

# Production & operation Management

<b>Paper NO.</b>	<b>Title of Paper</b>
MBA/301	Business Law
MBA/3401/P	Purchasing and Materials Management
MBA/3402/P	Production Planning and Control
MBA/3403/P	Ergonomics
MBA/3404/P	World Class Manufacturing
MBA/3405/P	Principles and Practices of Safety
MBA/3406/P	Management Costing For Production

## BUSINESS LAW

**Objective:** To familiarize the students with different laws governing business activities along with their objective, provisions and interpretations.

**Unit I :** The Indian Contracts Act 1872; Essentials of a valid contract, void agreements, performance of contract, breach and its remedies, quasi contracts

**Unit II :** The sale of Goods Act 1930: Formation of Contract, Rights of an unpaid seller

**Unit III :** The Negotiable Instruments Act 1881: Nature and type of negotiable instruments, Negotiation and assignment, Holder in due course, Dishonor and discharge of negotiable instrument

**Unit IV :** The Companies Act 1956: Nature and type of companies, formation, Memorandum and Article of Association, Winding up of companies

**Unit V :** An overview of Consumer Protection Act 1986, IT Act 2000, and Cyber laws with specific reference to e-commerce, Intellectual Property Law, Patents and copyright.

### **Suggested Readings:**

1. Avtar Singh, *Company News*, 11th ed., Lucknow, Eastern, 1996.
2. Ramaiya A, *Guide to the Companies Act*, Nagpur, Wadhwa, 1992.
3. Tuteja S.K., *Business Law For Managers*, New Delhi, Sultan Chand, 1998.
4. Ashwathappa & Ramachandra, *Principles of Business Law*, 6th ed., 2001.
5. Maheshwari & Maheshwari, *Business Laws*, 1st ed., 2002

## **Purchasing And Materials Management**

**Objectives:** To acquaint the students with the systematic approach of Material Purchasing and Handling and the allied issues

**Unit-I :** Purchasing and Materials Management: Objectives, Organization and Interrelationships, Determination and

Description of Material Quantity, Material Planning in Push and Pull System, Material Requirement Planning and JIT.

**Unit-II :** Material Quality: Determination and Description, Receiving and Incoming Quality Inspection, Acceptance Sampling Plans, Vendor Selection.

**Unit-III :** Cost-Reduction Techniques: Standardization, Simplification & Variety Reduction, Value Analysis and

Engineering, Make or Buy Decisions, Price Determination and Negotiation.

**Unit-IV :** International Purchasing: Procedures and Documentation, Appraisal Methods for Purchasing of Capital Equipments, Evaluating Suppliers' Efficiency, Public Purchasing and Tendering, Vendor Rating.

**Unit-V :** Material Handling: Classification and Codification, Disposal of Scrap, Surplus and Obsolete Materials, Materials Information System.

#### **SUGGESTED READINGS:**

1. Ansari A and Modarress B. JIT Purchasing. New York, Free Press, 1990.
2. Baily P. etc. Purchasing Principles and Management . London, Pitman, 1994.
3. Burt, David N. Proactive Procurement . Englewood Cliffs, New Jersey, Prentice Hall Inc., 1994.
4. Dobler, D W. etc. Purchasing and Materials Management. New York, McGraw Hill, 1990.
5. Dutta, A K. Integrated Materials Management, New Delhi, PHI, 1986.
6. Farrington B and Waters, Derek W. Managing Purchasing. London, Chapman & Hall, 1994.
7. Gopalakrishnan P and Sunderashan M. Handbook of Materials Management. New Delhi, Prentice hall of India, 1994.

**Unit-I** : Production Planning and Control: Production Planning and Control Functions, Procedures and Documentation in Production Planning and Control.

**Unit-II** : Inventory Control: Production Inventory Systems, Inventory Control Techniques and Production Control.

**Unit-III** : Production Planning Techniques: Aggregate Planning, Job Shop & Batch Planning, Scheduling and Control.

**Unit-IV** : Some Techniques: Process Planning, Line Balancing, Planning for High Volume Standardized Products.

**Unit-V** : Computers in Production: Application of Computers, Flexible Manufacturing System, Computer Integrated Manufacturing System, ERP.

**SUGGESTED READINGS:**

1. Burbidge , John L. Principles of Production Control . London, Donalds and Evans, 1981.
2. Caubang, Ted C. Readings on Production Planning and Control. Geneva, ILO.
3. Greene, James H. Production and Inventory Control Handbook, New York, McGraw Hill, 1987.
4. Mc Leavey, Dennis W and Narasimhan, S L. Production and Inventory Control. Boston, Allyn and Bacon, 1985.
5. Peterson, R and Silver, E A. Decision Systems for Inventory Management and Production Planning. New York, John Wiley, 1979.
6. Vollmann, T E. etc. Manufacturing Planning and Control. Homewood, Illinois, Richard D Irwin, 1988.

**Objective:** To acquaint the students with concepts, principles and applications of Ergonomics

**Unit I :** Introduction to Ergonomics: Brief History, Inter-Disciplinary Nature, Scope. Ergonomics in Manufacturing,

Anthropometry in Work Station Design.

**Unit II :** Physical Work: Metabolism, Individual Differences and Metabolism during work, Measurement of physical work load. Heat Stress: Heat Stress Management, Comfort Climate. Work Posture: Standing, Sitting or Sit-Standing. Repetitive Motion Injury: Causes, Design and Guidelines.

**Unit III :** Illumination at Work: Measurement, Recommended Illumination Level, Cost Efficiency, Lighting for Inspection and Quality Control. Design of VDT Work Station, Visual Fatigue, Effect of Radiation: Design and Guidelines. Noise: Measurement, Effects, Analysis and Reduction. Annoyance of Noise and Interference with communication.

**Unit IV :** Design of Controls: Design and Guidelines, Control Response Compatibility, Coding of Controls, Emergency controls, Design of Symbols, Labels and Visual Displays.

**Unit V :** Training: Need, Content, Methods, Job Aids, The Power Law of Practice, Shift Work: Scheduling, Problems, Effects and Improvement Methods. Design for Manufacturing Assembly: Automation, Do's and Don'ts in Product Design, MTM Analysis, Human Factor Principles.

### **Suggested Readings:**

1. Martin Helander, A Guide to Ergonomics of Manufacturing, East West Press, Publication AWP.

**MBA/3404/P**

**World Class Manufacturing**

**Unit-I :** Manufacturing Environment: World Class Manufacturing Environment, Imperatives for Success - Technology, Systems Approach and Change in the Mind-set, Strategic Decisions in Manufacturing Management.

**Unit-II** : Material Handling System: Choice of Technology, Capacity, Layout/Automation in Material Handling Systems, Aggregate Planning and Master Production Scheduling, Materials Requirement Planning (MRP).

**Unit-III** : Manufacturing Techniques: JIT, Kaizen, Kanban, TQM, Supply-Chain Management.

**Unit-IV** : Total Productive Maintenance: Objectives of TPM, Total System Effectiveness, Break-down Maintenance, Preventive Maintenance, Predictive Maintenance.

**Unit-V** : Automation: Automation in Design and Manufacturing, Automated Material Handling Equipments, Role of IT in World Class Manufacturing, Flexible Manufacturing System, Six Sigma.

### **SUGGESTED READINGS:**

1. Buffa, Elwoods and et al Programmed learning at for Production and Operations Management – Illinois, Learning System Co., 1981.
2. Dervitsiotis, Kostas N: Operations Management Auckland, McGraw~Hill, 1981.
3. Hughes, Chris : Productions and Operations Management- London, Pan Books, 1985.
4. Schonberger, Richard J : Japanese manufacturing techniques. NY, Free-Press, 1982.

## **MBA/3405/P Principles And Practices Of Safety Management**

**UNIT I** : History of Safety movement – general concepts of management – planning for safety for optimization of productivity -productivity, quality and safety-line and staff functions for safety-budgeting for safety-safety policy. Job safety analysis – safety survey – safety

inspection – safety sampling – motivating techniques – safety displays  
– safety pledge – safety lab.

**UNIT II** : Components of safety audit – review of inspection, remarks by government agencies, consultants, experts – perusal of accident and safety records, formats – implementation of audit indication - liaison with departments to ensure coordination – check list – identification of unsafe acts of workers and unsafe conditions in the shop floor.

**UNIT III** : Accident – reportable and non reportable accidents – reporting to statutory authorities – principles of accident prevention – accident investigation and analysis – records for accidents – departmental accident reports –documentation of accidents – unsafe act and condition – role of safety committee –cost of accident – safety-health..

**UNIT IV** : Calculation of accident indices – frequency rate – severity rate – frequency severity incidence – incident rate – accident rate – safety “t” score – problems.

**UNIT V** : Importance of training-identification of training needstraining methods - programmes-seminars – conferences – competitions – motivation – communication - role of government agencies and private consulting agencies in safety training – awards – celebrations.

### **Suggested Readings**

1. Heinrich H.W. “Industrial Accident Prevention” McGraw-Hill Company, New York, 1980.
2. Krishnan N.V. “Safety Management in Industry” Jaico Publishing House, Bombay, 1997.
3. Lees, F.P., “Loss Prevention in Process Industries” Butterworth publications, London, 2nd edition, 1990.
4. John Ridley, “Safety at Work”, Butterworth & Co., London, 1983.
5. Dan Petersen, “Techniques of Safety Management”, McGraw-Hill Company, Tokyo, 1981.
6. Blake R.B., “Industrial Safety” Prentice Hall, Inc., New Jersey, 1973.
- 7 “Safety and Good House Keeping”, N.P.C., New Delhi, 1985. “Accident Prevention Manual for Industrial Operations”, N.S.C. Chicago, 1982.

**Objective :** To familiarize the students with the mechanism of cost ascertainment and control in the context of modern business.

**Unit I :** Introduction to Cost Accounting, Concept, Definition, Types and Element of Costs. Relevant Costs for Production Decisions, Production Overhead, Machine Hour Rate.

**Unit II :** Cost Ascertainment, Preparation of Cost Sheet for Manufacturing Unit, Single Out Put Costing, Tenders and Quotations.

**Unit III :** Cost Ascertainment in Service Industry, Operating or Service Costing, Transportation, Hospitals, Hotels, Cinema House

**Unit IV :** Methods of Costing: Job, Batch and Contract Costing, Process Costing with normal and abnormal losses & gains.

**Unit V :** Cost Control: Budgetary Control-Flexible Budget, Sales Budget, Production Budget, Materials Purchase Budget, and Standard Costing: Analysis of Variance-Material, Labor and Overhead

**Suggested Reading:**

1. B.M.Lall Nigam and I.C.Jain, Cost Accounting An Introduction, Prentice Hall of India, New Delhi
2. R.S.N. Pillai and V Bagavathi, Cost Accounting, S. Chand and Company Ltd., New Delhi
3. Ronald Hiton, Michale Maher, Frank Selto, “Cost Management: Strategies for Business Decisions”, Tata McGraw Hill, 3rd Ed., 2010
4. M E Thukaram, “ Cost and Management Accounting,” New Age International (P) Ltd.
5. Hansen, Mower, Guan, “Cost Management”, Cengage Learning
6. P.V.Rathnam, “Rahanm’s Costing Advisor” , Kitab Mahal, 2008.