

## Course structure: M.B.A. (Pharmaceutical Management)

### Semester I

Serial No	Course Code	Subject	Credits
1	MAS 623	Business Mathematics	4-0-0=4
2	PHM 760	Marketing Management	2-1-0=3
3	PHM 752	Business Communication	2-1-0=3
4	PHM 753	Essentials of Management	3-0-0=3
5	PHM 709	Principles of Accounting	2-1-0=3
6	PHM 755	Business Environment	3-0-0=3
7	PHM 780	Seminar I	0-0-4=2
8.	LNG 701	Communication Skills & Personality Development - I	1-0-4=3

### Semester II

Serial No.	Course Code	Subject	Credits
1.	MAS 624	Quantitative Techniques	3-0-0=3
2.	PHA 632	Pharmacology and Microbiology	2-1-0=3
3.	PHM 606	Pharma Logistics Management	2-1-0=3
4.	PHM 754	Organisation Behaviour	3-0-0=3

5.	PHM 805	Pharmaceutical Marketing	3-0-0=3
6.	PHM 804	Pharma Marketing Research and Statistics	2-0-2=3
7.	LNG 702	Communication Skills & Personality Development - II	0-0-4=2
8.	PHM 880	Seminar II	0-0-2=2

**Semester III**

Serial No.	Course Code	Subject	Credits
1.	PHA 732	Pharmaceutical Production Management	2-1-0=3
2.	PHM 767	Human Resource Management	3-1-0=4
3.	PHM 762	Pharma Selling & Sales Management	2-0-0=2
4.	PHM 761	Financial Management	3-1-0=4
5.	PHA 733	Pharmacy Administration	3-0-0=3
6.	PHM 631	Pharmaco-economics	3-0-0=3
7.	PHM 800	Industrial Training	0-3-0=3
8.	PHA 734	Drug Regulatory Affairs	3-0-0=3

**Semester IV**

Serial No.	Course Code	Subject	Credits
1.	PHM 807	Strategic Management	3-0-0=3
2.	PHM 808	Intellectual Property Rights(IPR)	3-0-0=3
3.	PHM 806	Total Quality Management	3-0-0=3
4.	PHM 864	Management Information System	2-0-2=3
5.	PHM 899	Project Report	0-0-14=7
6.	PHM 897	Comprehensive Viva	0-0-6=3

SYLLABUS**Master of Business Administration (Pharmaceutical Management)****SEMESTER I****MAS 623 Business Mathematics Credit 4 (4-0-0)**

- Determinants, Matrices
- Linear Equations
- Differentiation and Derivative
- Integration
- Maxima and Minima of Functions
- Probability
- Frequency Distribution & their Analysis
- Time Series Analysis
- Test of Hypothesis
- Progression & Annuity
- Forecasting

**Text Books Recommended:**

1. Mathematics for Management – An Introduction, By – Raghavchari

**PHM-760 Marketing Management Credit 3 (2-1-0)**

- Marketing in the Twenty First Century
- Building Customer Satisfaction, Value and Retention
- Winning Markets : Market Oriented Strategic Planning
- Gathering Information and Measuring Market Demand
- Scanning the Marketing Environment
- Analysing Consumer Markets and Buyer Behaviour
- Analysing Business Markets and Business Buying Behaviour

- Dealing with Competition
- Identifying Market Segments and Selecting Target Markets
- Positioning the Market Offering through the Product Life Cycle
- Developing New Market Offerings
- Emerging concepts in Marketing: Vertical & Horizontal Marketing; Rural Marketing; Consumerism; Industrial Marketing; Global Marketing.

### **Text Books Recommended:**

1. Marketing Management – Philip Kotler
2. Marketing Management – Ramaswami & Namakumari

### **PHM 752 Business Communication**

**Credits 3 (2-1-0)**

- Concept of Communication
- Communication Process
- Barriers to Communication
- Communication in Organisation : Upward and Downward Communication, Formal & Informal Communication, Grapevines
- Written Communication : Formal Reports, Technical Reports, Business Correspondence, Notice, Agenda, Minutes, Handouts, Manuals, Research Paper & Articles
- Oral Communication: Dyadic Communication, Meetings, Seminars, Conferences, Group discussions, Audio-Visual aids
- Non-verbal Communication: Personal Appearances, Posture, Gesture, Facial Expressions, Eye-Contact, Space Distancing

#### Text Book Recommended:

1. Business Communication – Lesikar & Pettit
2. Business Communication – Guffey

### **PHM 753 Essentials of Management**

**Credits 3 ( 3-0-0)**

- Concept & nature of Management ; Management as Science and Art; Management as a profession
- Evolution of Management : Taylor & scientific Management; Henry Fayol & Administrative Management; Bureaucracy; Hawthorne Experiments; Contributions of Peter Drucker.

- Planning : Nature and Purpose of Planning ; Barriers to Effective Planning; Mission; Objectives; Strategies; Policies; MBO; Decision Making
- Organising : Nature & Purpose; Departmentation; Span of Management; Line & Staff Authority; Decentralisation.
- Staffing : Recruitment; Selection; Performance Appraisal.
- Directing : Motivation; Leadership; Communication.
- Controlling : System & Process of Controlling; Controlling Techniques – Financial Ratio Analysis; Human Resource Accounting; Management Information System.
- Conflict & Co-ordination : Concept of Conflict; Types and Techniques of Co-ordination.

### **Text Books Recommended :**

Essentials of Management – Koontz & O'Donnell  
 Principles & Practices of Management – L.M.Prasad  
 Management – Stoner; Gilbert & Freeman

### **PHM 709 Principles of Accounting**

**Credits 3 (2-1-0)**

- Meaning, Scope and Objectives of Accounting
- Principles of Accounting: Concepts and Conventions
- Journalizing Transactions
- Ledger, Subsidiary Books of Accounts including Cash Book
- Bank Reconciliation Statement
- Rectification of Errors
- Trail Balance
- Preparation of Final Accounts: Trading Account, Profit and Loss Account, Balance Sheet, Capital and Revenue Expenditure and Income
- Depreciation

### **Text Books Recommended**

1. Modern Accountancy – Mukherjee & Hanif
2. Advanced Accountancy – Jain and Narang
3. An Introduction to Accountancy – S.N. Maheshwari & S.K. Maheshwari

**PHM 755 Business Environment****Credits 3 (3-0-0)**

- Concept of Business Environment
- Basic philosophies of Socialism, Capitalism and Mixed Economy
- Socio-cultural environment : Business and its relationship with society and culture
- Political environment : Functions of State, Economic role of Government
- Major Government Policies – Fiscal Policy, Monetary Policy, Policy related to Pharma Industry and industrial Policy
- Business Ethics
- Consumer Rights, Consumerism and Business
- Globalisation : Meaning, Dimensions and Impact on Indian Economy

**Text Books Recommended:**

1. Business Environment – Francis Cherunillam
2. Business Environemnt – Raj Agatwal & Parag Diwan

**LNG 701 Personality Development & Communication Skills****Credits 3(1-0-4)****Language:**

Tenses  
 Voice  
 Parts of Speech  
 Use of idioms and Phrases  
 Vocabulary Enrichment  
 Effective use of Punctuations  
 Syntax

**Technical Writing:**

Technical Letters  
 Essay Writing  
 Precise Writing  
 Writing of Bibliography, References and Appendixes

**Spoken English:**

Conversation in different situations  
 Jam sessions  
 Group Discussion  
 Use of graphics in presentations  
 Etiquettes in different types of conversations

**Personality Development:**

Self introduction  
 To develop presentation skills  
 Dress and colour sense  
 Focus on specific expressions

**Books Recommended:**

Martinet A.V. and Thomson A.J.A Practical English Grammar, IV ed. 1986, Oxford University Press, Delhi.  
 Agarwal, Malti: Professional Communication, Krishna Prakashan Media Pvt. Ltd., Meerut  
 Iyadurai P.; Phonetics for Beginners , I ed. 1992, Jones Publications, Tirunelvely.  
 Balasubramaniam, T,A,; A Text Book of English Phonetics for Indian Students, Macmillan India Ltd.

**Semester II****MAS 624 Quantitative Techniques****Credits 3(3-0-0)**

- Linear Programming
- Linear Programming: Simplex Method
- Transportation and Transshipment problems
- Sequencing
- Queuing Theory
- Replacement Theory
- Game Theory
- PERT and CPM
- Decision Theory
- Simulation

## **Text Books Recommended:**

1. Quantitative Techniques in Management – N.D. Vohra

### **PHA 632 Pharmacology & Microbiology**

**Credits 3 (2-1-0)**

#### **Pharmacology**

- Introduction to Dosage Form : Types of Dosage Form – Liquid dosage form, Solid dosage form, Semi-solid dosage form, Pharmaceutical inserts, Sterile dosage forms, Advanced dosage forms & delivery systems.
- Pharmaco-kinetics & Pharmaco-dynamics of Drug action : Drugs in medicine, targets of drug action, absorption, distribution, metabolism and elimination (ADME) of drugs, Classification of Receptors
- Drugs acting upon various systems : Autonomic nervous system; Central nervous System; Cardiovascular system; Autocoids; Respiratory System; Gastrointestinal system; chemotherapy.

#### **Microbiology**

- Introduction to microbiology & Scope of Microbiology
- Morphology and physiology of bacteria, fungi & viruses
- Nutrition & cultivation of bacteria, fungi & viruses
- Principles of microbial pathogenicity and epidemiology.
- Microorganisms in the production of pharmaceuticals & industrial chemicals
- Ecology of microorganisms & its effects in the pharmaceutical industry
- Microbial spoilage & preservation of pharmaceutical products.
- Sterilization control and sterility assurance
- Microbiological assay and tests
- Factory and hospital hygiene

### **PHM 606 Pharma Logistics Management**

**Credits 3(2-1-0)**

- Importance of Logistics & Purchase / Supply in Pharma Management
- Objectives & Policies.
- Electronic Data Interchange; Bar Coding.

- Purchase Description; Specification; Standardization.
- Outsourcing – Make or Buy Decision; Global Servicing
- Pricing & Cost Analysis.
- Inventory Management
- Purchasing Transportation Services
- Warehousing Decisions
- Legal Aspects of Purchasing.

### **Text Books Recommended :**

1. Purchasing & Supply Management – Pearson

### **PHM 805 Pharmaceutical Marketing**

**Credits 3(2-1-0)**

- Introduction to Pharmaceutical Marketing: Identification of pharmaceutical market; market behaviour; physician prescribing habits; patient motivation; market analysis.
- The Pharmaceutical Products: Drug Development and the Marketing Research Interface; Diversification and Specialisation; Marketing Generic Drugs; Nonprescription drugs
- Distribution Channels: Manufacturer; Wholesaler; Retailer; Hospital and Government Agencies
- Competitive Practices: Economic and Competitive Aspects of the Pharmaceutical Industry; Advertising; Detailing and other forms of Promotion; Retail Competition – The Community Level; International Marketing
- Controls: Internal & External Controls

### **Text Books Recommended**

Principles of Pharmaceutical Marketing – Mickey C. Smith

### **PHM 804 : Pharma Marketing Research & Statistics Credits 4(2-0-2)**

- Introduction to Marketing Research Management : Value of Information; Meaning & Objectives of Research; Research Approaches; Types of Research; Research Process; Problems encountered by Researchers India.
- Research Problem : Defining & selecting the Problem; Technique involved in defining the Research problem.

- Research Design : Meaning; Need & features of a Research Design; Some important Concepts related to Research Design; Types of Research Design.
- Sampling Design : Census & Sample Survey; Steps in Sampling; Characteristics of a good Sample Design; Types of Sample Design; Random Sampling.
- Measurement & Scaling Techniques
- Methods of Data collection
- Processing & Analysis of Data
- Testing of Hypothesis; Chi-square Test; Variance & Co-variance
- Sales Analysis & Forecasting; New Product Development & Test Marketing
- Advertising Research
- Interpretation & Report Writing

### **Text Books Recommended**

1. Research Methodology – C.R.Kothari
2. Marketing Research - Tull

## **LNG 702 Personality Development & Communication Skills II**

### **Credits 3(2-0-2)**

#### **Grammar**

- Narration
- Common errors in English
- Effective use of articles
- Effective use of articles
- Effective use of prepositions
- Figures of speech
- Technical Writing
  
- Proposal writing
  
- Report writing
- Curriculum vitae
- Resume
- Technical articles
- Writing of notices, circular, memo, agenda, minutes
- Spoken English
  
- Presentation
- Role plays
- Techniques of discussions at different meetings, seminars, workshops & conferences

- How to face an interview
- Personality Development
  
- Public speaking
- Motivational skills
- Counseling skills
- Team management
- Leading a discussion

**Books Recommended:** Martinet A.V. and Thomson A.J.A Practical English Grammar, IV ed. 1986, Oxford University Press, Delhi.

Agarwal, Malti: Professional Communication, Krishna Prakashan Media Pvt. Ltd., Meerut

Iyadurai P.; Phonetics for Beginners , I ed. 1992, Jones Publications, Tirunelvely.  
Balasubramaniam, T,A,; A Text Book of English Phonetics for Indian Students, Macmillan India Ltd.

## **Semester III**

### **PHM 782 Pharmaceutical Production Management**

**Credits 3(2-1-0)**

#### **I. Pharmaceutical Quality Control and Assurance**

- a. Introduction, sources of Quality variation
- b. Control of Quality Variation
  - i. Raw Material control, In-process items control
  - ii. Quality Assurance before start-up; Environmental and Microbiological Control and Sanitation. Manufacturing Working Formula (MFW) Procedures, Raw Materials, Equipments.
  - iii. Quality Assurance at Start-up – Raw Material Processing, Compounding, Packaging Materials and Labels control, Finished Product Control
  - iv. Quality Assurance during Packaging
    1. Concept of Statistical Quality Control, Quality Level and Inherent Variability, Sampling and Sampling Plans
    2. Control and Assurance of Manufacturing practices – Equipment, Personnel, Control of Records, Control of Production Procedures
    3. Control and Assurance of Finished Products, Standards of identification, Quality, Purity, Potency; Specifications of well-established and New Products; Testing Program and Method

## II. **Production Management**

Good Manufacturing Practices (GMP) and Current Good Manufacturing Practices;

Personnel, Training, General Facilities, Cost, Space Allocation

Environmental Factors: Materials, Lighting and Air Conditioning

Specifications; dust collection and Cross Contamination

Pharmaceutical Manufacturing Facilities: Chemical Weighing; Manufacture of Tablets, Granulation, Compression, Coating; Manufacturing of Liquids; Manufacture of other dosage forms; Packaging; Ware-housing, Shipping and Receiving

Materials Management: Inventory Management, ABC Concept, Inventory Analysis, Conversions, Sales Forecasting, Economic order Quantity, Statistical Inventory Control, Material Requirement Planning; Cost Controls including the elements of Costs

### **PHM 767 Human Resource Management**

**Credits 4(3-1-0)**

- Nature and Scope of Human Resource Management
- Manpower Planning
- Job Analysis, Job Evaluation
- Recruitment, Selection, Placement
- Employee Training and Development
- Performance Appraisal
- Promotion, Transfer, Demotions
- Wage, Salary, Rewards and Incentives
- Human Resource Audit and Accounting
- Job Satisfaction, Job Enrichment, Job Empowerment
- Employee Safety and Health
- Industrial Relation, Industry Disputes, their resolution
- Trade Unions

#### **Text Books Recommended**

1. Human Resource Management – Dessler
2. Human Resources and Personnel Management – William B. Werther, Keith Davis

### **PHM 762 Pharma Selling & Sales Management** **Credits 2 (2-0-0)**

- Need and scope of Pharma selling
- Direct selling – concepts & types
- Role & responsibility of medical representatives

- Distribution channel and network in pharma industry
- Managing sales force
- Pricing of pharma products
- Sales forecasting of pharma products
- Principal channel relationship

### **PHM 761 Financial Management**

**Credits 4(3-1-0)**

- Nature and Scope of Financial Management
- Basic concepts of Valuation – Approach and Methods
- Indian Financial System – Indian Money Market, Indian Capital Market
- Cost of Capital: Concept and Measurement
- Capital Structure: Planning the Capital Structure, Theories of Capital Structure
- Financing Decision – Operating, Financial and Combined Leverage
- Dividend Decisions – Dividend Models and Determinants of Dividend Policy
- Capital Budgeting – Techniques of Capital Budgeting
- Working Capital Management: Nature and Concept; Brief outline of Cash, Inventory and Receivable Management

### **Text Books Recommended**

1. Financial Management – I.M. Pandey
2. Financial Management – Khan & Jain

### **PHM 733 Pharmacy Administration**

**Credits 3(3-0-0)**

- Laws Governing Pharmacy :Definition, Religion, Ethics, Law & Scheduled Drugs; Rules & Regulation; Minimum Requirement for the Pharmacy; Drug Act & Pharmacy Act and Drug Enquiry Committee; Introduction to CGMP; Drug Price Competition, Food & Drug Administration; Mis-branding and Adulteration of Drugs; Prescription, Label and Prescription Drugs
- Pharmaceutical Care Service: SWOT Analysis; Planning of Marketing; Benefits of Pharmacy Services; Implementing and Controlling of Marketing Activities, Hospital Pharmacy and Standard of Practice
- Documentation & Billing of Pharmaceutical Care Services: Documentation of Pharmacy Care; Coding System, Limitation of Professional Pharmacy Service
- Community Pharmacy, Economics and Management: Community Pharmacy and its Establishment; Objective & Role of Management; Planning & Controlling of Economics; Management of Personnel, Facilities & Records
- Product Recalls and Withdrawals: Definition, Recall Procedures & Reimbursements; Information of Recall and Withdrawal; Implications and Reasons of Recalls; Future Directions

- Ethics and Professionalism in Planning: General Introduction to Pharmaceutical Ethics; Identification of Ethical Problems; Code of Ethics in relation to Job, Trade, Medical Profession and Pharmacy Profession

### **Text Books Recommended**

- 1) The Sciences & Practice of Pharmacy – Remington
- 2) A Textbook of Forensic Pharmacy – B.M. Mithal
- 3) A Textbook of Forensic Pharmacy – N.K. Jain
- 4) Drugstore and Business Management – S. Burande

### **PHM 631 Pharmaco-economics**

**Credits 3(3-0-0)**

- Nature and Scope of Pharmaco-economics
- Demand Analysis: Meaning of Demand, Law of Demand, Elasticity of Demand
- Demand Forecasting
- Production Analysis: Production Function; Laws of Production
- Theory of Cost and Concepts: Accounting Concepts, Analytical Concepts; Cost Theory – Short-run Cost-Output Relations; Long-run Cost-Output Relations
- Policy Relating to Pharmaceutical Industry
- Market Dynamics and Structure: Perfect Competition, Monopoly and Imperfect Competition
- Pricing Strategies and Practices: Cost based and Demand based
- Business Cycles and Stabilisation

### **Text Books Recommended:**

Managerial Economics – R.L. Varshey & K.L. Maheshwari  
 Micro Economics – Sameulson & Nordhaus  
 Managerial Economics: Concepts and Cases – Mote, Paul & Gupta

### **PHM 734 Drug Regulatory Affairs**

**Credits 3(2-1-0)**

- Historical perspective on the impact of Food and Drug laws
- Manufacturing: Introduction, regulatory requirements as per Indian and other regulatory authorities for manufacturing information formula, process, validation

- of manufacturing process, equipment, documentation, inspection requirement, regulatory guidelines for active ingredients and formulations. Regulatory guidelines for packaging materials, test and evaluation of packaging materials, biological test, microbiological test and evaluation of closures
- Federal Laws – FD & C Act - Definitions, History of FDA; Evolution of Drug Regulations – 1906 Act, 1938 Act, 1962 Amendments; Laws governing evaluation of New Drug products like IND, NDA, ANDA etc.; FDA Product recalls; DESI and OTC Review; Other regulations of 1962 Amendments like labeling requirements of prescription and OTC drugs
  - FDA Enforcement powers
  - Other federal laws affecting pharmaceutical industry (includes latest amendments in the Indian and international systems)
  - Intellectual property rights: Introduction, purpose, guidelines as per Indian and other regulatory authorities
  - Clinical trails: Definition, Phase I, Phase II, Phase III and Phase IV studies, design documentation, presentation and interpretation, statistical analysis of clinical data, factorial design, guidelines as per Indian and other regulatory authorities

### **PHM 800 Industrial Training**

**Credits 3 (0-3-0)**

Each student is required to undertake training. The emphasis here is on involving the students in learning processes that help them relate concepts and theories to business requirements. It is therefore desirable that the students interact and interface with the industry during the summer vacation after Semester II examinations. After the training Students are required to submit their project report; certificate of training issued by the organization in which they have worked; and also make a presentation on the work done by them and their experiences for which they will marked satisfactory/ unsatisfactory.

The objective of this project is to help students gain practical experience and exposure to work culture and prevalent practices in the Indian pharmaceutical industry.

## Semester IV

### **PHM 807 Strategic Management                      Credits 3 (3-0-0)**

- Concept of Strategic Management
- Role of Strategist
- Process of Strategic Management
- Environmental Appraisal
- Organisational Appraisal & Scanning Capability Factors
- Strategic Alternatives and Choice
- Grand Strategies, Strategic Plan
- Strategy Implementation – Structural and Functional Implementation
- Strategy Evaluation and Control

#### **Text Books Recommended:**

1. Strategic Management – Concepts and Cases – Thompson & Strickland
2. Strategic Management – Concepts and Cases – Fred R. David
3. Business Policy – Azhar Kazmi

### **PHM 808 Introduction to Intellectual Property Rights (IPR) Credits 3(3-0-0)**

- Introduction to Copy Right : Requirements & Rights
- Introduction to Patent : Requirements & rights
- Introduction to Related Rights : Requirements & Rights
- Introduction to Plant Varieties Protection Act, Requirements & Rights
- Introduction to Geographical Indication, Requirements & Rights

### **PHM 806 Total Quality Management                      Credits 3(3-0-0)**

- Introduction to Quality; Concept of TQM; Elements of TQM
- Philosophies of TQM-Deming's; Juran's; Crosby's
- Focusing on Customers
- Leadership & strategic planning for TQM
- Human Resource Development and Management for TQM
- Process Management; Tools for Process Management
- Organizing for TQM
- ISO-9000
- Total Quality Management in Services

**Text Books Recommended:-**

Total Quality Management by B.Senthil Arasu and J. Praveen Paul  
 The Essence of Total Quality Management by John Bank  
 Quality Management by Kanishka Bedi  
 Total Quality Management by Rajesh Kumar Shukla  
 Total Quality Management by Dale H. Besterfield

**PHM 864 Management Information System****credits 3 (2-0-2)**

- Overview of MIS
- Information systems & Systems Organisation
- Computer & Information Processing
- Information Systems software
- Enterprise-wide computing & networking
- Alternate System Building Methods
- Information and Knowledge Work Systems
- Artificial Intelligence
- Enterprise Resource Planning
- Controlling Information System
- Office Automation

**Practical**

- MS Office : MS WORD; MS EXCEL; MS POWERPOINT; MS ACCESS
- Fundamentals of INTERNET

**PHM 899 Project Report****Credits 7 (0-0-14)**

A project will be assigned to each student. Data will be collected by the students after class and during the weekends. A report will be submitted, having the following chapters:

1. Introduction
2. Research Design
4. Data Analysis
5. Conclusion

Project work will be done under the supervision of a faculty member allotted by the program co-ordinator.

**PHM 897 Comprehensive Viva**

At the end of the fourth semester, a viva-voce examination will be held for 100 marks. In this oral examination the student will be asked questions related to the entire syllabus taught in all four semesters in the MBA-PM program.