation; Representation of a Temperature Control System, Signal Flow Graphs.

Unit 4:

Control Action: Introduction; Types of Control Action; Hydraulic Controllers; Electronic Controllers; Pneumatic Controllers.

Unit 5

Time Domain Representation; Laplace Transform Representation; System with Proportional Control.

Suggested Readings:

1. Theory & Applications of Automatic Controls, B.C. Nakra, New Age International.
2. Modern Control Engineering, K. Ugata, Prentice Hall of India.
3. Automatic Control Systems, B. C. Kuo, Prentice Hall of India.

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