FACULTY OF BUSINESS MANAGEMENT AND COMMERCER

MASTER OF BUSINESS ADMINISTRATION (BIOTECHNOLOGY)

For the Examinations of 2011-12
SYLLABI FOR MASTER OF BUSINESS ADMINISTRATION (BIOTECHNOLOGY) FOR THE EXAMINATION OF 2011-2012

Note:
1. Examination in each subject will be of 3 hours duration except for Strategic Management (MBABT7201).
2. The duration of Strategic Management (MBABT7201) will be 4 hours.
3. Maximum Marks for external/written examination is 50 marks and internal assessment is 50 marks except for seminar and workshop courses.

Instructions to the paper setters: (Except for MBABT7201: Strategic Management).
IF THERE ARE TWO UNITS: Set 10 questions in all. Five questions from each unit. The students are required to answer five questions in all selecting at least 2 questions from each unit.
IF THERE ARE FOUR UNITS: Set 10 questions in all. Two or three questions from each unit. The students are required to answer five questions in all selecting at least one question from each unit.
N.B: Use of non-programmable calculators by the students in the Examination Hall is allowed. The calculators will not be provided by the University.

SCHEME OF EXAMINATION FOR MBA (BIOTECHNOLOGY)

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Paper Title</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBABT6101</td>
<td>BUSINESS ECONOMICS</td>
<td>100</td>
</tr>
<tr>
<td>MBABT6102</td>
<td>BUSINESS STATISTICS</td>
<td>100</td>
</tr>
<tr>
<td>MBABT6103</td>
<td>MANAGEMENT ACCOUNTING</td>
<td>100</td>
</tr>
<tr>
<td>MBABT6104</td>
<td>ORGANISATIONAL BEHAVIOUR</td>
<td>100</td>
</tr>
<tr>
<td>MBABT6105</td>
<td>MARKETING MANAGEMENT</td>
<td>100</td>
</tr>
<tr>
<td>MBABT6106</td>
<td>WORKSHOP ON BUSINESS COMPUTING</td>
<td>50</td>
</tr>
<tr>
<td>MBABT6107</td>
<td>WORKSHOP ON BUSINESS COMMUNICATION</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>600</td>
</tr>
</tbody>
</table>

| **SECOND SEMESTER** |                                                     |       |
| MBABT6201  | BUSINESS ENVIRONMENT                              | 100   |
| MBABT6202  | HUMAN RESOURCE MANAGEMENT                         | 100   |
| MBABT6203  | OPERATIONS MANAGEMENT                             | 100   |
| MBABT6204  | FINANCIAL MANAGEMENT                               | 100   |
| MBABT6205  | LEGAL ASPECT OF BUSINESS                          | 100   |
| MBABT6206  | WORKSHOP ON RESEARCH METHODOLOGY                  | 100   |
At the end of the examination of 2nd Semester the students will undergo compulsory summer training for a period of 6-8 weeks. Every student will submit the Summer Training Report within two weeks from the start of teaching for 3rd Semester.

Comprehensive Viva-Voce of 2nd Semester would be based on papers taught in 1st and 2nd Semester.
FIRST SEMESTER

MBABT6101: BUSINESS ECONOMICS

Objective: The objective of this course is to equip the students with basic knowledge of the concepts and tools of economic analysis as relevant for business decision making.

UNIT I

UNIT II
Market structure and degree of competition, profit maximization, price and output determination in the short-run and long run: in perfect competition, monopoly, monopolistic competition and oligopoly.

UNIT III
Utility analysis: types of utility, relationship between total utility and marginal utility, critical appraisal of law of diminishing marginal utility, explanation of law of equi-marginal utility, derivation of demand curve with the help of utility analysis, validity of utility analysis in modern times.

UNIT IV
Keynesian analysis: Keynesian theory of employment, consumption function, investment function, multiplier, relevance of Keynesian economics after 1936.

References
1. Ahuja, H.L., Advanced Economics Theory, S.Chand Group.
3. Dean, J., Managerial Economics, Prentice Hall
7. Varshney, R.L. and Maheshwari, K.L., Managerial Economics, Sultan Chand & Sons
MBABT6102: BUSINESS STATISTICS

Objective: The objective of this paper is to acquaint the students with various statistical tools and techniques used to business decision making.

UNIT-I
Construction of frequency distributions and their analysis in the form of measures of central tendency and variations, types of measures, skewness-meaning and co-efficient of skewness. Kurtosis. Index Numbers: Definition and Methods of Construction of Index Numbers; Tests of consistency, Base shifting, splicing and Deflation; Problems in construction, importance of index numbers in Managerial decision making.

UNIT-II
Correlation analysis- meaning & types of correlation, Karl Pearson’s coefficient of correlation and spearman’s rank correlation, regression analysis-meaning and two lines of regression ,relationship between correlation and regression co-efficient, time series analysis- measurement of trend and seasonal variations, time series and forecasting.

UNIT-III
Probability- basic concepts and approaches, addition, multiplication and Bayes’ theorem, probability distributions - meaning, types and applications, binomial, Poisson and normal distributions.

UNIT-IV
Statistical inference: Concept of sampling distribution, parameter and statistics, standard error.
Theory of estimation: Point and interval estimation, construction and confidence limits for mean.
Tests of significance-parametric v/s non-parametric tests, hypothesis testing, large samples, small samples- chi-square test, z-test, t-test, binomial test, analysis of variance. Independence of Attributes, Goodness of Fit Test and Test of Homogeneity.

References
Objective: The objective of this course is to acquaint the students about the role, concepts, techniques and methodology relevant to accounting function and to impart knowledge regarding the use of cost accounting information in managerial decision making.

UNIT – I

UNIT – II
Revenue recognition and measurement (AS-9), fixed assets (AS-10), inventory valuation (AS-2), depreciation accounting (AS-6), intangible assets accounting (AS-26). Financial statement analysis: ratio analysis, common size statements, comparative analysis, trend analysis, cash flow analysis, accounting for price level changes, human resource accounting, social and environmental accounting.

UNIT – III

UNIT – IV
Contemporary issues in management accounting – value chain analysis, activity based costing, activity based budgeting, target and life cycle costing, quality costing.
References

MBABT6104: ORGANISATIONAL BEHAVIOUR

Objective: This course emphasizes the importance of human capital in the organizations of today. It gives an insight to the students regarding individual and group behavior in any organization.

UNIT I
Introduction to OB: concepts, foundations, contributing disciplines to OB, role of OB in management practices, challenges and opportunities for OB, OB in the context of globalization, Scientific management and human relation tools: Hawthorne experiments, introduction to human behavior, perception, attitudes and job satisfaction.

UNIT II
Personality: meaning, determinants, theories, MBIT and big five model, Leadership: theories, determinants, style and challenges to leadership in India, Motivation and morale: concept and applications, Communication: interpersonal communication, listening, feedback, counseling, organizational communication.

UNIT III
Group process: group and intergroup behaviour, group decision making, Team management: types of teams, teams in modern workplace, team v/s group, Power: concept, bases of power, distinction b/w power and authority, power distribution in
organization, Organizational politics: concept, consequences, reasons and management of political behaviour, Work stress: causes, organizational and extra organizational stressor, individual and group stressor, effect of stress, stress coping strategies.

UNIT IV
Conflict and inter-group behavior: sources of conflict, types of conflict, functional and dysfunctional aspects of conflict, approaches to conflict management, Organizational culture: functions of OC, creating and sustaining of OC, development and implications of OC, Organizational effectiveness: concept and approaches to OE, factors in OE, effectiveness through adaptive coping cycle, organizational health development, emotional intelligence.

References

MBABT6105: MARKETING MANAGEMENT
Objective: The course aims at making participants understand concepts, philosophies, processes and techniques of managing the marketing operations of a firm with a view to better understand and appreciate the complexities associated with the marketing function.

UNIT I
Introduction to Marketing: meaning, nature and scope of marketing, marketing philosophies, marketing management process, concept of marketing mix, Market analysis: understanding marketing environment, consumer and organization buyer behaviour, market measurement and marketing research, market segmentation, targeting and positioning.
UNIT II
Product planning and pricing: product concept, types of products, major product decisions, brand management, product life cycle, new product development process, pricing decisions, determinants of price, pricing process, policies and strategies.

UNIT III
Promotion and distribution decisions: communication process, promotion tools: advertising, personal selling, publicity and sales promotion, distribution channel decisions-types and functions of intermediaries, selection and management of intermediaries.

UNIT IV
Marketing organization and control: organizing for marketing, marketing implementation & control, ethics in marketing, Emerging trends and issues in marketing: consumerism, rural marketing, societal marketing, direct and online marketing, green marketing, retail marketing, customer relation marketing.

References
Objective: The objectives of this paper are to develop skills in handling computer and use it as a strategic resource in management.

UNIT-1
Overview of computer applications in public services, business and industry; Microsoft word – mail merge, hyperlinks and bookmark; Microsoft excel – mathematical calculation, sorting, filtering, pivoting, chart, macro, using financial accounting and statistical formulae; Introduction to database and operational level of any one corporate database viz. prowess

UNIT II
Network: services and its classification; knowledge management using internet; search engines, techniques to use search engine effectively; Use of on-line databases (RBI/world bank/IMF etc.) in terms of data extraction and report generation; html – basic html tags, web page designing using any software; Application of computers in project management: features, capabilities & limitations of project management software (with reference to popular software viz. ms – project)

References

MBABT6107: WORKSHOP ON BUSINESS COMMUNICATION

**Objective:** The course aims at developing the communication skills of students – both written communication and oral communication. The students will also be taught how to analyze cases and prepare case reports.

**UNIT – I**
An introduction to business communication, elements of the communication models, types of communication, barriers to communication, principles of written communication, Business letters: their basic qualities, mechanics of letter writing, and specific types of letters, internal communication through memos, minutes and notices.

**UNIT – II**
Principles of oral communication, Speeches: speech of introduction, of thanks, occasional speeches, theme speech, Mastering the art of giving interviews in the following: selection or placement interview, appraisal interview, exit interview, Group communication: meetings and group discussions, report writing, principles of effective presentations including use of audio-visual media, business and social etiquette.

**References**
SECOND SEMESTER

MBABT6201: BUSINESS ENVIRONMENT

Objective: Judicious decision making in a business organization requires the proper knowledge of the environment in which it has to function. This course aims at orienting the students with all the external environmental forces which affect the decision making process of an organization.

UNIT I

Concept of business environment: its significance and nature, interaction matrix of different, environment factors, process of environmental scanning, environmental scanning of important industries of India viz. tractors pharmaceutical industry, food processing, electronics fertilizers steel, soft drinks, and TV.

UNIT II


UNIT III

Technological environment: policy for research and development in India, appropriate technology, debate of technology v/s labour, MNC as a source of transfer to technology and its implication, institutional infrastructure for exports in India, India’s export-import policy, global business environment, significance of foreign investment in India, opportunities and threats in WTO and the new international trading regime, tariff and non tariff barriers in global trade.

UNIT – IV

Socio-cultural environment in India: salient features of Indian culture values and their implication for Indian business, middle class in India and its implications on industrial growth in India, consumerism as emerging force, social responsibility of business, business ethics and Indian business, impact of mass media on Indian business, Changing role of rural sector in India: rural income and rural demand of consumer durable.
Reference:

**MBABT6202: HUMAN RESOURCE MANAGEMENT**

**Objective:** The course is designed to give an understanding of the various aspects of the management of human resources, their interaction in the execution of managerial functions and facilitating learning of various concepts and skills required for utilization and development of these resources for organizational functions.

**UNIT I**
Human resource management: functions, scope and models, HRM environment and environmental scanning, human resource planning, job analysis and job designing, recruitment, selection, induction and placement, training and development, job evaluation.

**UNIT II**
Managing performance, potential management, Fringe benefits and incentives: compensation management, promotion, demotion, transfer, separation and right sizing.

**UNIT III**
Team management, empowerment management, creativity and decision making management, organisational learning and knowledge management, culture management, change management, managing ethical issues in human resource management, HRD audit.

**UNIT IV**
E-HRM/HRIS; measuring intellectual capital, impact of HRM practices on organizational performance, implications for HRD, contemporary issues in human resource management, global HR practices.
Objective: The objective of this paper is to acquaint the students with various quantitative techniques which are of great importance for quantitative decision-making.

UNIT I

Operations research: evolution, methodology and role in managerial decision making, linear programming: meaning, assumptions, advantages, scope and limitations, formulation of problem and its solution by graphical and simplex methods, special cases in simplex method, infeasibility, degeneracy, unboundedness and multiple optimal solutions, duality.

UNIT II

Transportation problems including transshipment problems: special cases in transportation problems, unbalanced problems, degeneracy, maximization objective and multiple optimal solutions, assignment problems including traveling salesman’s problem, special cases in assignment problems: unbalanced problems, maximization objective and multiple optimal solutions.
UNIT III

PERT/CPM: difference between PERT and CPM, network construction, calculating EST, EFT, LST, LFT and floats, probability considerations in PERT, time-cost trade-off, decision theory: decision making under uncertainty and risk, bayesian analysis, decision trees.

UNIT IV

Game theory, pure and mixed strategy games, principle of dominance, two person zero sum game, queuing theory: concept, assumptions and applications, analysis of queue system, Poisson distributed arrivals and exponentially distributed service time models (MM1 and MMK), Simulation; meaning, process, advantages, limitations and applications.

References:

MBABT6204: FINANCIAL MANAGEMENT

Objective: To provide an understanding of the function, the roles, the goals and the processes of corporate financial management, covering the sourcing of finances and their issues in investment and operations

UNIT I
Introduction: concept of finance, scope and objectives of finance, profit maximization vs. wealth maximization, functions of a finance manager in modern age, financial decision areas, time value of money, Risk and return analysis: CAPM, shareholders value creation, traditional and modern measures of financial performance: ROI, earning price ratio, SBA, EBA and MBA.

UNIT II
Financing decision: long-term sources of finance, potentiality of equity shares, preference shares, debentures and bonds as sources of long-term finance; concept and approaches of capital structure decision: NI, NOI, traditional and Modigliani miller approach, cost of capital: cost of equity, preference shares, debentures and retained earnings, weighted average cost of capital and implications.

UNIT III
Leverage analysis: financial, operating and combined leverage along with implications, EBIT-EPS analysis & indifference points, investment decision: appraisal of project; concept, process & techniques of capital budgeting and its applications, risk and uncertainty in capital budgeting.

UNIT IV
Dividend decision: concept of retained earnings and ploughing back of profits, relevance and irrelevance theories of dividend decision: Walter’s model, Gordon’s model and Modigliani miller model, factors affecting dividend decision, Overview of working capital decision: concept, components, factors affecting working capital requirement, working capital management: management of cash, inventory and receivables, introduction to working capital financing.
MBABT6205: LEGAL ASPECTS OF BUSINESS

Objective: The objective of this course is to introduce the students with different legal aspects of business.

UNIT – I
Corporate personality, features of company, registration and incorporation, memorandum of association, articles of association, prospectus, shares, shareholders and members, limited liability partnership.

UNIT – II
Management of companies, directors, their appointment, duties, liabilities and powers, meetings of a company, borrowing power of the company, changes and their registration, prevention of oppression and mismanagement, winding up of a company, compulsory winding up and voluntary winding up.

UNIT – III
Objectives of foreign exchange management act, provisions of FEMA dealing with regulation and management of foreign exchange, economic offences and penalties, intellectual property rights, objectives of SEBI, provisions of SEBI act dealing with takeover and substantial acquisition of shares, buyback of shares and investor protection.

UNIT – IV

References
MBABT6206: WORKSHOP ON RESEARCH METHODOLOGY

Objective: To develop understanding of business research methodology from a user’s perspective and a researcher’s perspective. The practical aspects of research methodology will be emphasized. This will help prepare students for their summer training in which students are usually assigned projects that involve use of research methodology.

UNIT – I
Introduction to research in business, the research process, the research proposal, research design: classifications of research designs, exploratory research design, descriptive research design, causal research design.

UNIT – II
Use of secondary data in research, observation studies, surveys, measurement, measurement scales, designing questionnaires and schedules.

UNIT – III
Sampling including determination of sample size, data collection and preparation, data entry hypothesis testing including one sample tests and two- Independent sample tests, report writing.

UNIT – IV
Techniques of multivariate analysis, analysis of variance (one way only), discriminate analysis (direct method only), factor analysis, cluster analysis, multidimensional scaling, conjoint analysis.

References:

MBABT6207 SUMMER TRAINING REPORT AND VIVA*

MBABT6208 COMPREHENSIVE VIVA VOCE**

* At the end of the examination of 2nd Semester the students will undergo compulsory summer training for a period of 6-8 weeks. Every student will submit the Summer Training Report within two weeks from the start of teaching for 3rd Semester.

** Comprehensive Viva-Voce of 2nd Semester would be based on papers taught in 1st and 2nd Semester.
SEMESTER- III

Note:
1. Examination in each subject will be 3 hours.
2. Maximum marks for external/ written examination is 50 marks and Internal assessment is 50 marks.
3. The duration of strategic management (601) will be 4 hours.

Instructions to the Paper Setters:

IF THERE ARE TWO UNITS: Set 10 questions in all. Five questions from each unit. The students are required to answer five questions in all selecting at least 2 questions all selecting at least 2 questions from each unit.

IF THERE ARE THREE UNITS: Set 10 questions in all. Three or Four questions from each unit. The students are required to answer five questions in all selecting at least one question and not more than two from each unit.

IF THER ARE FOUR UNITS: Set 10 questions in all. Two or three questions from each unit. The students are required to answer five questions in all selecting at least one question from each unit.

IF THERE ARE FIVE UNITS: Set 10 questions in all. Two questions from each unit. The students are required to attempt five questions in all selecting one question from each unit.

N.B., - Use of non- programmable calculators by the students in the Examination Hall is allowed. The calculators will not be provided by the University
# MASTER OF BUSINESS ADMINISTRATION (BIOTECHNOLOGY)

### III rd Semester:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA(BIO) 601</td>
<td>Strategic Management</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 608</td>
<td>Total Quality Management</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 611</td>
<td>Advanced Production Management</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 616</td>
<td>Project Appraisal and Finance</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 602</td>
<td>Advertising and Sales Management</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 603</td>
<td>Workshop on Biotechnological Operations</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 604</td>
<td>Seminar on Principles of Biotechnology</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total:** 700

### IVth Semester

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA(BIO) 630</td>
<td>Logistics Management</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 634</td>
<td>Business Process Re-Engineering</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 631</td>
<td>Intellectual Property Rights</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 632</td>
<td>Seminar on Biotechnological Processes</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 633</td>
<td>Workshop on Instrumentation</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 635</td>
<td>Research Project</td>
<td>100</td>
</tr>
<tr>
<td>MBA(BIO) 636</td>
<td>Viva Voce</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total:** 700
Objective: The objective of this course on corporate strategy is to develop in the students an ability to analyse the strategic situation facing the organization, to access the strategic options available to the organization and to implement the strategic choices made by it. Extensive use of a variety of case studies will help in meeting the objectives of this course.

End semester paper: The paper will be of four hours and will be carry 50 marks. Section A will be of 20 marks consisting of five questions. 2 questions will be set from each unit. The students are required to answer two questions selecting one from each unit. Section B will be of 30 marks consisting of a compulsory case.

UNIT-I
Introduction to corporate strategy.
An overview of formulation and implementation of strategy (including various models of strategy formulation and implementation).
Mission (including various approaches to business model).
Environmental analysis (including various tools of analysis).
Corporate resources and core competencies.
Personal goals and aspirations of top management.
Social responsibility and corporate governance.
Corporate strategy (including diversification and vertical integration).
Execution of corporate strategy (including strategic alliance and acquisitions).

UNIT-II
Business level strategies (including various typologies for BLS).
Functional level strategies.
Strategic alternatives (including models for development of strategic alternatives).
Strategic and technology.
Evaluation of strategy.
Implementation of strategy.
Organization structure and strategy.
<table>
<thead>
<tr>
<th>Reference:</th>
</tr>
</thead>
</table>
MBA (BIO) 608: TOTAL QUALITY MANAGEMENT (TQM)

Objective: The course is designed for graduates from any discipline who wish to acquire a professional, theoretical and practical understanding of the increasingly important area of Total Quality Management (TQM) excellence.

The program aims to develop:
(a) A sound understanding of how the application of TQM assists the pursuit of business excellence.
(b) Skills in management approaches, in human dimensions of quality and in the tools and techniques applicable to TQM and business excellence.
(c) TQM strategies for the achievement of excellence in organization in the private and public sectors.

UNIT-I

Introduction to TQM: History, Aims, Objectives, Benefits, Gurus and their principles, TQM process and phases of a typical implementation of TQM. Reasons for use of TQM, proven examples and benefits, methods to assist the progress of TQM.

Introduction to Tools and Techniques: Brainstorming, Affinity Diagram, Benchmarking, Fishbone Diagram, Check Sheet, Flow Chart, Line Graph, Run Chart, Histogram, Pareto Diagram, FMEA, Scatter Diagram, Control Chart, QFD, Tree Diagram, Force Field Analysis, Seven W and is/is-not questions, Why-Why diagrams.

Total Quality Control, Quality Assurance: Practices and Techniques, TQM and Management: New Management challenges, trends and contribution of TQM.

UNIT-II

Customer Focus: Defining external and internal customer, steps in customer analysis, methods of getting customer inputs, methods of measuring customer satisfaction.

Continuous Improvement Process: What is continuous improvement, the importance of continuous improvement, and principles of continuous improvement, processes, how to manage processes, role of TQM’s control and improvement, process.

Designing for Quality: Opportunities for improvement in product design, early warning, concept and design assurance, designing for basic functional requirement, reliability, availability, safety, manufacturability, cost and product performance.

Workforce Teams: Team work for quality, Types of teams and tasks involved, characteristic of successful and unsuccessful teams, barriers to team works.

Benchmarking: Definition, importance and benefits, types, basic steps, pitballs.

JIT: Definition, benefits, JIT cause and effects, JIT implementation in manufacturing.
UNIT-III

TQM for Marketing Function: Quality in marketing and sales, Factors for excellence.
BPR and IT: Business Process Management
Quality Control SQC/SPC: Statistical Process Control
Change Management
Technology and Product Quality
Quality of Alter Sales Services: Quality measurement in customer service.

UNIT-IV

Organization for Quality: Quality Circles, Self managing teams, Quality Director, Reliability of Quality Characteristics.
Quality Leadership: Developing a quality culture, Technology and Culture, Motivation Quality Linked Productivity.
Total Employee Involvement :Awareness of quality , Recognition and rewards, Empowerment and self – development, Education and training.
Cost of Quality: Cost of poor quality , Categories of quality cost, Analysis of quality costs, benefits of costs of quality control.
Supporting Technologies: Overview of Supplier Quality Assurance System.

UNIT-V

TQM Implementations & barriers to implementation.
Six Sigma: History, Structure, Application, Keys to success and failure.

References:
M.B.A. (BIO) 611 ADVANCED PRODUCTION MANAGEMENT

Objective: The objective of the course is to acquaint the students with the application of operation and material management to business and industry and help them to grasp the significance to analytical approach to decision making.

UNIT-I
Overview, Facility location decisions and models of location decisions, Design for product and process layouts, Cellular Layouts.

UNIT-II

UNIT-III
Production Planning, Aggregate Planning, Scheduling Techniques, Job design and Time, Motion Study, Maintenance Management and Total Productivity Management.

UNIT-IV
Static and Dynamic Inventory models, Coordinated Replenishment Policy, Work in Process Inventory, Coverage Analysis E.R.P. Models and Benefits.

UNIT-V
Source selection, Price determination, Learning curve make/buy decision capital equipment purchasing and replacement, Value Analysis/ Engineering.

References:

7. Dean S. Ammer : Materials Management
M.B.A (BIO) 616: PROJECT APPRAISAL AND FINANCE

Objectives:
(a) Knowledge of how large projects are structured, analyzed, appraised, financed and managed.
(b) Understanding how risk management affects project values, describe a process of risk management and present a framework of strategies for managing various kinds of project risks.
(c) Understanding best practices and public-private partnership in concession rights, awards, contract design and negotiation.
(d) Review options for credit enhancements to improve access to international bond markets, such as bank guarantee instruments, Export Credit Agency programmed and Political risk insurance.

The Course contains following Five Modules:
2. Valuing Projects what makes valuing highly leveraged firms difficult?
3. Managing Risky Projects- how to identify, assess and allocate project risk and
4. Financing projects;
5. Social cost benefit analysis of projects.

Part I : Structuring Projects

Project Finance vis-a-vis Corporate Finance: Designing new hybrid financing structure incorporating elements of both project and corporate finance in an attempt to solve disadvantages associated with each structure, Project entity as special purpose vehicle with contractual bundling.

Part II: Valuing Project

Large Scale Projects: Basis economics; complexity in estimating demand; Marketing feasibility study; role of government, both as investor and as a customer.

Part III: Managing Risky Projects: Build, Operate and Transfer (BOT) Arrangements:

Deal structuring and major risks identification, assessment and mitigation in such a way that senior lenders are adequately protected without further equity support, BOOT, BOT, BOLT and BOO framework, Contract design and negotiation.
Project Evaluation in Emerging Markets: Political risk management through project selection, structuring & insurance & contrast this approach with the older financial style of Political risk management.

Exploring the cross-border investment issues and market-entry decision and to apply project evaluation techniques to cross-border investment; evaluate the benefits accrued to the Host Government by investing in the project.

Part IV: Financing Projects: Process, Participants and Economics of Syndicated Lending: Key issues in designing the Syndication strategy; the lending process from a bank’s perspective and the difference between making a loan and arranging/underwriting/distributing a loan (syndication).

Credit Enhancement Instruments to improve access to international bond markets, such as bank guarantee instruments, Export Credit Agency programme and political risk insurance.

Part V: Social Cost-Benefit Analysis of Projects:

Identify the differences between private and social returns; Economic framework for assessing a project’s social return [known as the economic rate of return (ERR), domestic resource cost (DRC) and effective rate of protection (ERP)]. Analyzing the impact of a new project on private financiers and identifying other stakeholders who might be affected, directly or indirectly, by the project and examining the project’s impact on each group. UNIDO Guidelines and Little & Mirrlees approach to social cost-benefit analysis.

References:
Readings:


MBA (BIO) 602  ADVERTISING AND SALES MANAGEMENT

Objectives: The objective of the course is to acquaint the students with the fundamentals of advertising and sales management.

UNIT-I
Advertising: As an element in Marketing mix, its role and importance. Advertising as a means of communication, setting advertising objectives and contribution of DAGMAR to setting objectives.

UNIT-II

UNIT-III
Sales Management Environment, Routing and Scheduling, Functions and qualities of a sales Executive, (Effective Sales Executive) International Sales Management, Sales Function and its relationship with other marketing functions. Sales organization. The external relationship of the sales Department, e.g., with distributors, Government and Public.

UNIT-IV
Salesmanship: Theoretical aspects of Salesmanship, the process of selling. Sales forecasting methods, Sales Budjet. Sales territories and quotes. Sales force management: Recruitment, Selection, Training, Motivation and Compensation of the field sales force and sales executive. The evaluation and control of sales force.

References:

2. Aaker, Batra and Myers : Advertising Management Prentice Hall India
3. Cundiff, Still and Govoni : Sales Management: Decisions, Strategies and Cases, Prentice Hall India
4. Jobbler and Lancaster : Selling and Sales Management
MBA (BIO) 603 WORKSHOP ON BIOTECHNOLOGICAL OPERATIONS

1. Introduction: Fundamental principles/laws, simple cases of material and energy balances applied on single units, unit conversions.
2. Fluid flow: manometers (u-tube, differential and inclined tubes), concept of boundary layer, basic equations of fluid flow, valves pumps- gear, reciprocating and centrifugal, flow meters.
5. Filtration: theory of filtration, filter aids, filtering media and various filters, plate and frame filter press, rotary drum filters, metafilters, filter candles, ultrafiltration, nanofiltration.
6. Comminution: Laws governing energy and power requirements, types of mills, factors governing the selection of a mill type.
7. Phase equilibria for gas liquid systems: experimental measurement, estimation using simple laws like Raoults law, Henry’s law, representation of this data graphically in various forms. Theory of distillation of mixtures, plate, continuous contact system, differential distillation, vacuum distillation, flash distillation, fractional distillation, azeotropic and extraction distillation, molecular distillation, basic concepts.
8. Basic laws of heat transfer: conduction, convection and radiation, concept of fluid film resistances, simple problem based on these laws, double pipe heat exchanger, shell tube heat exchanger, finned tube heat exchanger.
10. Drying: concept of moisture content, bound and unbound moisture, critical and equilibrium moisture content, drying a batch of solid under constant drying conditions and simple problems based on this, spray dryer, drum dryer, rotating drum dryer, fluidized bed dryer and tray dryer, sublimation and freeze drying.
11. Psychrometry: Definition of humidification and dehumidification, operations use of psychometry or humidity charts spray chambers for conditioning air for the storage of pharmaceutical materials.
12. Extraction: Extractors, flow sheet of an extraction plant; liquid-extraction, extraction towers, solid extractors, counter current multistage extractors.

References:

McCabe and Smith, Unit Operations for Chemical Engineering, McGraw Hill, New York.
MBA (BIO) 604 SEMINAR ON PRINCIPLES OF BIOTECHNOLOGY

UNIT-I

History: From Biology to Biotechnology
Concept of Genetic Engineering
Principles of Genetic Transformation

UNIT-II

Specialized tools in Biotechnology: Cell Culture Technologies
Types of growth media
Factors influencing growth
Use of animal and plant cell culture. Structure and organization of animal cell.
Primary and established cell line cultures
Basic techniques of mammalian cell culture in vitro; desegregation
Scaling-up of Stem-cell cultures, embryonic stem cells and their applications

UNIT-III

Specialized tools in Biotechnology: Nucleic Acid Based Technologies
Recombinant DNA technology.
RNA interference
Gene cloning
Bioinformatics
Methods of Genetic Transformation
Gene therapy DNA amplification techniques
Forensic DNA

UNIT-IV

Specialized techniques in Biotechnology: Protein based technologies

Protein Structure: Primary structure determination, modifications
Three dimensional structure of proteins: Secondary structure; the peptide group, helical structure, Beta structure, non-repetitive structure.
Fibrous and globular proteins, protein stability: Quarternary structure and protein folding
Different forms of DNA, super coiling of DNA, DNA melting, repetitive sequences, cot and rot curves, C value paradox. DNA protein interaction, modulation,
Structural organization of chromatin, non-coding sequence and gene expression.
Signal transduction, role of Camp and second messenger.
Apoptosis: Pathways and genes involved
Two hybrid system for protein- protein interaction and its variations (one hybrid, three hybrid and reverse two hybrid)

References:
Objective: This course will deal with the corporate physical distribution activities, as an integrated system. The various components of this system would be considered with the help of analytical and quantitative techniques.

UNIT-I
Logistics concept and Marketing, Physical distribution definition – integrated systems concept, activity, centres. Integration between marketing elements and distribution. Concept of customer service.

UNIT-II
Transportation and physical distribution- Elements of a transport system; special transport, pros and cons of various routing system, non-transportation costs, Some aspects of transportation administration and transportation costing in relation to the marketing function. Transportation rates and pricing inter-state tariffs. Documentation and carrier liability.

UNIT-III
Inventory Control: Economic order quantity under conditions of certainty and uncertainty. Inventory requirement as function of the number of stock locations. Distribution warehousing-the modern concept. Basic considerations for location and location strategy. Location techniques. Planning and distribution warehouse, material handling. Utility of company warehouse versus public warehouse.

UNIT-IV
Order Processing- Importance to customer service, Models for performance measurement. Packaging- Cost involved, new ideas in package, package testing. Aspects of International distribution. Distribution management, organization and control, operational planning; physical distribution information centres, Organizational set up.

References:

4. Trivedi, H M : Indian shipping is Perspective Vikas Publisher
M.B.A (BIO) 634 BUSINESS PROCESS REENGINEERING

Objective: The objective of this course is to develop the abilities of the students to design and to evaluate management and its existing structure and select the right frame for reengineering.

UNIT-I
Definition of reengineering, The time for reengineering, why business process start to fail. A simple explanation of change theory, Reengineering mission and scope, the reengineering cost, survival and growth strategies, Rethinking Business Processes.

UNIT-II
The New World of Work, The Enabling Role of Information Technology, Perspectives on the customer, Understanding markets, Customer research within markets, service, Specifications from the customer. Insights from customer analysis.

UNIT-III
Understanding the influences in the Background. Perspective on the background, Dynamic nature of industry, Competitive intelligence; Bringing the background into focus, Mapping the way work gets done, Identifying areas for improvement.

UNIT-IV
Planning for change, Refined mission and scope, Design options and alternatives. Filling in the fine detail, Mapping the new process, Developing business policies, Information channels and communications, Feedback for continuous improvement.

UNIT-V
Implementation system and structural changes, selecting the right frame. The horns of the downsizing dilemma. Maximizing the chances for reengineering success, Resistance to change. The transition process. Revitalizing the organization for long term durable change, Reengineering Experience.

References:

1. Michale Hammer and James Champy: Reengineering the Corporation-A manifesto for business resolution
2. Kerin F Cross; John J. Father and Richard L. Lynch: Corporate Renaissance
3. Warman S. Jawadekar: Redesigning the Business Organization
MBA (BIO) 631 INTELLECTUAL PROPERTY RIGHTS

Objective: The Focus of this paper is to sensitize the participants on the intellectual property, various kinds of infringements and the legal remedies available for its protection. Emphasis is on the case laws for better understanding and assimilation of salient provisions concerning intellectual property protection.

UNIT-I

Intellectual Property: Definition and Scope

Its role in Economics and Industrial development
General features of Paris Convention, 1967

UNIT-II

Trade and Merchandise Marks Act, 1958
Trade Marks Act, 1999
Definition of Trade mark
Registration of Trade mark
Infringement of trade mark and suits for infringement

UNIT-III

Patents Act, 1970
Copy Rights Act, 1957
Nature, rights conferred by Copyrights
Infringement and remedies for infringement

UNIT-IV

World Trade Organization
Consultative machinery at WTO
Salient provisions regarding TRIPS and TRIMS
Good Manufacturing Practices

References:

Menu Paul: Intellectual Property Laws
MBA (BIO) 632 SEMINAR ON BIOTECHNOLOGICAL PROCESSES

UNIT-I
Principles of Immunology
Inflammatory Mediators
Immune response to infectious diseases
Hyper-sensitivity reactions:
Transplantation immunity
Vaccines: Designing vaccines for active immunization

UNIT-II
Genomics in microbiology
Microbial pathogenesis at molecular level.
Introduction to stem cell Biology
Transgenic animals and plants
FDA guidelines for genetically modified foods and ethical issues

UNIT-III
New Biofiels/ Bioenergy:
a) Biodiesel, b) Biohydrogen
Application and biotechnological routes of production of

UNIT-IV
Metabolic Engineering and industrial products: Plant secondary metabolites, control mechanisms and manipulation of Phenyl propanoid pathway, shikimate pathway, alkaloids, terpenoids, industrial enzymes, antibodies, edible vaccines, purification strategies.

UNIT-V
Introduction to the balanced salt solutions and simple growth medium. Brief discussion on the chemical, physical and metabolic functions of different constituents of culture medium
Microbial Biotechnology

References:
MBA (BIO) 633 WORKSHOP ON INSTRUMENTATION IN BIOTECHNOLOGY

Theoretical foundations and Practical Exposure to following experiments:

1. SDS-PAGE- Separation of Proteins  
   (Sodium Dodylsulphate polyacrylamide gel electrophoresis)
2. Isolation of DNA and RNA
3. Chemical Analysis of RNA and DNA
4. Agarose Gel Electrophoresis of RNA and DNA
5. Restriction Enzyme sites in DNA
6. Polymerase Chain Reactions
7. Nuclear Magnetic Resonance Spectroscopy
8. Spectroscopic Analysis
9. TEM/SEM
10. Absorption Spectra for Nucleic Acids and Proteins

References: Manuals of various equipments cited above

MBA (BIO) 635 RESEARCH PROJECT

MBA (BIO) 636 VIVA VOCE