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**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.

Note:

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2. Use of non-programmable scientific calculator is allowed in Examination Hall.