Course
MBA (Pharma)

Semester-I

SN	Course Name	Credits
1	Pharma Sector & Management	2
2	Managerial Accounting	2
3	Managerial Computing	2
4	Pharma Sector Business Environment	2
5	Probability and Statistics	2
6	Managerial Economics	2
7	Managerial Communication	2
8	Pharmaceutical Marketing Management	3
9	Operations Management	3
10	Field Posting and seminar	2
	Total	**22**

Semester-II

SN	Course Name	Credits
1	Business Research Methods	3
2	OB & HRM	3
3	Management Information Systems	2
4	Data science and analysis	2
5	Pharmaceutical Advertising and Sales Promotion Management	2
6	Intellectual Property Rights in Pharma	2
7	Financial Management	3
8	Ethical Issues in Pharmaceutical Management	1
9	Regulatory affairs in pharmaceuticals	2
10	Summer Internship	2
	Total	**22**

One full / half day in a week to be kept for guest lectures, industry interaction, field visits etc.

Semester I		
Course Name	**Focus**	**Indicative contents to be covered**
Pharma Sector & Management (2 credit)	The focus of this course is to provide an overview of Pharma Sector and managerial issues faced by Pharma sector Managers. In this course, practising managers will be invited to share details about their work and organization.	1. Overview of the way in which Pharma sector is organized 2. Difference types of organizations and work done by them in the pharma sector 3. Managerial Challenges faced by the Pharma sector managers
Managerial Accounting (2 credit)	The focus should be on introducing the concepts of accounting and their use as a management lever	1. Basic accounting: Micro- and Macro-economics. Concepts and conventions underlying preparation of financial statements; Accounting equations; Accounting Processes and accounting policies; Revenues and costs matching and inventory valuation; Preparation of final accounts; Trading account, profit and loss account, balance sheet. Depreciation accounting; Intangible assets accounting. Understanding published annual reports including funds flow statement. Accounting for price- level changes and human resources. Social and environmental accounting. 2. Basic cost concepts: Cost drivers, how and why costs are classified. Systems of cost determination. Cost analysis for decision -making; Marketing and production decisions like deletion or addition of products, optimal use of limited resources, pricing, make or buy, joint product costs etc. 3. Cost analysis for control: Standard costing; Variances- materials, labour, overheads, sales and profits, budgeting and control; Budget

		preparation including master budget and zero- base-budgeting. Contemporary issues in management accounting; Value chain analysis, activity based costing, quality costing, target and life cycle costing.
Managerial Computing (2 credit)	The focus should be on making participants understand the use of spreadsheet, Visual Basic, and Access as a management tool. These tools are at a disposal to each and every manager. After this course, students will be able to use these tools for analysis of data in financial management, marketing management, and other courses.	1. Understanding spreadsheet, mathematical functions, logical functions, Lookup functions, reference functions, Array functions, Data Tables, Goal Seek, Sorting, Filtering, Pivot Tables, String, Date and Time Functions. 2. Introduction to Visual Basic, flowchart, Basic coding in Visual Basic for data analysis including debugging, Control structures, iterative control structures 3. Introduction to Access, Basics of data storage and analysis using Microsoft Access.
Pharma Sector Business Environment (2 credit)	The focus should be on providing the overview of pharma sector from managerial perspective such as Evolution of pharma sector in India, legal boundaries within which pharma sector operates, Challenges faced by the sector etc.	1. Overview of the history of evolution of Pharma Sector in India (from the days of Vedas preparing medicines at home to the current industrial production day), Major forces that impact the development of the sector, 2. Legal guidelines/regulations guiding Pharma sector in India, policy for R&D, Technology Transfer etc. The critical elements of political environment constitution provisions affecting business in India; The preamble, directive principles of state policy and fundamental rights, the economic roles of the government, growth and control of corporate sector in India. Political dimensions of doing business in India, changing dimensions of legal environment in India. 3. Impacts and opportunities from globalization: Multinational Corporation,

		foreign collaboration and Indian business, nonresident Indian and corporate sector, World Bank, IMF polices and India, trade barriers, foreign trade policies, the technological environment in India, policy for research and development, technology and economic development, appropriate technology and problems of technology transfer. 4. Ethics, consumers right, consumerism and business.
Probability and Statistics (2 credit)	Focus should be on making participants understand the basis of probability and statistics. These concepts will be used in Operations Management and Quantitative methods for decision making	1. Frequency distribution; Graphical representations; Measures of central tendency (mean, median, mode, quartiles etc.); Measure of dispersion (range, variance, standard deviation). Probability- introduction ideas (probability rules, statistical independence, statistical dependence, joint probability, marginal probability). a)Notion of random variable - expectation. b) Discrete distribution- Binomial, Poison. c) Continuous distribution- normal, exponential, uniform, Delete this. 2. Sampling design: sampling Delete error, random sampling, systematic sampling, sampling with probability proportions of size, stratified sampling, cluster sampling and multistage sampling. Estimation- point estimation and interval estimation. Hypothesis testing- one sample test, two sample test, z test, Chi Square test.. 3. Simple regression and correlation: Estimation using regression line. Correlation analysis. Introduction to multiple and partial correlation. Time series- variations in time series, trend analysis, cyclical variation, seasonal variation, irregular variation. Index numbers- unweighted aggregates index, weighted aggregates index. Average of relative methods, quantity and value indices.
Managerial Economics (2 credit)	The focus should be on teaching micro and macro economics with	1. The nature and scope of managerial economics, economic theory and managerial economics. Managerial economist's role and responsibilities. The demand theory and analysis. The determinants of

	relevance to the Pharma managers	demand. Demand elasticities - price, income, cross; Using elasticities in managerial decision making. 2. The theory of consumer choice. The cardinal utility approach. The indifference curve approach. The revealed preference and the theory of consumer choice under risk. 3. The production theory and estimation. The production function. Production with one and two variable inputs. Three stages of production. Economics of state and scope. Estimation of production function. The Cob Douglas and CES function. Use of time-series. The cost theory and estimation. The economic concept of cost. The short and long run cost functions. Theories of cost. Estimation of cost functions. 4. Market structure and degree of competition. Perfect competition. Profit maximizing output in the short and long run monopoly. Profit-maximizing price and output in the short run and long run. Monopolistic competition. Price and output determination in short and long run. Product variation and selling expenses. Behaviour. 5. Oligopoly: Characteristics, price rigidity, interdependence. The Cournot Model, Cartels and Collision. Price leadership. The behaviour theory of the firm and managerial theory of the firm. 6. Price Practices: Pricing under multiple products, price discrimination. International price discrimination and dumping. Transfer pricing. 7. The theory of distribution. Determination of factor prices, rent, wages, interest and profit.

Managerial Communication (2 credit)	The focus should be on making participants understand the process of managerial communication and decision making. This course should aim at making students understand how to write managerial reports, memos, letters, press release etc. The course should also help in sharpening participant's skills for spoken communication for business managers, for e.g. giving presentations, interviews, meetings etc.	1. Principles of and Barriers to Communication, Listening and Feedback, Communicating Across Cultures, persuasion, Interviews (both giving and taking interviews), Business Presentation, Meetings & Group Discussions, Making effective phone calls and writing emails, online communication in a professional context, Conducting productive meetings, future trends in professional communication 2. Introduction to the purpose of writing managerial reports, memos, letters, press release etc. 3. Introduction to the stages of formal managerial decision-making process - situation analysis, options generation, identification of criteria, and systematic evaluation of options leading to a recommendations. 4. Use of case studies, caselets etc. to make students write managerial reports, memos, letters, press release etc.
Pharmaceutical Marketing Management (3 credit)	The focus should be on providing understanding of marketing management in pharmaceutical domain	1. Marketing tasks and philosophies: Marketing systems and pharma marketing environment, 2. Consumer Pharmaceutical market and buyer behaviour. 3. Strategic marketing process: market segmentation, market measurement and forecasting. 4. Strategic planning in pharma marketing: Situation analysis, developing marketing objectives; Determining positioning and differential advantage, selecting target markets designing marketing mix for target market. 5. Product decisions: Product classification, product life-cycle strategies, 6. Branding, packaging and labeling. 7. Pricing decisions: Pricing methods and strategies. 8. Distribution decisions: Importance and functions of distribution

		channels, distribution channel members. 9. Promotional Decisions : Promotion mix elements.
Operations Management (3 credit)	The focus should be on making participants understand the management of shop-floor of a pharmaceutical manufacturing company	1. Product Design Process, Economic Analysis of Product Development Process, transformation processes and Operations Strategy for Business Excellence. Quantitative techniques and softwares 2. Facility Location and Layout Planning, Facility Location Planning, Factor & Location Ratings, 3. Operations Scheduling in manufacturing, R&D, Quality context. 4. Inventory Management models, Types of inventory, Selective Inventory Control: ABC, VED, FSN Analysis; Q and P Models, Economic Order Quantity model with safety stock 5. Process Analysis, Process redesign using BPR, Capacity analysis, optimization of profits 6. Regulatory approval planning
Field posting (2 credit) (For eg. In pharma companies, pharmacy section of hospitals, Pharma retailer/distributor, windshield tour of pharma parks, api pharma companies, biotech companies, cro companies, formulation companies, drug discovery companies, data analytics clinical trial companies, bioequivalence centres etc) of students for 2 weeks. – In this component, participants should get an exposure of how things are being carried out in practice, should related the practice with things covered in class. At the end of field posting, participants make a public seminar for evaluation purpose.		
Semester II		
Business Research Methods (3 credit)	The focus should be to provide an understanding of research methods for business managers. Participants need to know this before going for internship.	1. Role of Business Research. Nature, Scope and Type of Research 2. Introduction to qualitative research; Overview of qualitative research methods, Qualitative research tools and fieldwork, Qualitative analysis and reporting 3. Principles of quantitative research 4. Types of Research Design 5. Formulating Research Problem, Review of secondary data, Secondary data collection method, Key Word Search using search

		engine 6. Qualitative data collection and analysis, coding, theme generation, 7. Quantitative data collection and analysis Defining variables, Operationalizing construct, Types of Scales, Comparative and Non comparative Scaling techniques, Questionnaire Design and use of tools such as Google Docs/Survey Monkey etc, Measuring Reliability and validity of Construct, Data Preparation Editing and Coding, Choosing appropriate Statistics and making inferences 8. Individual project focused on application of market forecasting/assessment/drug pricing analysis/ Marketing and promotional effectiveness assessments/ Consumer Behaviour etc
OB & HRM (3 credit)	The focus should be on making participants understand Organization Behaviour & Human Resource Management and associated challenges in Pharma sector	1. Foundations of organisational behaviour: Understanding behaviour in organisations, OB models 2. Introduction to Individual. 3. Motivation: Needs, contents and processes; Maslow hierarchy of human needs, Herzberg two factor theory of motivation, Vroom expectancy theory. 4. Group processes 5. Importance of values: Types of values, attitudes and consistency (cognitive dissonance theory). 6. Group dynamics and teams. 7. Leadership: Trait theories, behavioural theories, Ohio state studies, university of Michigan studies, the managerial grid, contingency theories; Hersey and Blanchard situational theory and path goal theory. 8. Transactional analysis. 9. Organisational culture: What is organisational culture, what does culture do, creating and sustaining culture, how employees learn culture. 10. Organisational change: Forces of change, resistance to change,

		approaches to managing organisational change. 11. Conflict management: Transitions in conflict thought, functional Vs dysfunctional conflict, the conflict process. 1. Introduction to HRM and its strategic importance 2. Recruitment and Selection 3. Developing People in organization 4. Performance Management Systems, 5. Compensation and Reward Management, 6. Appraisal, 7. Leadership Development, Succession Planning, Ethical issues in HRM
Management Information Systems (2 credit)	The focus should be on making participants understand the use and management of information technology in the Pharmaceutical sector	Analysis of Information System Requirements Process Modelling, Examining Business Processes Developing IS/IT Architecture, IT Implementation Understanding Causes of IS Failures knowledge management, ERP, Social Networking, Strategic IT Transformation
Data science and analysis (2 credit)	The focus of this course will be on making students familiar with the use of tools and techniques to derive information from large data sets.	Basics of Data, Data Modelling, Data visualization, data mining, unstructured data analytics and machine learning, Data Warehouse & BI Systems, Cloud computing and big data, bioinformatics and helthinformatics, and image analysis and application to analytics.
Pharmaceutical	The focus should be on	Sales promotion objectives, sales promotion in pharma sector; Advertising,

Advertising and Sales Promotion Management (2 credit)	making participants understand how advertisement and sales promotion campaigns needs to be carried out, How to measure their impact etc.	personal selling, public relations and sales promotion of pharma products, sales promotion and consumer behaviour, Sales promotion budget, evaluation guidelines Advertising objective, how advertisement works, budget allocation, Developing advertising objectives, Introduction to Integrated Marketing Communication (IMC), Consumer Behaviour & IMC, Media Strategy and Planning: - Media Plan, traditional Media Scheduling, Digital and Social Media Planning, Challenges in Advertising, Ethics of Advertising, creative strategy's Planning development execution and evaluation, Media evaluation,
Intellectual Property Rights in Pharma (2 credit)	The focus should be on making participants understand IPR and its details in pharma domain	1. IPR fundamentals: IP vs conventional property. Importance/role of IPRs in business management. Introduction to 8 different IP mechanisms, their characteristics, properties and business. 2. IPRs in strategic business planning: Business implications and importance of various IP mechanisms, especially patents. 3. Elements of national and international patent applications: Forms and formats. Drafting of patent applications; Fee, time schedules and related aspects. International patenting and introduction to PCT. Understanding patent life cycle management. 4. Patents as sources of technological jumps: Introduction to technology capture concepts in business development. Making use of technology tools in business globalization. Technology development organizations in India and abroad. 5. Patent mapping: Introduction and practical utility in business development. 6. International treaties-I: Introduction to TRIPS. Concept behind GATT/TRIPS. Emergence of WTO. 7. International treaties-II: DOHA declaration and its significance for Indian pharma industry. Cancum agreement. WIPO and its role in IP promotion at global level.

		8. Development of human IPR resources for business management: Essential requirements, job profiles. Introduction to MIPC (Germany) and FPLC (USA). Role of AUTM, LESI. Practical tips for enhancing IP related qualifications for management professionals. 9. Ethics in IP: Importance and need for training in ethics and values in the context of IPRs. Case studies. 10. Case studies: a) Using patents as tools in strategic business planning. b) Drafting of technology offers and requests. c) GeneratinganICC(infringementclearancecertificate)andTechnology statusreport) GTSR d) Practical exercise on patent mapping.
Financial Management (3 credit)	The focus should be on making participants understand the management of financial resources. This course will build on Managerial Accounting course covered in 1st Sem.	1. Corporate finance function: Concept, scope and its relationship with other functional areas. Sources of financial information, financial institutions and markets. Understanding financial statements - ratio analysis, cash flow statement, EVA, reporting on corporate governance. Present value - time value of money as basis of financial decision-making, mathematics of finance. Risk and return - concept of risk, relationship between expected return and risk, models for risk and return - CAPM, APT and multi-factor models. 2. Investment decision making: Estimating free cash flows, cost of capital decision rules, capital budgeting rules to projects when facing capital rationing constraints. Capital structural planning - operating and financial leverage; Capital structure theories and value of firm; Capital structure planning and policy; Cost of capital, capital structure and value of firm. 3. Financing decision: Hybrid securities namely convertible and non-convertible debentures, deep discount bonds , warrants, secured premium notes. Asset-based financing - leasing, hire purchase. Dividend policy-dividend theories, determination of dividend policy, share buyback, retention of profits, dividend policy studies in India. 4. Venture capital financing: Concept, developments in India, process and

		method of financing, fiscal incentives, debt securitization. 5. Working capital estimation and management: Operating cycle concept, managing cash and cash equivalents, managing inventory, managing accounts receivables, managing payables. Working capital financing - trade credit, bank finance, commercial paper, factoring, money market structures and recent developments. 6. Valuation of M &A projects: Economics of M&A , methods of valuation - NAV, PECV, MPS, EPS. 7. Corporate strategy, financial policy and shareholder value creating: Link between corporate strategy and financial strategy, implications for capital structure, dividend policy and capital budgeting policy of each corporate strategy.
Ethical Issues in Pharmaceutical Management (1 credit)	The aim would be to make participants understand legal boundaries within which the pharma industry operates, and also to make them understand the ethical aspects of managing pharma industry.	Social responsibility and managerial ethics, Improving ethical behaviour and ethical leadership, Ethical decision making and decision making process, Corporate social responsibility, Corporate Governance, Whistle blower and Whistle blower policy, managing diversity wrt gender, Sexual preference, race, ethnicity etc.
Regulatory affairs in Pharma (2 credits)	This course is design to impact advanced knowledge and skills required to learn the concepts of generic drug and their development, various regulatory filing in different countries, regulatory documents	Good manufacturing practice (GMP), Good laboratory practice (GLP), Good Automated laboratory practice (GALP), Good distribution practice (GDP), Quality management Documentation in pharmaceutical industry: EPDB, PDP, PDR. CoA, DMF Filing process: IND, NDA and ANDA Dossier preparation and submission Audits and inspections Product life cycle management Global regulatory strategies for pharmaceuticals

	and filing process	Clinical trials protocols and procedures
2 month Summer Internship (2 credit)	Participants of the program will be placed in pharmaceutical organizations for 2 months. The purpose is to make participants understand the practice of management in Pharma companies and relate it to the learnings from class and vice versa. At the end of the internship, participants will make a presentation at the institute.	