

JAMIA MILIA ISLAMIA

Department of Hospital Management and Hospice Studies

Jamia Millia Islamia, New Delhi

MBA Pharmaceutical Management

(With effect from Academic Session 2023 – 2024)

Jamia Millia Islamia

Jamia Nagar, New Delhi-110025

Brief program outline: PG/MBA Pharmaceutical Management

MBA (Pharmaceutical Management) is a two-year (4 Semesters) programme as per the details given below:

Year	Semester	Semester
First	I	II
Second	III	IV

Semester I							
Paper No.	Paper Title	Paper Type	Lect. + Tutorials (in hrs/week)	Marking scheme			Credits
				Sem. exam	Internal marks	Total	
MPM 101	Principles of Management	AEC	3 + 1	75	25	100	4
MPM 102	Basics of Human Anatomy and Physiology	Core	3 + 1	75	25	100	4
MPM 103	Financial, Cost & Management Accounting	Core	3 + 1	75	25	100	4
MPM 104	Managerial Economics	Core	3 + 1	75	25	100	4
MPM 105	Bio-Statistics for Decision Making	Core	3 + 1	75	25	100	4
MPM 106	Basics of Pharmaceutical Marketing	Core	3 + 1	75	25	100	4
MPM 107	Communication Skills and Personality Development	CBC	3 + 1	75	25	100	4
MPM 108	Organizational Behavior	SEC	3 + 1	75	25	100	4
Total credits							32
Semester II							
MPM 201	Pharmaceutical Production & Operations Management	Core	3 + 1	75	25	100	4
MPM 202	Strategic Management	AEC	3 + 1	75	25	100	4

MPM 203	Basics of Epidemiology	Core	3 + 1	75	25	100	4
MPM 204	Pharmaceutical regulatory affairs and WTO	Core	3 + 1	75	25	100	4
MPM 205	Brand Management	Core	3 + 1	75	25	100	4
MPM 206	Business Research Methodology	CBC	3 + 1	75	25	100	4
MPM 207	Human Resource Management	Core	3 + 1	75	25	100	4
MPM 208	Management Information System & IT Applications	SEC	3 + 1	75	25	100	4
Total Credits							32
Semester III							
MPM 301	Project Management	SEC	3 + 1	75	25	100	4
MPM 302	Environment & Disaster Management	CBC	3 + 1	75	25	100	4
MPM 303	International Pharmaceutical Marketing	Core	3 + 1	75	25	100	4
MPM 304	National Health Programs & Policy Analysis	Core	3 + 1	75	25	100	4
MPM 305	Materials and Supply Chain Management	Core	3 + 1	75	25	100	4
MPM 306	Consumer Behavior	AEC	3 + 1	75	25	100	4
MPM 307	Mergers and Acquisitions	Core	3 + 1	75	25	100	4
MPM 308	Basics of Pharmacology & Toxicology	Core	3 + 1	75	25	100	4
MPM 309	Summer Training Project (for 6 – 8 Weeks)	Core		50 (Report)	50 (viva)	100	4
Total Credits							36
Semester IV							
MPM 401	Quality Assurance & Quality Control	Core	3 + 1	75	25	100	4
MPM 402	Corporate Governance & Strategic CSR	SEC	3 + 1	75	25	100	4

MPM 403	Entrepreneurship Management	AEC	3 + 1	75	25	100	4
MPM 404	Clinical Research Management	Core	3 + 1	75	25	100	4
MPM 405	Dissertation (One Semester)	Core		100 (Report)	100 (viva)	200	8
Total Credits							24
Total Credits for all 4 Semesters							124

*CBC – Choice Based Course, SEC – Skill Enhancement Course, AEC – Ability Enhancement Course

PRINCIPLES OF MANAGEMENT

Paper Code: MPM-101

Objective: The course provide insight to the students about the basic management concepts and their application in the management process. It emphasis the role of organizational behaviour for efficient and effective output. After completing the course, the student will be able to understand the features of individual behaviour and group behaviour. The course enable the students to apply the concept of team building at the work place.

Unit-1: Introduction to Principles of Management

Definition of management, its nature and purpose. Managing Science or Art? Who Are Managers? Role of managers, Managerial skills and the Organizational Hierarchy.

Unit-2: Evolution of Management thought

Schools of Management Thought, Contemporary contributions to management thought: Changing environment of management, Social and ethical responsibilities of the managers. Trends and Challenges of Management in Global Scenario. Contemporary management Enhancement Systems: Overview of MBO, 5S, 7S, Six Sigma, BPR, Kaizen, JIT etc.

Unit-3: Planning, Strategizing& Decision Making

Nature, Types and steps of planning, Importance and Purpose of planning; Strategies, Types of strategies, the strategic planning process, Effective implementation strategies. Understanding Decision Making, Types of decision - Decision Making Process - Rational Decision making – Group Decision Making, Decision Making under different conditions (Certainty, Risks and Uncertainty), The systems approach and decision making, Developing Your Personal Decision-Making Skills.

Unit-4: Organizing and Leading:

Nature and purpose of organizing, Formal and Informal organization, the structure and process of organizing, the span of management, Types of Departmentalization, Line and Staff authority, Centralization and Decentralization - Delegation of authority, Contemporary Forms of Organizational Structures. Leading People and Organizations: Who Is a Leader? Trait Approaches to Leadership, What Do Leaders Do? Behavioral Approaches to Leadership, What Is the Role of the Context? Contingency Approaches to Leadership, Contemporary Approaches to Leadership, Developing Your Leadership Skills

Unit-5: The System and Process of Controlling

The basic control process, Initial Control Points and Standards, Types of Control, Requirement for effective control; Budgetary and non-budgetary control techniques - Managing Productivity - Cost Control - Purchase Control – Maintenance Control - Quality Control.

Suggested Literature:

- Bhushan, Y.K., *Fundamentals of Business Organization and Management*, Sultan Chand & Sons, New Delhi, 2013.
 - Gupta, C.B., *Management Theory and Practice*, Sultan Chand & Sons, New Delhi, 2011.
 - Heinz Wehrich, and Mark V. Cannice, Harold Koontz, *Management*, (12th Edition) Tata McGraw Hill, New Delhi, 2008.
 - Radha R Sharma, *Change Management and Organizational Transformation*, 2nd Edition, McGraw Hill, New Delhi, 2012.
 - Ramasamy. T., *Principles of Management*, Himalaya Publishing House, Mumbai, 2004.
 - Samuel C. Certo and S. Trevis Certo, *Modern Management*, PHI learning, New Delhi, 2008.
 - Stoner J., *Management*, 6th Ed., New Delhi, Prentice Hall of India, 1996.
 - Williams Chuck, *MGMI, Cengage Learning*, New Delhi, 2013.
 - Samuel C. Certo and S. Trevis Certo, *Modern Management*, PHI learning, New Delhi, 2008.
 - Stoner J., *Management*, 6th Ed., New Delhi, Prentice Hall of India, 1996.
 - Williams Chuck, *MGMI, Cengage Learning*, New Delhi, 2013
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BASICS OF HUMAN ANATOMY & PHYSIOLOGY

Paper Code: MPM-102

Objective: This paper helps the students to understand about the structure and functions of the body. It also helps to understand the fundamental relationship between Anatomy and Physiology.

Unit-1: The body and its constituents

Introduction to the human body, levels of structural complexity, the internal environment and homeostasis, survival needs of the body, introduction to the study of illness.

Unit-2: Human Organs

Definition and structure of cell, tissue structure and its type, homeostasis Structure and functions of organs and systems

Unit-3: Intake of raw materials and the elimination of waste

Introduction to nutrition, the digestive system, the urinary system, excretory system, role of various organs

Unit-4: Organ systems

The cardiovascular system, the nervous system, special senses, the endocrine system, musculoskeletal system, the respiratory system,

Unit-5: Organization of the Body

The skeleton. the axial skeleton, vertebral column, the thoracic cage, appendicular skeleton, cavity of the body. abdominal cavity, pelvic cavity.

Suggested Literature:

- Textbook of Medical Physiology: A. C. Guyton, Prism Books Pvt Ltd, Bangalore
- Anatomy and Physiology for Nurses R. S. Winwood, J. L. Smith, Education Academic and Medicinal Publishing Division of Hodder and Stoughton, London
- Atlas of Anatomy: Casey Horton, Marshall Cavendish Books, London
- Basic Clinical Physiology: J. H. Green, Oxford University Press, Delhi
- Samson Wright's Applied Physiology, Keele, Neil et al (Ed), Oxford University, Delhi
- Ross and Wilson, Anatomy and Physiology in Health and Illness.

- Biga, L. M., Dawson, S., Harwell, A., Hopkins, R., Kaufmann, J., LeMaster, M., ... & Runyeon, J. (2020). Anatomy & physiology. OpenStax/Oregon State University.
 - VanPutte, C. L., Regan, J. L., & Russo, A. F. (2021). Seeley's essentials of anatomy & physiology. McGraw-Hill.
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FINANCIAL, COST & MANAGEMENT ACCOUNTING

Paper Code: MPM-103

Objective: The students will be able to understand the basics of financial and management accounting. The main objectives of financial accounting are to disclose the end results of the business and the financial condition of the business. The main objective of managerial accounting is to help management by providing information that is used to plan, set goals and evaluate these goals. The course will facilitate the students to apply these concepts.

Unit-1: Fundamentals of Accounting

Introduction to Accounting, Accounting Process – An Overview, Books of Original Record, Ledger and Trial Balance

Unit-2: Financial Statements and their analysis

Preparation of Simple Final Accounts, Final Accounts with Adjustments, And Analysis of Financial Statements (Techniques & Key Ratios)

Unit-3: Cost Concepts

Basic Concepts, Classification of Costs, Elements of Cost and Cost Sheet

Unit-4: Accounting for Planning and Control

Budgeting and Budgetary Control, Standard Costing, Variance analysis, significance

Unit-5: Accounting for Decision Making

Variable (Managerial) Costing, Cost, Volume Profit Analysis, Relevant Costs for Decision-Making.

Suggested Literature:

- Management Accounting by M. Y. Khan & P. K. Jain (Tata Mc Graw Hill)
- Double Entry Book Keeping by T.S. Grewal (Sultan Chand)
- Cost Accounting by Maheshwari–Mittal (Mahavir Publications)
- Financial Accounting by Mukherjee and Hanif
- Cost Accounting by PC Tulsian

- Management Accounting by S N Maheshwari
 - Finkler, S. A., Calabrese, T. D., & Smith, D. L. (2022). Financial management for public, health, and not-for-profit organizations. CQ Press.
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MANAGERIAL ECONOMICS

Paper Code: MPM-104

Objective: After completing this paper, the student will be able to describe the flow of funds in the health care system, describe key behaviours that affect a consumer's health status and the cost of health care overall, describe how government policy and programs affect the flow of funds in healthcare system. It will help the student to understand the role of public health and population health management in the healthcare market.

Unit-1: Economics and Health Economics

Fundamentals of Economics and Health Economics, The methods of economics, Micro- and Macroeconomics, Scarcity and choice, Economic of agents, Uncertainty, Risk and Insurance.

Unit-2: Supply and Demand

A model of demand, Supply and price determination, Elasticity of demand, adverse selection, moral hazard and signaling, Supplier induced demand, Production and costs: the broader service perspective, Demand and Supply of Healthcare Services in Developing Countries.

Unit-3: Markets

Markets and efficiency, Market failure, Free and chained healthcare market, Healthcare product market analysis, Equity and equality.

Unit-4: Economies of Pricing and Costing

Pricing decision in healthcare, Law of diminishing returns, Average and marginal products, Costs and its estimation, Budget, Budgeting techniques and process.

Unit-5: Economic Evaluation

What is economic evaluation, Classification of costs and analysis, Cost-benefit analysis, Cost-effective analysis, Evaluation in perspective.

Suggested Literature:

- Martinez-Giralt, X. Principles of health economics for non-economists. Free

software foundation, 24.

- Drummond, M. F., Sculpher, M. J., Claxton, K., Stoddart, G. L., & Torrance, G. W. Methods for the economic evaluation of health care programmes. Oxford university press.
 - The Economics of Health and Health Care, Pearson Education, Upper Saddle River, New Jersey. Jacobs the Economics of Health and Medical Care, Jones and Bartlett Publishers.
 - Mc Pake, B., Normand, C., Smith, S., & Nolan, A. (2020). Health economics: an international perspective. Routledge.
 - Getzen, T. E., & Kobernick, M. S. (2022). Health economics and financing. John Wiley & Sons.
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BIOSTATISTICS FOR DECISION MAKING

Paper Code: MPM-105

Objective: The course will help to understand the basics of bio statistics and develop an intuition for the key concepts that underpin the statistical analysis of data. The students will be able to read and understand/critique the approach taken in the formulation of research methodology and learn to analyze and draw scientific conclusions from the data.

Unit-1: Introduction

Meaning and Scope, Sources and Collection of Data, Diagrammatic and Graphic Representation, Measures of Central Tendency, Measures of Dispersion

Unit-2: Estimation and Inferences

Theory of Estimation and Testing of Hypotheses, Tests of Significance based on t, F and Z distributions, Chi-Square Tests, Odds Ratio, Attributable Risk

Unit-3: Probability Distributions and Mathematical Expectations

Sampling Theory and Design, Sampling Techniques, Diseases based Review – Case approach, Mapping and capping of the Survey–Practical Approach

Unit-4: Statistical Tools

Analyses of variance, Correlational Analysis, Regression Analyses, Multiple and Partial Correlations and Regression Analyses, Non-Parametric Methods

Unit-5: Interpretation of Data and Statistical Fallacies

Use of Statistical Decision Theory, Application and Use of Computers (ex. SPSS), Theory of Attributes, Statistical Quality Control.

Suggested Literature:

1. Daniel, W. W., & Cross, C. L. Biostatistics: a foundation for analysis in the health sciences. Wiley.
2. Hassard, T. H. Understanding biostatistics. Mosby year book.
3. Rosner, B. Fundamentals of Biostatistics. Duxbury Press. Wadsworth Publishing Company, 4, 649.

4. Lee, K. J., Moreno-Betancur, M., Kasza, J., Marschner, I. C., Barnett, A. G., & Carlin, J. B. (2019). Biostatistics: a fundamental discipline at the core of modern health data science. *The Medical Journal of Australia*, 211(10), 444.
 5. Saha, I., & Paul, B. (2020). *Essentials of biostatistics & research methodology*. Academic Publishers.
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BASICS OF PHARMACEUTICAL MARKETING

Paper code: MPM-106

Objective: This paper involves an integrated study of management and marketing strategies for the pharmaceutical market. It will help the students to explore areas of sales, research, analysis, innovation, consultation, problem-solving, administration and distribution in the Pharmaceuticals sector through the incorporation and application of various managerial, research skills and business strategies.

Unit-1: Introduction to pharmaceutical marketing

The scope of marketing and its core concepts, Marketers and prospects, needs wants and demands, product or offering, value and satisfaction, marketing channels, supply chain, competition., the production concept, the product concept, the selling concept, the marketing concept, the societal marketing concept, integrated marketing. Introduction to pharmaceutical marketing: Marketing systems and overview of the Indian pharmaceutical industry, industry structure, domestic companies, MNC companies, current issues, current issues, price control, intellectual property rights (IPR), patents, generic policy, GATT accord, understanding the marketing environment, major dimensions of the market, major segments, identification of markets.

Unit-2: Consumer behaviour

Customers vs. consumers, difference between consumer behaviour for drugs and that for other consumer goods, importance of consumer behaviour in pharmaceutical industry, the physician's (customer) prescription behaviour, influencers of physician's prescribing habits, consumer's choices and their major influencers, patient motivation, types of customers and buyer behaviour, relationships between consumers and prescriber's behaviour, customer decision making process, the individual adoption process, market analysis and its dimensions.

Unit-3: Strategic marketing process

Institutional markets, Industrial market, segmentation and methods, pharmaceutical market segmentation, market measurement and forecasting, therapeutic group segmenting, the served market concept, market opportunity analysis.

Strategic planning in pharma marketing: Situation analysis, developing marketing objectives; determining positioning and differential advantage, selecting target markets designing marketing mix for target market. Concept of marketing mix, components of marketing mix in pharmaceutical industry.

Unit-4: Product decision

Product classification, product mix, product line analysis, prescription drugs, generic drugs, product life-cycle (PLC) strategies, extending PLC, product augmentation, new product development process, new product adoption process.

Branding, brand elements, brand equity, branding challenges, product vs. brand, packaging & its components and labelling, determining the position of brand in PLC.

Pricing decisions: Pricing methods and strategies, drug price control order (DPCO) and its formula, its implications and industry response.

Unit-5: Distribution decisions

Distribution decisions: Importance and functions of distribution channels, distribution channel members, roles of C&F agent, distributors, stockiest, retailers, AIOCD, trade margins, organized retailing, and online / visiting pharmacy.

Promotional Decisions: Promotion mix elements, promotional literature, advertising, detailing, push and pull strategy, importance of personal selling and role of medical representatives (MRs).

Communication in pharmaceutical industry

Competitive Practices: Economic and competitive aspects of the pharmaceutical industry; Porter's five forces model, role of promotion in competition; retail competition.

Suggested Literature:

- Pharmaceutical Marketing by Subba Rao
 - Pharmaceutical Marketing by Dimitris and Dogramatiz
 - Pharmaceutical Marketing by Smith
 - Marketing Management, A South Asian Perspective by Philips Kotler
 - Marketing Management, Planning, Implementation and Control by Ramaswami and Namakumari.
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COMMUNICATION SKILLS AND PERSONALITY DEVELOPMENT

Paper Code: MPM-107

Objective: The Course facilitate to Understand the behavioural needs for a healthcare manager to function effectively in-the areas of healthcare operation. It emphasis the importance to ccommunicate effectively (Verbal and Non Verbal), manage the team as a team player. The goal of any communication is to learn the patient's experience and facilitate improving their well-being.

Unit-1: Introduction to Basic concepts

LSRW in Communication – Listening – active vs passive (Talk less, listen more); Speaking - Speech vs enunciation (mind your tone); Reading –Focus on the structure not on the theme alone; Writing – Precise, not only précis writing.

Unit-2: Business Communication

Written Communication: Etiquettes of Business writing, Business letters: Memos, Enquiries, Orders, Sales letters, Notice, Tenders, Applications, Letter of Complaints, E-Mail Etiquettes, Formal & Informal email writing. Oral Communication: How to make effective Presentations (Content & Delivery), Constituents of Effective Meetings (Need, Importance & Planning of Meetings, Drafting of notice, Agenda, Minutes & resolutions of Meeting), Effectiveness in Debates and Extempore Speech, Role Play as a tool of learning. Kinesics – Importance of Body Language in Effective Communication

Unit-3: Employment Communication

Writing CVs & Application/Covering Letter, Do's and Don'ts in a CV, Effectiveness in Group discussions, How to Face Interviews.

Unit-4: Personality and Personality Development

Definition of Personality. Determinants of Personality- biological, psychological and socio-cultural factors, Misconceptions and clarifications, What are the basic personality types? Need for personality development.

Unit-5: Self-Awareness and Self-Motivation

Introduction to Personality Assessment & Testing tools (MBTI, FIRO-B, 16 PF), Self-analysis through SWOT and Johari window, Personality and Career Choice: Learning about yourself through Matching your career and personality & why it matters, Elements of motivation, Seven rules of motivation, Techniques and strategies for Self-motivation, Motivation checklist and Goal setting based on principle of SMART, Self-Motivation and life.

Suggested Literature:

- Lesikar, R.V. & Flatley, M.E. (2005). Basic Business Communication Skills for Empowering the Internet Generation. Tata McGraw Hill Publishing Company Ltd. New Delhi.
 - Ludlow, R. & Panton, F. (1998). The Essence of Effective Communications. Prentice Hall of India Pvt. Ltd.
 - Adair, J. (2009). Effective Communication. Pan Mcmillan.
 - Thill, J. V. & Bovee, G. L. (2016). Excellence in Business Communication 12e. Pearson, New York.
 - Guffey, M.E. & Loewy, D. (2014). Business Communication: Process and Product 8e. Cengage Learning.
 - Wallace, H.R., Masters, A. (2012) Personality Development for Life and Work 10e, Cengage Learning
 - Ramesh, G. (2013) The ACE of Soft Skills: Attitude, Comm. and Etiquette for Success, Pearson Education.
 - Lewis, H., (2012) Body Language 3rd Revised Edition, Sage Publication
 - Mitra, B. (2016) Personality Development, Tata McGraw hill, 2010
 - Bhatti, J.R.(2011) Dynamics of Personality Development and Projection, Pearson Education
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ORGANISATIONAL BEHAVIOUR

Paper Code: MPM-108

Objective: This course is an introduction to the basic concepts and topics in organizational behaviour (OB) and management. The course focuses on OB at three levels: individual, interpersonal, and collective. The student will be able to understand the importance of decision-making, motivation, and personality. On completion of the course, the student will be able to apply the concept of Leadership.

Unit-1: Introduction to Organizational Behaviour

Concept and functioning, Nature and Characteristics; Determinants; Challenges and Opportunities for Organisational Behaviour, Models and Approaches of Organizational Behaviour, OB and Emotional Intelligence.

Unit-2: Perception, Attitude, and Values

Nature, Process, Importance, Factors Influencing Perception; Attribution Theory of Perception; Issues Involved in Perception, Selective Perception, Halo Effect, Stereotyping; Concept of Pygmalion Effect; an overview of Emotions and feelings, Values, Beliefs and Attitudes with Managerial Implications.

Unit-3: Learning and Motivation

Theories of Learning, Conditioning, Social Learning, Managerial Implication of Learning Theories, Theories and Process of Motivation, Maslow's Need-Hierarchy Theory; Integrating Contemporary Theories of Motivation; Managerial Implications of Various Theories; Linking Recognition Programmes and Reinforcement Theory; Linking Employee Involvement Programmes and Motivation Theories.

Unit-4: Leadership, Concept and Functions

Style and Theories of Leadership, Traits, Behavioral and Situational/Contingency Groups of Theories; Inspirational approaches to Leadership; Charismatic Leadership, Transformational Leadership, and Transactional Leadership, Contemporary Leadership Roles; Challenges to the Leadership Construct; Substitutes and Neutralizers to Leadership.

Unit-5: Individual and Group Behavior

Theories of learning and motivation, definition and concept of Group, stages of group and group process, Team and its characteristics, concept of team building, definition of conflict and management of conflict.

Suggested Literature:

- Pareek, U., Organizational Behaviour Process, Rawat Publications, Jaipur, 1998.
 - Pareek, U., Training Instruments for HRD, Tata McGraw Hill, 1997.
 - Hersey, P and Blanchard, K, Management of Organizational Behaviour, Prentice Hall of India, 1996.
 - Hall Richard, H, Organizations: Structures, Processes, and Outcomes, Prentice Hall of India, 1992.
 - Chandra Shiv (edited), Readings in Organization Behaviour, Community Health and Administrative Procedures, SIHFW, Jaipur, Rajasthan, 1997.
 - Monica, E. L., Management in Health Care, Macmillan Press, 1994.
 - Rees, F., How to Lead Work Teams, Pfeiffer & Company, 1991.
 - Flahault, d. and Roemer, M. I., Leadership for Primary Health Care, WHO Publication, 1986.
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PHARMACEUTICAL PRODUCTION & OPERATIONS MANAGEMENT

PAPER CODE: MPM-201

Objective: This paper provides an in depth study of the various industrial process in pharmaceutical manufacturing, analyzing operations, production planning and its management.

This paper helps the students to understand the concept of an operations strategy planning and management. This subject helps in the understanding of building and equipment layout, regulatory requirements and GMP in Pharmaceutical production.

Unit-1: Drug and pharmaceutical plants

Building layout, equipment layout, regulatory requirements for the same, Safety aspects: Fire, explosion, toxicity, and hazards of some selected organic/ inorganic chemicals- methods for handling them safely, Corrosion and its prevention: Corrosion characteristics of selected organic/ inorganic chemicals and compatible materials of construction.

Unit-2: Pollution and Pollution control

Concept and type of pollution, ecology and ecological balance, pollution and health hazards, gaseous pollution and its control, water pollution and its control, Waste Management: Waste minimization technology used in pharma plants.

Unit-3: Introduction to production and operations management

Evolution of Production / operations management; Nature of production/operations management; Production function and its environment, functions of production /operations manager, organization of production function.

Facilities planning: Product selection and design, service design, process and technology selection, location of manufacturing / service facility. Layout of manufacturing /service facility: Product layout, process layout, fixed position and group layout , layout design;, materials handling concepts.

Unit-4: Production planning and control

Capacity planning, Aggregate production planning, materials requirement planning, operations scheduling and production, master production schedule, activity control for mass manufacturing, batch processing and job shop. Process validation: Prospective validation, retrospective validation, concurrent validation, significance of validation, validation phases, design qualification, operational

qualification, installation qualification, process performance qualification, validation report, validation of tablet manufacturing process and manufacturing process for sterile products.

Unit-5: Process Quality control

Quality control function, In process quality control: definition, elements, different IPQC tests for various dosage forms/ tablets, quality control apparatus, statistical process control, applications of control charts, quality circles, quality improvements. Good manufacturing practices (GMP) for pharmaceutical products: sanitation & hygiene, qualification & validation, complaints, product recalls, contract production, premises- production area, quality control areas, storage areas, quality audits, supplier audits, personnel.

Suggested Literature:

- Graham Cole, Pharmaceutical Production facilities by Graham Cole (Special Indian edition)
 - Production and Operations Management by Adam and Ebert
 - Production and Operations Management by S.N. Chary
 - Production and Operations Management by R.Paneerselvam
 - Modern Production Management by E.S. Buffa
 - Operations Management by Bernard Taylor
 - Production and Operations Management by Aswathappa and Bhat
 - Fire Safety Management by Satish Tandon
 - Pollution Prevention of Chemical Processes by Allen David T.
 - The Treatment and Handling of Wastes by Bradshaw, A.D.
 - Good Pharmaceutical Manufacturing Practice: Rationale and Compliance by Sharp John
 - Good Manufacturing Practices for pharmaceutical products by WHO expert committee
 - On specifications for pharmaceutical preparations.
 - Plant Design and Economics for Chemical Engineers by Peters, Max S.
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STRATEGIC MANAGEMENT

Paper code: MPM-202

Objective: To enable the students to learn and implement basic strategic management techniques in order to efficiently manage any organization or a specific assignment in the pharma sector. The students would also be trained to understand the competitive strategy and complexity of any strategic decision and its implications on the organization. The focus would also be to orient the students about internal and external factors influencing decision making and different strategic techniques to be used at different levels of management in a pharma organization.

Unit-1: Introduction

Strategic management definition, basic concepts, phases, characteristics, process, levels of strategy, vision, mission, objectives, learning for healthcare managers

Unit-2: Strategy formulation

At various levels in healthcare, strategic planning, strategy implementation, strategy evaluation, control process, types of strategies, strategic decision making, corporate strategy, BCG matrix.

Unit-3: External environment evaluation

Need for evaluation models in pharma, PESTLE model, Porter's Five Force model, I/O model, above average returns, key success factor, driving forces, strategic groups, competitive analysis

Unit-4: Internal environment evaluation

Internal assessment in pharma organization, SWOT analysis, value chain analysis, resource-based model, core competencies

Unit-5: Contemporary strategies in pharma

Role of technology in strategic management and decision making, VUCA, blue ocean strategy, strategic management case studies from pharma sector

Suggested Literature:

- Strategic Management: A South-Asian Perspective (Cengage Learning)- Michael Hitt, Robert E. Hoskisson, R. Duane Ireland, S. Manikutty
 - Competitive Advantage: Creating and Sustaining Superior Performance (Free Press)- Michael Porter
 - Blue Ocean Shift: Beyond Competing -Proven Steps to Inspire Confidence and Seize New Growth (Macmillan)- W. Chan Kim and Renee Mauborgne
 - Exploring Corporate Strategy (Pearson Education)- Gerry Johnson, Kevan Scholes, Richard Whittington
 - The Principles of Scientific Management- Taylor, F.W.
 - VUCA Tools for a VUCA World: Developing Leaders and Teams for Sustainable Results- Ann V Deaton
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BASICS OF EPIDEMIOLOGY

Paper Code: MPM-203

Objective: The objective of Epidemiology course is to make the students understand health issues at the community level, improve health standards and lower the risk of morbidity and mortality. It also covers disease determinants, progression pattern, and evaluates various therapeutic measures to control the spread of disease. The course will also enlighten the participants to increase the quality of life by adopting and promoting preventive measures.

Unit-1: Scope and Applications of Epidemiology

Definition and history of epidemiology, Basic measurements, Different epidemiological methods, Rate, Ratios for comparative purpose, Crude and specific mortality rate, Case fatality rate, Incidence and prevalence, Relative risk, Attributable risk

Unit-2: Descriptive and Analytical epidemiology

Defining population, Hypothesis formulation, Time, place and person distribution, Case-control study (CCS), Basic steps of CCS, Estimation of risk, Odds ratio, Biasness in CCS, Cohort study, Framework of cohort study, Elements of cohort study, Calculation of risk, Advantage and disadvantages of case control and cohort studies.

Unit-3: Association & Causation, Public health surveillance

Spurious, indirect. And direct association, Criteria for judging causality, Confounding. Factor, Concept of Screening, Aims and objectives, Uses of screening, Types of screening, Criteria for screening, Evaluation of screening. Definition of surveillance, Cases and source of information, Analysis and presentation of data, Communicating and using information, Effectiveness of surveillance system, Fish-bone chart, Sentinel surveillance

Unit-4: Dynamics of disease transmission, Prevention and Control

Source and reservoir, Direct and indirect transmission Susceptible host, Incubation period, Primary and secondary cases, secondary attack rate, Controlling the reservoir, Interruption of transmission, Protection of the susceptible host, Immunization programmes.

Unit-5: Vital statistics and health status indicators

Data and information, Components of health information system, Use of health information system, Sources of health information system, Tabulation, Charts and diagrams, Statistical maps, Statistical averages

Suggested Literature:

- Park Textbook of Preventive and Social Medicine by K. park
 - Basic epidemiology 2nd edition by R Bonita R Beaglehole T Kjellström, WHO Publications
 - Epidemiology: An Introduction by Kenneth J. Rothman
 - Essentials of Epidemiology in Public Health by Ann Aschengrau, GeorgeR.Seage
 - Epidemiology Made Easy by Poornima Tiwari and Shashank Tiwari
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PHARMACEUTICAL REGULATORY AFFAIRS & WTO

PAPER CODE: MPM-204

Objective: This paper helps to gain deep understanding of compliance requirements for the development, marketing, and approval processes of drugs, medical devices, etc. This paper helps in understanding and managing about the Intellectual property rights, Patent law, and drug regulatory affairs pertaining to the pharmaceutical industry. This paper helps our students to understand the regulatory framework in developed and under developing countries for drugs and formulary.

Unit-1: Regulatory Environment

Types of Registration application: NDA, ANDA, DMF, Hybrid NDAs, Comparative study of US and EU models with respect to NDA/ANDAs. Regulatory consideration for bio-tech derived products. The Pharmacy Act, 1948. The Drugs and Cosmetics Act, 1940. The Drugs and Magic Remedies (Objectionable Advertisement Act), 1954, DPCO, 1995. Clinical trial application requirement in India. Prevention of Food Adulteration Act. Narcotics Drugs and Psychotropic Substance, 1985. Latest amendments to the Drugs & Cosmetics Act.

Unit-2: Trade-related aspects

Intellectual property rights (TRIPS):-World Trade Organization (WTO), World Intellectual Property Organization (WIPO), General Agreement on Tariff and Trade (GATT). Trade Related Intellectual Property Rights (TRIP), (Trade Related Investment Measures (TRIMS) and General Agreement on Trade in Services (GATS)

Unit-3: Patent

Types of patent applications-provisional, non-provisional, PCT and convention patent applications; Trademarks legislation and registration system

Unit-4: Development

Technology development / transfer / commercialization related aspects: - Technology development-meaning; Drug related technology development; Toxicological studies, bio equivalence (BU), clinical trials-phase-I, phase-II and phase-III; Approved bodies and agencies; scale up, semi-

commercialization and commercialization- practical aspects and problems; Significance of transfer of Technology (TOT), bottlenecks; Managing

Unit-5: International scenario

DOHA declaration, POST WTO product patent regime from 2005:-Challenges for Indian Pharmaceutical Industry in the context of globalization of IP; Drug registration and licensing issues-national and global; Drug master file submissions, SOPs.

Suggested Literature:

- New Drug Approval Process, edited by Richard A. Guarino
 - The Pharmaceutical Regulatory Process, edited by Ira R. Berry, Marcel Dekker
 - FDA Guidelines
 - Effective Drug Regulation, A Multi Country Study, by Sauwakon Ratanawijit, www.ICH.org
 - Medical Product Regulatory Affairs, edited by J.J. Tobin and G. Walsh
 - Pharmaceutical Jurisprudence by GK Jani
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BRAND MANAGEMENT

Paper code: MPM-205

Objective: This paper provides deep knowledge of the significance and importance of building brands in the pharmaceutical market and understand various concepts of Brand Management. This subject helps our students to learn about the value proposition and positioning. This paper deals the branding management process and create effective brand plans using brand management skills.

Unit-1: Brand

Defining brand, development of branding, elements of brand management- brand positioning, brand equity, brand awareness, brand identity, brand personality, brand communication, brand image, brand gap, brand management framework. Branding and its potential within the pharmaceutical industry: History, meaning, past trends - built more on product features and functional benefits, current need, importance, brands for prescription drugs and generic drugs.

Unit-2: Branding in pharmaceutical industry

Brand identity- the aim, differentiation, values, recognition; corporate branding, therapeutic class branding, product branding, brand value pyramid – functional vs. emotional benefits, emotional branding; importance of a good brand name; building blocks of a pharma brand- authenticity, distinctiveness, compelling, excellence. Defining brand positioning and brand equity; their importance in pharmaceutical industry. Strategic brand management process; building and applying brand management skills, brand plan, SWOT analysis, product portfolio analysis, BCG matrix

Unit-3: Building brand equity

Choosing brand elements; criteria for choice; brand element options and tactics; designing marketing programs – product, pricing, channels strategy; integrating marketing programs – communications options. Measuring brand equity: internal data, brand audit, attitudinal surveys, brand testing.

Unit-4: Building brand values and brand strategy

Producing effective promotional literature, technical competence of product manager, new product launch, elements of a strong brand- physical response, perceptual response, character of response. The valuation of pharmaceutical brand: Relevance of brand valuation to the pharmaceutical Industry,

brand valuation methodology. Role of branding index, assessing brand strength, the role of advertising in branding pharmaceuticals, Trade mark

Unit-5: Regulatory Environment:

Basics of National Regulatory environment for Brand Managers, Industry profile; the drugs policy in India; the pharmacy act, 1948; the drugs and cosmetics act, 1940; the drugs and magic remedies (objectionable advertisements) act, 1954; the essential commodities act, 1956; introduction to patents law, the patents act, 1970; the exclusive marketing rights; the patents (amendment) act, 2002; the patents (amendment) act, 2005; apprehension of domestic pharmaceutical industry;

Suggested Literature:

- Strategic Brand Management by Kevin Keller
 - Brand Positioning by Sen Gupta
 - Managing Indian Brands by Ramesh Kumar
 - Brand Failures by Matt Haig
 - Brand Management by Mahim Sagar
 - Brand Manager by Vivek Hattangadi
 - New Drug Approval Process, edited by Richard A. Guarino
 - The Pharmaceutical Regulatory Process, edited by Ira R. Berry
 - Medical Product Regulatory Affairs, edited by J. J. Tobin and G. Walsh
 - Pharmaceutical Jurisprudence by G K Jani
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BUSINESS RESEARCH METHODOLOGY

Paper code: MPM 206

Objective: The students will be able to understand the basic research concepts, and research designs. The course will help the student to understand the methodology of conducting research, defining a hypothesis, method of data collection and preparation of report. The course provides insight about the various tools of data analysis and interpretation

Unit-1: Introduction

Basics of Research Concepts, Problem Formulation and Statement of Research, meaning of constructs and variables, Nature and Definition of Hypothesis and hypothesis formulation, Research Process & Research Designs

Unit-2: Research Design

Meaning of research design, Formulation of research questions, Selection of research topics, Exploratory, Descriptive and causal Research designs, Quantitative and qualitative research, Meaning and Functions of Research Design, structure of a research proposal, Formulating research proposal

Unit-3: Sampling and sample design

Definition and meaning of sampling, Sample design, Types of sampling, Sampling & Sampling Distribution, identification of sample size, Sampling & Non sampling error

Unit-4: Data Collection

Basics of data collection, Data collection in qualitative and quantitative research designs, Definition and design of Questionnaire, Collection of secondary data, Interview Schedules, Steps in Questionnaire Design, Measurement & Scaling, Interview Methods and its functions

Unit-5: Data Analysis and report writing

Data preparation and processing, data cleaning, data entry, analysis and Interpretation, Report Writing and types of report

Suggested Literature:

- Research methodology concepts and cases by Deepak Chawla and Neena Sondhi
 - Successful Qualitative Health Research: A Practical Introduction by Emily Hansen
 - Research Methodology: Methods and Techniques by C R Kothari, Gaurav Garg
 - Quantitative research methods in health sciences by Karlee Rajendra
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HUMAN RESOURCE MANAGEMENT

Paper Code: MPM-207

Objective: The course will enhance the understanding of the basic concepts, functions and processes of human resource management and explore the recent trends of HRM. It will help to develop an understanding of HRM systems and their implementation through exploring the practice of Staffing, Training and Development, Performance Management and Compensation.

Unit-1: Overview of Human Resource Management

Context and concept of people management in a systems perspective, organisation and functions of the HR and personnel department, HR structure and strategy; role of government and personnel environment.

Unit-2: Recruitment and Selection

Human Resource Information System [HRIS] , manpower planning, selection, induction & orientation, performance and potential appraisal, coaching and mentoring, HRM issues and practices in the context of outsourcing.

Unit-3: Human Resources Development

Job analysis, Job Description, Job Specification and Person Specification, Employee Relations, Pay, Training and development methods, design & evaluation of T & D programmes, career development, promotions and transfers, personnel empowerment including delegation, retirement and other separation processes, feedback, appraisal.

Unit-4: Financial Compensation

Productivity and morale, principal compensation issues & management, job evaluation, productivity, leave and compensation, employee morale and motivation, stress management, quality of work life.

Unit-5: Legal aspects of HRM

Facilitating Legislative Framework, Trade Unions, Managing Conflicts, Disciplinary Process, Collective Bargaining, Workers Participation in Management, Concept, Mechanisms and Experiences, Industrial relations, labour laws, personnel policy, policy formulation, grievance redressal mechanism, policy against discrimination, legal overview on sexual harassment at workplace, Overview of Career Planning, Employee Separation /Termination, Organizational Culture

Suggested Literature:

- Pareek, U and Rao, TV: Designing and Managing HR Systems, Oxford and IBM Publishing Co. Pvt. Ltd.
 - Famolaro, Joseph J. Handbook of Human Resource Administration, McGraw Hill Inc.
 - Mamoria, C. B.: Personnel Management; Himalaya Publishing House.
 - Decenzo, David and Robbins, S: Personnel and HRM, Prentice Hall of India, 3rd edn.
 - Fundamentals of Human Resource Management, Pearson, 2017, fourth edition, ISBN 9789332584822
 - Decenzo, David and Robbins, S: Personnel and HRM, Prentice Hall of India, 3rd edn.
 - Amrutha, V. N., & Geetha, S. N. (2020). A systematic review on green human resource management: Implications for social sustainability. *Journal of Cleaner Production*, 247, 119131.
 - Mousa, S. K., & Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework. *Journal of Cleaner Production*, 243, 118595.
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MANAGEMENT INFORMATION SYSTEM & IT APPLICATIONS

PAPER CODE: MPM-208

Objective: This subject deals the students to learn various computer applications, databases, and Statistical tools applicable in the pharmaceutical management information system. This subject helps the students to understand about IT infrastructure, develop the end-user IT skills. Understand the concept of a Computer's Input/output devices, the concept of databases, data types, MS Word, MS Excel, MS PowerPoint, array, pointers, string, structures, and files.

Unit-1: Introduction to IT Infrastructure

Types of computer systems, basic computer operations, functional units of computers, Practical data processing application in business, and computer applications in various areas of business. Software: systems software, application software, overview of operating system. Networks: internet, intranet and extranet applications.

Unit-2: Productivity Software

Word Processing: Editing Features, Formatting Features, Saving, Printing, Table Handling, Page Settings, Spell-Checking, Macros, Mail-Merge, and Equation Editors.

Spreadsheet: Workbook, Worksheets, Data Types, Operators, Cell Formats, Freeze Panes, Editing Features, Formatting Features, Creating Formulas, using Formulas, Cell References, Replication, Sorting, Filtering, Functions, Charts and Graphs.

Presentation Graphics Software: Templates, Views, Formatting Slide, Slides with Graphs, Animation, Using Special Features, Presenting Slide Shows.

Unit-3: e- Business and e-Commerce

Business systems: e-Business models - Enterprise e-Business systems -E-Commerce systems – essential e-Commerce processes - electronic payment processes - e-commerce application trends - Web store requirements, m-commerce.

Unit-4: Information systems in business

System concepts – components of an IS –IS resources – fundamental roles of IS applications in business – e-business in business – trends in IS – types of IS – managerial challenges of information technology.

Unit-5: Pharmaceutical Management Information Systems

Overview of a Pharmaceutical Management Information System, Meeting the information needs of users with different Requirements, Typical components of a PMIS, Steps in designing or revising a PMIS, Key issues in designing or revising a PMIS, Implementing a PMIS, From information to action. Case studies related to PMIS

Suggested Literature:

- Rajaraman, V. Introduction to Information Technology, PHI Learning Pvt. Ltd., New Delhi.
 - Turban, Rainer and Potter. Introduction to Information Technology, John Wiley and sons.
 - Sinha, P.K., Priti Sinha. Foundation of Computing, BPB Publications.
 - Management Information Systems. McGraw Hill Education.
 - Management Sciences for Health. *MDS-3: Managing Access to Medicines and Health Technologies*. Arlington, VA: Management Sciences for Health.
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PROJECT MANAGEMENT

Paper code: MPM-301

Objective: To orient, equip and train students in the fundamentals and various techniques used in Project management in healthcare sector, starting from feasibility analysis to final execution and commissioning. The students should be able to evaluate the need for a specific tool and strategy for a particular project. Case study method would also be incorporated along with conventional learning to get acquainted with application of theory in real life scenarios in healthcare sector.

Unit-1: Introduction

Project Management in pharma industry, significance, scope, types, phases, feasibility study, project life cycle, role of project manager

Unit-2: Project Planning

Need and scope, cost estimation, resource allocation, types of resource, phases, multi-tasking, scheduling, organizing human resource, team and teamwork,

Unit-3: Monitoring and Evaluation

Need for Monitoring and Evaluation of pharma projects, tools and techniques, PERT, CPM, PMIS, constraints, control

Unit-4: Project Closure and Audit

Closure reports, audits, phases, project termination, termination strategies, post project reviews, quality control

Unit-5: Contemporary issues in pharma project management

Role of technology in pharma project management, BOT/BOOT, risk management, assessment of environmental impact, Case studies from pharma sector

Suggested literature:

- Project Management: The Managerial Process- Erik Larson, Clifford Gray
- Effective Project Management (Thomson-India Edition)- Clements and Gido

- Projects, Planning, Analysis, Selection, Financing, Implementation and Review (Tata McGraw Hill)- Prasanna Chandra
 - Project Management (Wiley India)- Samuel Mantel, Jack Meredith, Scott Shafer, Margret Sutton and M R Gopalan
 - Project Management for Healthcare (ESI International Project Management Series)-David Shirley
 - Project Management Skills for Healthcare (Taylor & Francis Ltd)- Houston Susan M.
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ENVIRONMENT & DISASTER MANAGEMENT

Paper code: MPM-302

Objective: To make the students aware of various type of disasters and risks. Students should also be oriented towards impact of environmental degradation and climatic change on healthcare status of the population. They should be equipped to assist in conducting hazard analysis and draft the disaster plan with reference to the healthcare sector.

Unit-1: Environmental Systems

Introduction, ecological systems, sustainable development, climate change, pollution and its impact, environmental degradation, national and international scenario.

Unit-2: Disasters

Introduction, history, disaster classification, phases of disaster, environment and disaster interrelationship, risks, hazards.

Unit-3: Disaster Management Process

Disaster preparedness and response, hazard analysis, community participation, supply chain management in disasters, national and international agencies. Natural Disasters and Management: Understanding, types, Coping with Tsunami and floods, Earthquake Mitigation, disaster Medicine.

Unit-4: Man-Made Disasters and Management

Understanding, types, coping with Man-made disasters, Rehabilitation, Reconstruction and Recovery.

Unit-5: Disaster management policy

Concept and significance of disaster management policy: Policy development, option approaches in disaster management, Essential components, formation execution of disaster management policy, Response essential component, Disaster response plan, community participation and activation of emergency preparedness plan, need and damage assessment.

Suggested literature:

- Safety & Risk Management- Shailendra K. Singh Mittal Publishers.
- Safety, Security & Risk Management- J.H. Diwan , APH.

- Text Book of Critical Care- Stephen Ayers & Garmvik, Holbook and Shoemaker
 - Quality Management – Janakiraman & Gopal
 - Total Quality Management - BIS Monographs
 - Emergency Medical Services & Disaster Management – By D.K. Dave & Shakti Gupta – Jaypee Brothers, New Delhi.
1. Risk Management in Health Care Institutions: A Strategic Approach- Florence Kavalier, Allen D. Spiegel- Jones & Bartlett Publishers
 2. Risk Management Handbook for Professionals- Joseph S Sanfilippo, Clayton L Robinson- CRC Press / Taylor & Francis Group
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INTERNATIONAL PHARMACEUTICAL MARKETING

PAPER CODE: MPM – 303

Objective: The students will be able to understand the basics of pharmaceutical marketing, the strategic marketing process and planning process. The course will help the student to understand the changing pharmaceutical marketplace and define various factors affecting them. The course provides insight about the importance of marketing research at national and international level.

Unit-1: Global Marketing

Introduction to Global Marketing, the Global Marketing Environment, Basis of international trade, theories of international trade, Difference between domestic and international marketing, Regional Market Characteristics and Preferential Trade Agreements. EPRG framework, Scanning of international environment: Social, political, legal, economic, cultural environment for overseas markets.

Unit-2: Global Information Systems and Market Research

International market Segmentation, Targeting and Positioning. Global Market Entry Strategies: Licensing, Investment and Strategic Alliances, Global Marketing Channels and Physical Distribution, Factors affecting international trade: Methods of entry, WTO/GATT, regional agreements commodity agreements.

Unit-3: Brand and Product Decisions

Decisions in global marketing, Identifying new products, international product planning, and product design strategy, adoption and diffusion of new products, branding strategies. Pricing Decisions; Pricing an international product, transfer pricing, exchange rates and its impact, factors affecting international prices.

Unit-4: Global Marketing Communications Decisions

International Advertising and Public Relations, Advertising regulations, Sales Promotion, Personal Selling and Special Forms of Marketing Communication, global media decisions, global advertising regulations.

Strategic Elements of Competitive Advantage, Leadership, Organization and Corporate Social Responsibility.

Unit-5: Export documentation

Documentation and procedures, Importing, Exporting and Sourcing, Foreign trade policy: EXIM Policy

Suggested literature:

- Pharmaceutical Marketing: Principles, Environment, and Practice by Mickey Smith and Colleen Harris
 - Pharmaceutical Marketing: Strategy and Cases by Brent L. Rollins and Matthew Perri
 - Global Pharmaceutical Marketing: A Practical Guide to Codes and Compliance by John A. Bermingham
 - International Marketing by P.R. Cateora, Mary. C. Gilly, John L. Graham
 - International Marketing Management by Miracle and Albaum
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NATIONAL HEALTH PROGRAMMES AND POLICY ANALYSIS

Paper code: MPM-304

Objective: To provide an orientation of healthcare delivery system in India and the journey of the last 7 decades in reference to National and State level health programmes. The students would be made aware about the role of government in healthcare, current healthcare policies and the amendments from time to time.

Unit-1: Introduction to National Health Programmes

Healthcare delivery system in India, primary, secondary and tertiary levels of healthcare, healthcare scenario - past, present and future, Need and objectives, journey so far, National Health Policy, National Health Mission.

Unit-2: Communicable and Non-Communicable disease related Programmes

National Health Programmes related to communicable diseases, e.g. Malaria, Filariasis, Tuberculosis, Leprosy, AIDS and STD.

National Health Programmes related to Non Communicable diseases, e.g. cancer, blindness, diabetes, cardiovascular diseases, mental health

Unit-3: Public health system

Reproductive and child health programme (RCH), Integrated Child Development Scheme, water supply and sanitation, minimum needs programme, environmental and occupational hazards, District Health Organization.

Unit-4: Healthcare Policy and Process –Determinants of health, Stakeholders of Health, Policy defined, Policy making environment, Existing policies v/s Field related resource allocation, Formulating new healthcare policies, Role of NGOs in Healthcare, International agencies in healthcare.

Unit 5: Health Policy Analysis

Introduction to analysis of contemporary health policy, issues; frameworks for conducting analysis of health policy, process and content; qualitative and quantitative methods, for policy analysis; how to present policy-relevant information effectively

Suggested literature:

- Foundation of Epidemiology – Gilienfeld
 - NFHS Reports
 - Textbook of community medicine: V. K. Mahajan
 - Population studies – Asha Bhendre
 - Hospital Management module- NIHFV, New Delhi
 - Hospitals Facilities planning and Management, Tata Mc Grill- G.D Kunders -
 - Hospitals and Nursing Homes-Planning, Organizations and Management – JP Publishers-
Tabish
 - Textbook of Preventive & Social Medicine- K. Park
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MATERIALS & SUPPLY CHAIN MANAGEMENT

Paper code: MPM-305

Objective: This paper focuses on planning, purchasing and maintaining supplies and medical equipment. Students will be exposed to various SOPs that needs to be followed while activities are carried out. Various inventory management tools and techniques will also be taught in this paper. Recent trends and use of Information Technology for efficient Supply Chain Management, would also be discussed in this.

Unit-1: Introduction

Introduction to logistics and its interface with production and marketing: - measures, of logistics. Supply chain management. Logistics systems analysis and design, International logistics management. Introduction to Supply Chain Management: Fundamentals; SCM processes-plan, source, make, deliver, return; SC decision areas- facilities, inventory, transportation, information; Operations strategy and SC designs.

Unit-2: Supply Chain Network

Planning and Designing a Supply Chain Network: Demand forecasting in SC; Managing demand and supply in SC; Decisions in SC network design; Factors influencing network design.

Unit-3: Materials and Inventory management

Materials and Inventory management in Supply Chain: Materials Management: Meaning and scope, Objectives, Importance, Advantage, Functions of Materials manager; Materials requirement planning: Need and definition, factors affecting planning- external and internal, Materials identification and standardization: Classification of materials, Need of classification, Advantages, codification systems and objectives Purchasing & supply chain scheduling, Purchase and purchase functions, Principles, Procedures and Systems, Make or buy decisions, Vendor rating, Negotiation, Buyer-seller relationship Revision of inventory fundamentals; Basic EOQ models Logistics and control. Packaging and material handling. Logistics future directions. Warehousing: - warehousing and distribution centers, their location and transportation systems, Dispatch and routing decisions and models, Returns management in pharmaceutical sector; Customer service focus; Order fulfillment.

Unit-4: Distribution and Transportation Networks

Distribution network in SC and its performance measures; Types of distribution network; Selection of a distribution network; Role of transportation in SC.

Unit-5: Managerial issues

Financial issues, Information Technology and Coordination in SCM: Financial flow in SC; Use of IT in SC; E-business in pharmacy and its impact on supply chain's responsiveness and costs; Partnering and coordination in SC; Outsourcing decisions in SC; Communication flow decision.

Suggested literature:

- Chopra, S., Meindl, P., Supply Chain Management: Strategy, Planning, and Operation, PHI.
 - Gaither N. and Frazier, G., Operations Management, Thomson.
 - Krajewski, L.J. and Ritzman, L.P., Operations Management: Processes and Value Chains,ed.vii, First impression, Pearson Education.
 - Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E., Designing and Managing the Supply Chain, TMH.
 - Ballou, Ronald, “Business Logistics/ Supply Chain Management”, Pearson education
 - ICFAI Center for Management Research, “ Supply Chain Management
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CONSUMER BEHAVIOUR

PAPER CODE: MPM-306

Objective: Students would learn to identify and define market segments based on consumer characteristics, needs, and preferences. They also explore how companies target specific segments with tailored marketing strategies and develop an understanding of the importance of market segmentation in effective marketing campaigns. Students would also be familiarized with various research methods used to study consumer behavior. Students would also gain insight into the different stages of the consumer decision-making process

Unit-1: Introduction

Introduction to Consumer Behaviour and Consumer Research Introduction to Consumer Behaviour, Consumer Research, Consumer Behaviour and Marketing Strategy

Unit-2: Internal Influences

Internal Influences on Consumer Behaviour Motivation and Involvement, Personality, Self-Image, and Lifestyle, Consumer Perception, Consumer Learning, Consumer Attitude Formation and Change, Communication and Consumer Behaviour

Unit-3: External Influences

External Influences on Consumer Behaviour The Influences of Culture on Consumer Behaviour, Subcultures and Consumer Behaviour, Social Class and Consumer Behaviour, Reference Groups and Family, Consumer Influence and the Diffusion of Innovations

Unit-4: Consumer Decision Making

Consumer Decision Making-Process, Consumer Decision Making Outcomes

Unit-5: Consumer Behaviour and Society

Consumer rights, Deceptive advertising and Consumer education and consumerism.

Suggested literature:

- Leon Schiffman, Leslie Kanuk, and Mallika Das. Consumer Behaviour. Pearson Education. ISBN: 0131463047
- Consumer Behaviour by Engell and Blackwell

- Consumer Behaviour by Walters
 - Consumer Behaviour by Holleway, Mattelshaedit and Venkatesan
 - Brand Medicine, The Role of Branding in Pharmaceutical industry by Tom Blackett & Rebecca Robins
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MERGERS AND ACQUISITIONS

PAPER CODE: MPM- 307

Objective: The primary objective is to provide students with a solid foundation in the concepts, principles, and processes of mergers and acquisitions. This includes understanding the differences between mergers and acquisitions, various types of M & A transactions and the reasons behind pursuing M&A activities. It aims to equip students with a comprehensive understanding of the strategic, financial, legal, and operational aspects of M & A transactions.

Unit-1: Corporate Restructuring

Introduction, types and concepts-Mergers and Acquisitions, Stock Splits, Shares Buyback, Leveraged Buy-Out (LBO), Joint Ventures, Management Buy-Out (MBO), Management Buy- In (MBI), Strategic Alliances, Reverse Merger, Sell-off, Divestitures, Slump Sale, Equity Carve out, Franchising, Holding companies, Going Private, Liquidation; Case studies of pharmaceutical industry.

Unit-2: Types of Mergers and Theories

Economic Rationale for Major Types of Mergers-Horizontal Mergers, Vertical Mergers, Conglomerate Mergers, Concentric Mergers, Framework for Analysis of Mergers Efficiency Theories of Mergers: Differential Efficiency, Operating Synergy theory, Pure Diversification theory, Strategic Realignment to Changing Environments; Concept and types of Synergy; Agency Problems; Hubris Hypothesis; Case studies of pharmaceutical industry.

Unit-3: Takeover

Concept and Types of Takeovers, Takeovers as a Solution to Agency Problems, Anti-Takeover strategies; Case studies of pharmaceutical industry; Case studies of pharmaceutical industry.

Unit-4: Valuation of Organization

Concept of Valuation, Bond Valuation, Capital Budgeting: Introduction and techniques of capital budgeting, Cost of capital: meaning and significance of cost of capital; calculation of cost of debt, preference capital, equity capital and retained earnings.

Unit-5: Integration Issues

Impact assessment of mergers on companies, changes to human resource requirements in post-merger situation, layoffs and HR restructuring, marketing led M&A, post-merger changes in marketing methods and channels.

Suggested literature:

- Copeland T, Valuation, “Measuring and Managing the Value of Companies”, McKinsey & Company, John Wiley & Sons
 - Reed F S & Lazoux AR, “The Art of Mergers & Acquisitions”, Irwin Professional Publishing
 - Bhatia N L & Sampat Jagruti, “Takeover Games”, Taxmann Publishers
 - Weston J F & Waver Samuel C, “Mergers & Acquisitions”, Mc Graw Hill
 - Verma J C, “Corporate Mergers, Amalgamations & Takeovers” Bharat Publications
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BASICS OF PHARMACOLOGY & TOXICOLOGY

PAPER CODE: MPM- 308

Objective: To enable students to gain an understanding of basic concepts of Pharmacology and Toxicology. The course aims to provide knowledge about the therapeutic benefits and mechanisms of drug action, the adverse effects and risks of drugs and environmental substances. The student will be able to understand various aspects of chemical interactions, from the molecular to the whole organism level, and aim to improve health and alleviate disease.

Unit-1: Historical Aspects of Drug Discovery

The Pioneers in Pharmacology, Indian Contributions to Pharmacology, History and Contributions of Central Drug Research Institute (CDRI) in Pharmacology, General Pharmacological Principles.

Unit-2: Pharmacodynamics

Sources and Nature of Drugs, Principles of Drug Administration, Routes of Drug Administration, Mechanisms of drug absorption, Phases of Drug Distribution, Drug Metabolism and Drug Elimination, Quantifying Pharmacodynamics.

Unit-3: Pharmaco-vigilance & Pharmaco-genomics

Causality Assessment Scales, Software Related to Pharmaco-vigilance, Mechanisms of Drug Interactions, Pharmaco-genomics Research in India: Current Status.

Unit-4: Pharmaco-epidemiology and Pharmaco-economics

Definition of Pharmaco-epidemiology, Drug Utilization Studies, Types of Drug Use Information, Perspectives in Pharmacoeconomic Analysis, Methods of Pharmacoeconomic Evaluation.

Unit-5: Toxicology

Definitions, Occupational (Industrial) Toxicology, Analytical Toxicology, introduction to Stem cell therapy and Gene therapy, Recombinant DNA Technology.

Suggested literature:

- Introduction to Basics of Pharmacology and Toxicology Volume 1: General and Molecular
 - Reddy KN, Murty OP: The essentials of forensic medicine and toxicology. Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.
 - Pharmacology: Principles of Drug Action. Gerard Marshall Raj & Ramasamy Raveendran.
 - Tatro DS Drug interactions. In: Herfindal ET, Gourley DR (eds) Textbook of therapeutics: drug and disease management, 7th edn. Williams & Wilkins, pp 35–50
 - Chauhan N, Moin S, Pandey A, Mittal A, Bajaj U Indian aspects of drug information resources and impact of drug information centre on community. J Adv Pharm Technol Res 4:84–93
 - Pillay VV Modern medical toxicology book. Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.
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SUMMER TRAINING PROJECT

MPM- 309

Objective: To enable students to get oriented with the various domains of Pharmaceutical Management sector. They would be able to correlate the theoretical concepts with the practical aspects. Summer Internship is a mandatory requirement for the program and it should be undertaken for 6-8 weeks after the end of 2nd semester in a reputed organization. The student would work under the guidance of one faculty mentor and one or more industry mentors to conduct a project study and prepare a report for the same. The evaluation would be on the basis of report and viva-voce based on the project undertaken.

QUALITY ASSURANCE AND QUALITY CONTROL

Paper Code: MPM-401

Objective: To enable students to gain an understanding of some basics of Quality Assurance in Pharma sector in terms of quality tools and techniques with the advancement in Science and Technology. The students will be able to understand the quality concepts and philosophies. The course aims to provide knowledge about total quality management and evaluation process in pharma sector.

Unit-1: Quality Concepts and Quality Philosophies

Definition of Quality, Concepts and Philosophies of Quality, application to healthcare industries, principles and objectives of Quality Assurance in Pharmaceutical Management, Components of Quality Assurance, Good Manufacturing Practice and Quality Control, requirement of quality patient care.

Unit-2: Facilities planning

Product selection and design, service design Layout planning Product layout, process layout, fixed position and group layout, layout design, Relationship-based and load-distance cost matrix.

Unit-3: Drug and Pharmaceutical Plants

Building layout, equipment layout, regulatory requirements for the same, GMP and cGMP, Resources Requirement Planning, Capacity Planning, Labour Planning.

Unit-4: Production planning and control

Aggregate production planning, Materials Requirement Planning, Operations Scheduling and Production activity control for mass manufacturing, batch processing, projects, and job shop production.

Unit-5: Quality Control & Management

Quality control functions, Acceptance sampling, Statistical Process control, Application of control charts, Operating characteristic curve and its applications, Total Quality improvement

Suggested literature:

- Pharmaceutical Quality Assurance. (2006). India: Nirali Prakashan.
- Aswathappa, K. (2009). Production and Operations Management. (n.p.): Himalaya Publishing House.
- Bhusari, K. P., Goupale, D. C., Shivhare, U. D. (2018). Pharmaceutical Quality Assurance and Management. India: Bsp Books Pvt. Limited.
- Ebert, R. J., Adam, E. E. (1989). Production and Operations Management: Concepts, Models and Behavior. United States: Prentice Hall.

- Graham N.O. (1995). *Quality in Health Care: Theory, Application, and Evolution*, First Edition, USA, Aspen Publications.
- McLaughlin, P.C and Kaluzny, D.A. (2006), *Continuous quality improvement in healthcare*, Third edition, Canada , Jones and Bartlett publishers.

CORPORATE GOVERNANCE & STRATEGIC CSR

Paper Code: MPM-402

Objective: This course is designed to introduce the students to corporate governance, the various models, and theories. It will help them to understand the global as well as the Indian context. This course provides the student with the opportunity to understand the shared value among organizations, employees, customers, shareholders, and community members. Emphasis will be laid on corporate social responsibility (CSR) of organizations, its scope and importance. Finally, incorporation of CSR into business strategy will be explored and their impact on various areas.

Unit-1: Introduction of Corporate Governance

Defining Corporate Governance. Issues, Need of Corporate Governance Code. Models & Theories of Corporate Governance. Corporate Governance and Integrity, Ethical Behaviour, Disclosure, Transparency and the Role and Responsibilities of the Board. Corporate's Responsibility and Accountability to its Board of Directors, Shareholders and other Stakeholders.

Unit-2: Corporate Governance in the Global Context

Corporate Governance System Worldwide, World Bank on Corporate Governance, Sir Adrian Cadbury Committee (UK), 1992, OECD Principles of Corporate Governance, 1999; and Sarbanes-Oxley (SOX) Act, 2002 (USA). McKinsey Survey on CG. Corporate Governance failures with examples (Enron, World Com, Satyam Computer, etc.)

Unit-3: Corporate Governance in the Indian Context

Development and critical appraisal of corporate governance in India (Indian Committee and guidelines). Indian model of Corporate Governance. Regulatory Frame of CG in India (Companies Act 2013, SEBI Clause 49, etc.). Corporate Disclosure and Investor Protection in India.

Unit-4: Corporate Social Responsibility

Concept, scope and importance. Sociology of economics: Business – Society interface. (As per Companies Act 2013) Social Responsibility of Corporates, Corporate Social Reporting. Steps to attain CSR. Global Practices: International Standards and Codes. Prestigious awards for CSR.

Unit-5: Strategic Corporate Social Responsibility

Merging CSR into Business Strategy, Advantages of Strategic CSR. Corporate Social Marketing and Promotion. CSR and Employee Engagement. Best practices of CSR in India & Abroad. Future of CSR in India.

Suggested literature:

- Corporate Social Responsibility: Strategy, Communication, Governance. (2017). India: Cambridge University Press.
 - Corporate Governance and Business Ethics: Text And Cases. (2005). India: Macmillan India Limited.
 - Business Ethics & Corporate Governance, by A.C. Fernando
 - Lee, N. R., Kotler, P. (2011). Corporate Social Responsibility: Doing the Most Good for Your Company and Your Cause.
 - Mallin, C. (2013). Corporate Governance. United Kingdom: OUP Oxford.
 - Blowfield, Michael, and Alan Murray, Corporate Responsibility, Oxford University Press.
 - Perrini, F. (2006). Developing Corporate Social Responsibility: A European Perspective. United Kingdom: Edward Elgar Publishing Limited.
 - Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
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ENTREPRENEURSHIP MANAGEMENT

Paper code: MPM – 403

Objectives: This course aims to provide a basic understanding about Entrepreneurship and management. Through Entrepreneurial management students will learn the practice of giving the innovation inherent in entrepreneurship a more solid management structure. They will be able to start a career as new entrepreneurs and have ideas for businesses they want to start, or products they want to create. This course will also teach them how to manage a new venture and manage an existing company which requires different methods and principles. Through entrepreneurial management, they can learn to manage a growing business without limiting the creativity or passion of a startup.

Unit-1: Entrepreneurship

Concept/ Meaning, Need, Competencies and/ Quality of an Entrepreneur, scope, and philosophy; Prize Enterprise, Entrepreneurial motivation, Barriers to entrepreneurship, Women entrepreneurship, Intrapreneurship becoming an Intrapreneur, Major approaches to corporate entrepreneurship

Unit-2: Entrepreneurial Support System

Support system, District Industry Centres (DICs), Commercial Banks, State Financial Corporations.

Unit-3: Market Research and Opportunity Identification (Business Planning)

Setting up a Small-Scale Industry, Procedure for Registration of Small-Scale Industry, Assessment of Demand and Supply in Potential Areas of Growth, Consideration in Product Selection, Data Collection for setting up small ventures.

Unit-4: Project Report Preparation

Introduction, Project viability, Appraisal, Project Management Communication, Starting a new venture and business plan, new ventures: marketing strategy, operations, financial management, HRM, Sources of Finance, managerial aspects of small business.

Unit-5: Contemporary issues

Intellectual Property Rights, Community, and entrepreneurship. Social determinants of entrepreneurial growth Classification of entrepreneurs.

Suggested literature:

- Naidu, N. V. R. (2013). Management and Entrepreneurship. India: I.K. International Publishing House Pvt. Limited.
 - Entrepreneurship Development and Management. (2009). India: Laxmi Publications Pvt Limited.
 - Desai, V. (2007). Dynamics of Entrepreneurial Development and Management. India: Himalaya Pub.
 - Entrepreneurship Development and Small Business Enterprises (3rd Edition) | By Pearson. (n.d.). (n.p.): Pearson Education India.
 - Desai, V. (2008). Small-scale Industries and Entrepreneurship in the Twenty-first Century: Spirit of Enterprise. India: Himalaya Publishing House.
 - Gordon, E., Natarajan, K., Arora, A. (2009). Entrepreneurship Development. India: Himalaya Publishing House.
 - Entrepreneurial Development by S.L. Gupta and Arun Mittal
 - Entrepreneurial Development by S S Khanka
 - Business Innovation by Praveen Gupta
 - Launching New Ventures by K. Allen
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CLINICAL RESEARCH MANAGEMENT

Paper code: MPM-404

Objective: This paper will help the students to understand the drug development process and give them an insight into the Research and Development. It will also help students to understand preclinical studies and the different phases of clinical trials. ICMR and WMA guidelines for clinical trials will also be explained to the students. Also, it will enable them to examine the Post Marketing Surveillance and Quality Assurance in clinical research. This paper will also talk about Safety reporting and Pharmacovigilance, Clinical Data Management, Project Management in Drug Development, and other Regulatory Aspects in Clinical Research.

Unit-1: Drug Development

Drug Development Process, Introduction to Research in Drug Development, Purpose of Drug Development, Drug discovery process, Preclinical studies, Sources of Drugs, Schedule of Preclinical Studies.

Unit-2: Clinical Trials

Trials and Ethics, Objective of Clinical Trials, Clinical Trials guidelines, ICMR and WMA guidelines for clinical trials, Steps/ Phases of Clinical trial process, Stakeholders in clinical trials, Responsibilities of stakeholders, Evaluation of G.C.P Guidelines, Selection of subjects, ICH-GCP guidelines for conduct of a trial

Unit-3: Quality Assurance

Post marketing Surveillance and Phase IV stress developing a protocol, SOP's, Quality assurance in Clinical Research, Non-compliance, Misconduct and fraud

Unit-4: Safety

Reporting and Pharmacovigilance, Clinical trial documents, Site and Investigator Selection, Subject recruitment and informed consent, Adverse drug reaction and monitoring, Pharmacoeconomics (An introduction)

Unit-5: Clinical Data Management

Project Management in Drug Development, Audit of Clinical Trials, Statistics in Clinical Research, Regulatory aspects in Clinical Research.

Suggested literature:

- Trevor, A. J., Katzung, B. G. (2020). Basic and Clinical Pharmacology 15e. United States: McGraw Hill LLC.
 - Laurence, D. R., Bennett, P. N., Brown, M. J. (1997). Clinical Pharmacology. Singapore: Churchill Livingstone.
 - Brown, M. J. (2018). Clinical Pharmacology - Inkling Enhanced E-Book. Netherlands: Elsevier Health Sciences.
 - Wells, C., Pfeiffer, J. (2017). A Practical Guide to Managing Clinical Trials. United States: CRC Press.
 - Gupta, S. (2011). Drug Discovery and Clinical Research. India: Jaypee Brothers Medical Publishers Pvt. Limited.
 - Grahame-Smith, D. G., Aronson, J. K. (2002). Oxford Textbook of Clinical Pharmacology and Drug Therapy. United Kingdom: Oxford University Press.
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DISSERTATION

Paper Code: MPM-405

Objective: To enable students to get oriented with the specific area of Pharmaceutical Management. They would be able to correlate the theoretical concepts with the practical aspects. Dissertation is a mandatory requirement for the program and it should be undertaken for 10-12 weeks during the 4th semester in a reputed organization. The student would work under the guidance of one faculty mentor and one or more industry mentors to conduct a project study and prepare a report for the same. The evaluation would be on the basis of report and viva-voce based on the project undertaken.
