

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 1**

**Subject: PS01CVPM21: PRINCIPLES OF ECONOMICS**

**Faculty: Dr. John Parmar**

#### **Course Description**

The course introduces concepts of microeconomics and macroeconomics in the context of immovable property valuation. It includes understanding of consumption, price mechanism, factors of production etc. concepts of microeconomics. It also includes theory of money, inflation and deflation, Gross Domestic Product, National Income, savings and investment as well as parallel economy.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to

- Understand the basic concepts of microeconomics and macroeconomics
- Analyse pricing and price mechanism
- Understand four factors of production
- Understand functions and role of money
- Understand concepts of savings and investments
- Understand causes and effects of parallel economy

# **M.Sc.-Plant & MachineryValuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 1**

**Subject: PS01CVPM22: BOOK KEEPING AND ACCOUNTANCY**

**Faculty:** Dr.Samir Vohra

#### **Course Description**

The course introduces principles of accounting and book keeping systems. It covers methods of maintaining various types of accounts books and various types of accounts including balance sheet. It also covers the concept of accounting depreciation.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- the concept double entry book keeping system
- Cash book, bank book, journal ledger, purchase and sale books, debit and credit notes register, writing of books, posting and closing of accounts
- Trading account, profit and loss account, income and expenditure account, presentation of balance sheet
- Factory overhead, administrative overhead, fixed expenses, variable expenses, break-even point
- Depreciation and methods of computing depreciation used in accounts

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 1**

**Subject: PS01CVPM23: ELEMENTARY SURVEYING AND ENGINEERING DRAWING**

**Faculty:** Er. P. J. Shah, Er. Rupesh T. Shah

#### **Course Description**

The course introduces various methods of surveying and surveying instruments. It also introduces the concepts of linear measurements, elevation, directions and bearings.

The course also covers the basics of engineering drawing, use of scales in drawing, projection of views and concepts of plan, elevation and section.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- Various methods of surveying and levelling
- Use of chains and tapes in linear measurements
- Use of compass and theodolite
- contours and contour maps; areas and volumes
- Construction and use of plain and diagonal scales
- Conventional arrangement of views; first and third angle projections; types of lines, lettering and dimensioning
- Projection of simple solids with varying position of axes and ground lines
- Conversion of pictorial views in orthographic views; sectional views

# **M.Sc.-Plant & MachineryValuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 1**

**Subject: PS01CVPM24: INTRODUCTION TO STATISTICS**

**Faculty: Dr.AnkitSinojiya**

#### **Course Description**

The course introduces various statistical concepts like classification and representation of data, measures of central tendency and dispersion; theory of probability, sampling and estimation; regression and correlation analysis and use of index numbers.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- Data classifications and processing, graphical representation of data
- Frequency distributions, measures of central tendency; dispersion and skewness
- Elementary theory of probability and probability distributions
- Sampling and sampling distribution, estimation; simple test of significance
- Regression and corelation; multiple correlation coefficient
- Index numbers

# **M.Sc.-Plant & MachineryValuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 1**

**Subject: PS01CVPM25: PRINCIPLES OF VALUATION**

**Faculty:** Er. Rupesh T. Shah

#### **Course Description**

The course introduces fundamentals of valuation including cost, price and value; and basic understanding and uses of three approaches of valuation – market approach, cost approach and income approach.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- The difference between cost, price and value
- Four value ingredients - utility, scarcity, demand and transferability
- Four factors of valuation -economic, legal, physical and social
- Various types of property rights and interests
- Depreciation and obsolescence
- The concepts and use of three valuation approaches - market approach, cost approach and income approach

# **M.Sc.-Plant & MachineryValuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 1**

**Subject: PS01EVPM21: ELEMENTS OF LAWS AND JURISPRUDENCE**

**Faculty:** Er. Rupesh T. Shah

#### **Course Description**

The course introduces elementary jurisprudence, Indian legal system and salient features of the Constitution of India. The course also introduces the law of contracts, powers and functions of local governments, theory of Conveyancing and various types of titles of immovable properties.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- The fundamentals of Indian jurisprudence, Indian legal system and sources of law
- Salient features of the Constitution of India
- Salient features of the law of contract
- Powers and functions of local Governments
- Different components of a conveyance deeds
- Various types of titles of immovable properties

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 2**

**Subject: PS02CVPM21: PRINCIPLES OF INSURANCE AND LOSS ASSESSMENT**

**Faculty:** Er.Nilesh Patel

#### **Course Description**

The course introduces principles and legal concepts of insurance of buildings and machineries, insurance policies with their terms and conditions, risk management and loss assessment.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- The principles and legal concepts of insurance of buildings and machineries
- Different types of insurance policies with their terms and conditions
- Valuation principles and techniques in relation to insurance loss assessment
- Principles of claim settlement
- The insurance market and functions of the insurance broker

# **M.Sc.-Plant & MachineryValuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 2**

**Subject: PS02CVPM22: PRINCIPLES OF MACHINE TOOLS AND FACTORY EQUIPMENT**

**Faculty:** Prof. S. R. Pandya, Prof. Manish Mehta

#### **Course Description**

The course introduces the evolution, nature and function of machine tools and their control systems, Machine equipment, the nature and function of machinery and factory equipment in general use throughout industry.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to identify and understand

- The evolution, nature and function of machine tools and their control systems, together with standard items of normally associated machine equipment, cutting tools, inspection and measuring equipment; their recognition, differentiation and description
- All types of automatic screw machines, boring machines, press machines and milling machines.
- Robotic system inspection and measuring equipment
- Cranes and hoists, gravity and power conveyors, forklift trucks, racking and warehousing systems, air compressors, pumps, fans and electric motors, sheet metal working plant, welding and cutting plant, woodworking machines, garage plant, firefighting equipment, communications and security equipment, office machinery, computers and private and commercial vehicles



# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 2**

**Subject: PS02CVPM23: LEGAL STUDY - I**

**Faculty:** Er. Nelson Macwan

#### **Course Description**

The course introduces the concept of auction, insolvency and liquidation. It also includes salient features of Insolvency and Bankruptcy Code of India 2016 and law of arbitration and conciliation.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- The process of auction and rights and liabilities of vendor and vendee.
- Bidding agreements and memorandum of sale
- General principles of Insolvency and Bankruptcy Code of India, 2016
- Process of liquidation as prescribed by **IBBI** (Insolvency and Bankruptcy Board of India)
- Debenture holder and creditors, and fixed and floating charges
- The powers and duties of official liquidators and court receivers. The basis, method, scope and duration of their appointment
- Salient features of law of arbitration and conciliation

# **M.Sc.-Plant & MachineryValuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 2**

**Subject: PS02CVPM24: VALUATION OF PLANT AND MACHINERY – I**

**Faculty:** Er. Sanjay Patel

#### **Course Description**

The course introduces basic principles and methods of valuation of Plant and Machinery and industrial visits.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to

- Carry out valuation of Plant and Machinery by different methods of valuation
- Understand the concepts of gross current replacement cost, net current replacement cost, open market 'in situ' and 'ex situ' and 'existing use' and 'alternative use', residual values, recoverable amount, highest and best use
- Understand depreciation, various methods of computing depreciation, its measurement and application in assessing value to the business. Depreciation under Income-tax Act as well as Companies Act
- Carry out valuation using indexation method
- Prepare plant records and asset registers - their compilation, uses and limitations and inventories
- Understand principles of construction and functional design elements of industrial buildings. Constructional requirement under regulatory laws

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 2**

**Subject:** PS02CVPM25: VALUATION OF PLANT AND MACHINERY – II

**Faculty:** Er.Mitesh Vegad, Er. Sanjay Patel

#### **Course Description**

The course introduces study of basic engineering services such as energy generation, solar system, energy utilisation and electrical installations.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to identify and understand the contribution of following basic engineering services in valuation of plant and machinery

- **Energy generation**
  - i. Boilers & their accessories
  - ii. Heat Exchangers
  - iii. Pumps, Fans, Blowers and Compressors
- **Solar systems**
  - i. Process Heating
  - ii. Thermopacs
  - iii. Water softening plant / D.M. Plant
  - iv. Energy saving
  - v. Diesel generation.
- **Energy utilization**
  - i. Refrigeration and Air conditioning
  - ii. Applications, system components, ducting & distribution system, insulation
- **Electrical installations**
  - i. Drives, switchgears, relays, HT/LT distribution & sub-distribution system with symbols;
- Power tariff;
- Blue print reading

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 2**

**Subject:** PS02EVPM21: INDUSTRIAL PROCESSES

**Faculty:** Er. Sanjay Patel

#### **Course Description**

The course introduces the principles of location of industries and factory planning and layout. It covers industrial processes of different industries such as textile, cement, dairy, oil, ceramic, paper, chemical etc.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- Principles of location of industries and factory planning and layout
- The normal processes, methods of manufacture, plant and machinery utilized, flow diagrams and inventory compilation
- The normal processes, methods of manufacture, plant and machinery utilized, flow diagrams and inventory compilation for the following specific industries:
  - iron, steel & non-ferrous metal production
  - chemical and pharmaceutical
  - plastic and rubber
  - paper and paper products
  - printing, binding and publishing
  - food and drink
  - cement and ceramic tiles
- The nature function and inter-relationship of trade specific machinery in any of the above industries

## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 3**

**Subject:** PS03CVPM21: ENVIRONMENTAL IMPACT ASSESSMENT

**Faculty:** Dr.K. N. Sheth

#### **Course Description**

The course introduces concept of environment and objective of environmental studies. It includes effect of various pollutants on property values. The course introduces the concept of environmental impact assessment and it also includes outlines of various environmental legislations.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- The importance of environmental studies
- Effect of various pollutants on property values
- Methods of environmental impact assessment
- Salient features of Environment protection act, Water pollution act, Air pollution act with some case laws

## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 3**

**Subject:** PS03CVPM22: FINANCE, BUSINESS AND MANAGEMENT STUDIES

**Faculty:** Dr.Kamini Shah

#### **Course Description**

The course introduces concepts of goals and functions of finance organisation, financial analysis and its tools for management decisions, investment decisions and its tools, capital structuring and business management of large, medium and small companies.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- Goals and functions of financial organisation
- Financial analysis- ratio analysis, fund flow and cash flow analysis
- Management of working capital
- Investment decisions including discounted cash flow method
- Capital structuring, valuation for merger and acquisitions
- Business management of large, medium and small companies

## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 3**

**Subject: PS03CVPM23: TOWN AND REGIONAL PLANNING**

**Faculty: Er.Rupesh T.Shah**

#### **Course Description**

The course introduces concepts of desirability of planning, history of planning, planning practices in India at various levels, principles of planning and concept of city and town as a human settlement. The course includes procedure of preparation of development plan and town planning schemes. It also includes various other tools of planning like fringe area planning, new town development and neighbourhood planning. The course includes aims and objectives of regional planning and salient features of town planning Act.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand

- Desirability of planning
- Various levels of planning
- Authorities involved in planning
- Concepts of development plan, town planning schemes, urban development, metropolitan counter magnet and new towns
- Aims and objectives of regional planning
- Salient features of some town planning Acts

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 3**

**Subject:** PS03CVPM24: LEGAL STUDY – II

**Faculty:** Er. Nelson Macwan

#### **Course Description**

The course introduces study of law of sale of goods, licensing of industries and regulation of industrial activities. It also includes salient features of factory act, labour laws and environmental laws as applicable in the field of valuation of plant and machinery.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to understand implication of following legal provisions on valuation of plant and machinery:

- Sale of goods and agreements to sell, seller's obligations as to delivery time, title, description, fitness, quality and quantity; exclusion of obligations, sales by sample, passing of property in goods
- Transfer of title by non-owner, remedies for breach of contract; rights of unpaid seller against goods
- Licensing of industries and regulation of industrial activities under various laws; viz., revenue code, industrial licensing laws etc.
- Salient features of various acts such as
  - Factory Act,
  - Electricity Act,
  - Labour Laws
- Outlines of environmental laws having direct bearing on valuation of industrial undertaking/plant and machinery



## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 3**

**Subject: PS03CVPM25: VALUATION OF PLANT AND MACHINERY – III**

**Faculty:** Er.Sanjay Patel

#### **Course Description**

The course includes concepts of functional, technological and economical obsolescence, valuation of plant and machinery in leasing and hire-purchase, overview of industrial structure in India, institutional arrangement for provision of industrial credit, valuation requirements for financial institutions and banks.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to

- Quantify the effects of functional, technological and economical obsolescence on value of plant and machinery
- Carry out valuation of plant and machinery in leasing and hire-purchase
- Understand overview of industrial structure in India
- Carry out valuation of plant and machinery for financial institutions and banks by carrying out industrial visits
- Understand the effect of inflation, income tax, corporation tax, government grants and incentives on the value of plant and machinery

# **M.Sc.-Plant & Machinery Valuation**

## **Course Description and Learning Outcome**

### **SEMESTER - 3**

**Subject: PS03CVPM26: VALUATION OF PLANT AND MACHINERY – IV**

**Faculty:** Er.Sanjay Patel

#### **Course Description**

The course introduces methods of valuation of plant and machinery for financial statements. It also covers valuation of specialised machineries and properties, elementary study of docks and harbours, salient features of the right to fair compensation and transparency in land acquisition, rehabilitation and resettlement Act 2013, International valuation standards, accounting standards published by ICAI, case laws affecting valuation of plant and machineries, valuer's role, functions and responsibilities and code of ethics of valuers.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to

- Carry out valuation for financial statements with understanding of historic cost and current cost accounting conventions
- Understand overview of financial reporting standards
- Carry out valuation of Valuation of specialized machineries / properties like
  - (a) Jigs & fixtures
  - (b) Press Tools
  - (c) Moulds
  - (d) Patterns
  - (e) Dies and Special tools
  - (f) Custom built machineries manufactured by the company by consuming its own material and labour
  - (g) Petrol filling stations
  - (h) Hotels
  - (i) Plant structures and specialized industrial buildings which have no alternative use
- Understand
  - Guidance notes and accounting practice for revaluation of fixed assets in books of account published by Institute of Chartered Accountants of India from time to time;
  - Case laws - affecting valuation of plant and machinery;
  - Valuer's role, functions and responsibilities;
  - Code of ethics for valuers

## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 3**

**Subject: PS03EVPM21: REPORT WRITING**

**Faculty:** Er. Sanjay Patel

#### **Course Description**

The course covers the teaching of how to write reports for various purposes for which a valuer is normally called upon for advice in general practice.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able to carry out valuation and write reports on valuation of plant and machinery of different industries for various purposes using different methods of valuations.

## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 4**

**Subject:** PS04CVPM21: FIELD WORK AND SEMINAR

**Faculty:** Er.Nelson Macwan

#### **Course Description**

The course covers the process to collect data from various industries about plant and machinery with specifications, to collect price for various plant and machinery by inviting quotation and market inquiry, to visit special types of property like Industrial Plant, Cold Storage, Cinema, Hotel etc. and prepare a report on the same.

#### **Learning Outcomes/Capability Development**

At the completion of this course, students should be able

- to collect data from various industries about plant and machinery with specifications
- to collect price for various plant and machinery by inviting quotation and market inquiry
- to visit special types of property like Industrial Plant, Cold Storage, Cinema, Hotel etc. and prepare a report on the same

## **M.Sc.-Plant & Machinery Valuation**

### **Course Description and Learning Outcome**

#### **SEMESTER - 4**

**Subject:** PS04CVPM22: PROJECT WORK

**Faculty:** Er.Sanjay Patel

#### **Course Description**

The course introduces concepts of doing valuation of plant and machinery of different industries and preparing reports for various purposes and by different methods of valuation.

#### **Learning Outcomes/Capability Development**

At the completion of this course students should be able to carry out valuation of plant and machinery of different industries and prepare reports for various purposes and by different methods of valuation.