

Department of Management Studies Master of Business Administration (MBA)

Course No.	Course Title	Subject Area	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1st Year 1st Semester													
BM-501	Quantitative Techniques for Managers	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-503	Management Processes and Organizational Behaviour	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-505	Managerial Economics	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-507	Business Communication	PCC	3	2	0	2	2	--	15	15	30	40	--
BM-509	Financial Accounting	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-511	Marketing Management	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-513	Business Statistics	PCC	3	3	0	0	3	--	15	--	35	50	--
Sub Total			21										
2nd Semester													
BM-502	Management Accounting	PCC	2	2	0	0	2	--	15	--	35	50	--
BM-504	Financial Management	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-506	Business Environment	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-508	Human Resource Management	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-510	Marketing Research	PCC	2	2	0	0	2	--	15	--	35	50	--
BM-512	Production and Operations Management	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-514	Technology Management	PCC	2	2	0	0	2	--	15	--	35	50	--
Sub Total			18										
2nd Year 3rd Semester													
BM-601	Management Information Systems	PCC	2	2	0	0	2	--	15	--	35	50	--
BM-603	Legal Aspects of Business	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-605	Strategic Management	PCC	3	3	0	0	3	--	15	--	35	50	--
BM-607	Summer Training		0	--	--	--	--	--	--	--	--	--	--
	Elective I	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective II	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective III	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective IV	PEC	3	3	0	0	3	--	15	--	35	50	--
Sub Total			20										

Course No.	Course Title	Subject Area	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
2nd Year 4th Semester													
BM-602	Project	RP	2	--	--	--	--	--	--	--	--	--	--
	Elective V	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective VI	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective VII	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective VIII	PEC	3	3	0	0	3	--	15	--	35	50	--
	Elective IX	PEC	3	3	0	0	3	--	15	--	35	50	--
Sub Total			17										
TOTAL			76										

Open Electives

S.No.	Subject Code	Subject Name	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1	BM-611	Seminars in Management	3	--	--	--	--	--	--	--	--	--	100
2	BM-612	Knowledge Management	3	3	0	0	3	--	15	--	35	50	--
3	BM-613	Entrepreneurship Development	3	3	0	0	3	--	15	--	35	50	--
4	BM-614	International Business	3	3	0	0	3	--	15	--	35	50	--
5	BM-615	Industrial Waste Management	3	3	0	0	3	--	15	--	35	50	--
6	BM-616	Management of Large Systems	3	3	0	0	3	--	15	--	35	50	--
7	BM-617	Environment Management	3	3	0	0	3	--	15	--	35	50	--
8	BM-618	Advanced Optimization Techniques for Management	3	3	0	0	3	--	15	--	35	50	--
9	BM-619	Basics of Management of Information	3	3	0	0	3	--	15	--	35	50	--
10	BM-620	Soft Computing Techniques for Management	3	3	0	0	3	--	15	--	35	50	--

Note: The students may take two specializations by taking at least 12 credits in each individual specialization out of the 27 credits being offered as electives in the third and fourth semesters of MBA programme. Students can take remaining three credit paper from open electives or any of the specializations offered.

Specialization Electives
(1) Human Resource Management

S.No.	Subject Code	Subject Name	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1	BM-631	Human Resource Planning and Development	3	3	0	0	3	--	15	--	35	50	--
2	BM-632	Organisational Development	3	3	0	0	3	--	15	--	35	50	--
3	BM-633	Labour Legislation and Industrial Relations	3	3	0	0	3	--	15	--	35	50	--
4	BM-634	Career Planning and Performance	3	3	0	0	3	--	15	--	35	50	--
5	BM-635	Management of Training and Talent Development	3	3	0	0	3	--	15	--	35	50	--
6	BM-636	Compensation Management and Reward System	3	3	0	0	3	--	15	--	35	50	--
7	BM-637	Management of Change	3	3	0	0	3	--	15	--	35	50	--
8	BM-638	Managing Innovation and Creativity	3	3	0	0	3	--	15	--	35	50	--
9	BM-639	Management of Self and Interpersonal Dynamics	3	3	0	0	3	--	15	--	35	50	--

(2) Operations Management

S.No.	Subject Code	Subject Name	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1	BM-641	Manufacturing Strategy	3	3	0	0	3	--	15	--	35	50	--
2	BM-642	Computer Integrated Manufacturing	3	3	0	0	3	--	15	--	35	50	--
3	BM-643	Operations Planning and Control Systems	3	3	0	0	3	--	15	--	35	50	--
4	BM-644	Supply Chain Management	3	3	0	0	3	--	15	--	35	50	--
5	BM-645	Total Productive Maintenance	3	3	0	0	3	--	15	--	35	50	--
6	BM-646	Project Management	3	3	0	0	3	--	15	--	35	50	--
7	BM-647	Productivity Management	3	3	0	0	3	--	15	--	35	50	--
8	BM-648	Quality Management	3	3	0	0	3	--	15	--	35	50	--

(3) Information Technology Management

S.No.	Subject Code	Subject Name	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1	BM-651	Management of Information Technology	3	3	0	0	3	--	15	--	35	50	--
2	BM-652	Enterprise Business Applications	3	3	0	0	3	--	15	--	35	50	--
3	BM-653	Information Technology Project Management	3	3	0	0	3	--	15	--	35	50	--
4	BM-654	Software Engineering and Management of Software Development	3	3	0	0	3	--	15	--	35	50	--
5	BM-655	Design of On-Line Systems	3	3	0	0	3	--	15	--	35	50	--
6	BM-656	Decision Support and Experts Systems	3	3	0	0	3	--	15	--	35	50	--
7	BM-657	Business Process Management	3	3	0	0	3	--	15	--	35	50	--
8	BM-658	Electronic Commerce and Electronic Governance	3	3	0	0	3	--	15	--	35	50	--

(4) Marketing Management

S.No.	Subject Code	Subject Name	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1	BM-661	Internet Marketing	3	3	0	0	3	--	15	--	35	50	--
2	BM-662	Consumer Behavior Analysis	3	3	0	0	3	--	15	--	35	50	--
3	BM-663	Product and Brand Management	3	3	0	0	3	--	15	--	35	50	--
4	BM-664	Integrated Marketing Communications	3	3	0	0	3	--	15	--	35	50	--
5	BM-665	Sales and Distribution Management	3	3	0	0	3	--	15	--	35	50	--
6	BM-666	International Marketing	3	3	0	0	3	--	15	--	35	50	--
7	BM-667	Industrial Marketing	3	3	0	0	3	--	15	--	35	50	--
8	BM-668	Services Marketing	3	3	0	0	3	--	15	--	35	50	--

(5) Financial Management

S.No.	Subject Code	Subject Name	Credit	L	T	P	Exam Dur. (Hrs)		Relative Weightage (%)				
							T	P	CWS	PRS	MTE	ETE	PRE
1	BM-671	Quantitative Analysis for Financial Management	3	3	0	0	3	--	15	--	35	50	--
2	BM-672	Working Capital Management	3	3	0	0	3	--	15	--	35	50	--
3	BM-673	Security Analysis and Portfolio Management	3	3	0	0	3	--	15	--	35	50	--
4	BM-674	Indian Financial System	3	3	0	0	3	--	15	--	35	50	--
5	BM-675	International Financial Management	3	3	0	0	3	--	15	--	35	50	--
6	BM-676	Financial Management Control Systems	3	3	0	0	3	--	15	--	35	50	--
7	BM-677	Taxation and Tax Planning	3	3	0	0	3	--	15	--	35	50	--
8	BM-678	Merchant Banking and Financial Services	3	3	0	0	3	--	15	--	35	50	--
9	BM-679	Financial Statement Analysis and Reporting	3	3	0	0	3	--	15	--	35	50	--
10	BM-680	Banking and Bank Finance	3	3	0	0	3	--	15	--	35	50	--

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-501 Course Title : Quantitative Techniques for Managers

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: Practical:

4. Relative Weightage: CWS PRS MTE ETE PRE

5. Credits: 6. Semester: Autumn

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To impart knowledge in basic quantitative tools and techniques used in managerial decision making.

10. Details of the Course:

Sl. No.	Contents	Contact hours
1.	Introduction: LP model formulation; the simplex method, special cases, sensitivity analysis.	6
2.	Duality and Post-optimal Analysis: Formulation, economic interpretation, and managerial significance.	4
3.	Integer Programming: Branch and bound method, cutting plane method, introduction to 0-1 programming, site selection problems.	5
4.	Transportation Models: Transportation problems, assignment problems, travelling salesman problems.	4
5.	Game Theory: Optimal solution to two person zero sum games and solution to mixed strategy games.	5
6.	Queuing Theory: Cost related with queuing models, single and multi server models.	5
7.	Simulation: Monte Carlo simulation, random numbers, application in queuing, inventory and marketing problems.	4
8.	Replacement Analysis: Individual and group replacement.	3
9.	Goal Programming: The weights method, the preemptive method.	3
10.	Dynamic programming: Traveling salesmen problem, capital budgeting problems, employment smoothing problems.	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Taha, H. A., Natrajan, A.M., Balasubramanie,P. and Tamilarasi, A. ,“Operations Research”, 8 th Edition, Pearson Prentice Hall	2009
2.	Hillier, F.S. and Lieberman, G.J., “Introduction to Operations Research” 8 th Edition, Tata McGraw-Hill	2009
3.	Wagner, H.M., “Principles of Operations Research”, 2 nd Edition, PHI Learning	1998
4.	Ravindran, A., Phillips, D.T. and Solberg , J.J., “Operations Research Principles and Practice”, 2 nd Edition , John Wiley and Sons	2004
5.	Sharma, J. K., “Operations Research Theory and Applications”, 4 th Edition, Macmillan	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT / CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-503 Course Title : Management Processes and Organizational Behavior

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: Practical:

4. Relative Weightage: CWS PRS MTE ETE PRE

5. Credits: 6. Semester: Autumn

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To develop an understanding of the basic management concepts and behavior of individuals and group in organizational settings.

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Managerial processes, functions, skills and roles.	3
2.	Planning and decision making, planning processes, rational model of decision making, individual decision making and problem solving.	6
3.	Organizational design and structure, departmentation, line/staff authority, delegation and decentralization, controlling, process and techniques of control.	6
4.	OB model, perception, personality, leadership, motivation, change management, stress management, conflict management.	6
5.	Values and attitudes, formation of attitudes, job related attitudes and behavior learning in organizations; Motivation, concepts of motivation, behavioral consequences of motivation, organizational conflict and creativity.	6
6.	Interpersonal processes, groups in organizations, formation of groups small and large groups, group dynamics.	4
7.	Leadership approaches, processes and styles.	3
8.	Developing collaboration, power and politics, organizational culture and job involvement practices.	3
9.	Comprehensive case studies.	5
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Robbins, S. P. and Sanghi, S., "Organizational Behavior", 13 th Edition, Pearson-Prentice Hall	2009
2.	Parek, U., "Understanding Organizational Behavior", 3 rd Edition, Oxford University Press	2008
3.	Fincham, R. and Rhodes, P., "Principles of Organizational Behavior", 4 th Edition, Oxford University Press	2008
4.	Wehrich, H. and Koontz, H., "Management A Global Prospective, 12 th Edition, Tata McGraw-Hill	2008
5.	Robert, A.B. and Byne, D., "Social Psychology: Understanding Human Interactions", PHI	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code : BM-505 Course Title : Managerial Economics**
2. **Contact Hours: L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.): Theory: 3 Practical: 0**
4. **Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**
5. **Credits: 3**
6. **Semester: Autumn**
7. **Pre-requisite: Nil**
8. **Subject Area: PCC**
9. **Objective : To acquaint the students with various aspects of micro and macro economics.**

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Introduction to managerial economics, nature of micro and macro economics.	2
2.	Theory of demand, demand functions, income and substitution effects.	3
3.	Production and cost- return to scale, cost curves, break even analysis.	4
4.	Theory of firm- profit maximization.	3
5.	Theory of distribution-functional vs personal distribution, micro and macro theories, marginal productivity, marginal revenue product .	4
6.	Market structure- competition, monopoly; oligopoly; non-price competition.	5
7.	National income determination.	2
8.	Aggregate demand function, aggregate demand curve, concept of investment multiplier, multiplier analysis.	5
9.	Business cycles- phases, features and theories.	3
10.	Inflation- meaning, demand pull inflation, cost push inflation, Fisher effect.	3
11.	Monetary and fiscal policies.	3
12.	Exchange rate.	2
13.	International trade- concepts and current scenario.	3
Total		42

11. Suggested Readings:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Mankiw, N.G., "Macroeconomics", 7 th Edition, Worth Publishers	2010
2.	Mankiw, N.G., "Principles of Microeconomics", 5 th Edition, Cengage	2009
3.	Dornbush, R., Fischer, S. and Startz, R., "Macroeconomics, 9 th Edition, McGraw Hill	2004
4.	Sikdar, S., "Principles of Macroeconomics", 9 th Edition, Oxford University Press	2006
5.	Sen, A., "Microeconomics", 2 nd Edition, Oxford University Press	2006
6.	Koutsoyannis, A., "Modern Microeconomics", 2 nd Edition, ELBS Macmillan	1985

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-507 Course Title : Business Communication

2. Contact Hours: L: 2 T: 0 P: 2

3. Examination Duration (Hrs.): Theory: 2 Practical: 0

4. Relative Weightage: CWS 15 PRS 15 MTE 30 ETE 40 PRE 0

5. Credits: 3 6. Semester: Autumn

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To acquaint students with the required skills for effective communication in business organisations.

10. Details of the Course:

S. No.	Contents	Contact hours
1.	Introduction, importance, nature, role and process of business communication, perceptions and realities, different forms of communication and their importance including body language, barriers in communication, how to make communication effective, improving listening skills.	5
2.	Writing curriculum vitae, facing interviews, group discussions.	4
3.	Communication with colleagues including brain storming, verbal communication with colleagues and clients and telephonic conversation.	4
4.	Written communication, individual communication-letters and memos, group communication-circulars and notifications, legal communication, agreements, MoUs and negotiations.	4
5.	Preparing business reports, making and presentation of business proposals.	2
6.	Mass communications, newsletters, publicity handouts, instructions and manuals, handling the press.	3
7.	Business etiquette, business presentations and public speaking.	3
8.	Electronic communication, fax, e-mail, internet and multimedia.	3
	Total	28

Practical:

Practical will be done on presentations, mock interviews, report writing, drafting business letters, CV preparation and case studies.

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Hair, D., Friedrich, G.W. and Dixon, L.D., "Strategic Communication: In Business and the Profession", 6 th Edition, Pearson Education	2008
2.	Hudson, R.H., "Business Communication", 5 th Edition, Jaico Publishing House	2006
3.	Lesikar, R.V., Flatley, M.E., Rentz, K. and Pande, N., "Business Communication: Making Connections in a Digital World", 11 th Edition (Special Indian Edition), Tata McGraw-Hill	2009
4.	Lesikar, R.V. and Pettit, J.D., "Business Communication: Theory and Application", 10 th Edition, Richard D. Irwin	2005
5.	Raman, M. and Singh, P., "Business Communication", Oxford University Press	2006

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code : BM-509 Course Title : Financial Accounting**
2. **Contact Hours: L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.): Theory: Practical:**
4. **Relative Weightage: CWS PRS MTE ETE PRE**
5. **Credits:** 6. **Semester: Autumn**
7. **Pre-requisite: Nil** 8. **Subject Area: PCC**

9. **Objective:** To acquaint students with the system of collecting, summarising, analysing and reporting information in monetary terms so that interpretation of this information could be used by various stakeholders.

10. Details of the Course:

S. No.	Contents	Contact hours
1.	Introduction to financial accounting, conceptual framework of financial accounting, language of accounting.	3
2.	Accounting conventions and concepts, revenue recognition and measurement, matching of revenues and expenses.	5
3.	Accounting mechanics- basic records, theory and practice of measurement of business income.	4
4.	Financial statements like balance sheet, profit and loss accounts and related concepts.	6
5.	Generally accepted accounting principles.	3
6.	Accounting for tangible and intangible assets, fixed assets and depreciation accounting, inventory valuation, valuation of goodwill.	5
7.	Distinction between revenue and capital expenditures, reserves and surpluses.	2
8.	Legal framework of company accounts, financial statement information.	5
9.	Understanding and analysis of published annual reports, tools and techniques of financial statements analysis.	7
10.	Emerging trends in financial accounting.	2
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Anthony, R. N., Hawkins, D.F. and Merchant, K. A., "Accounting- Text and Cases", 12 th Edition, Special Indian Edition, Tata McGraw-Hill	2007
2.	Belverd, E. N. Jr and Powers, M., "Financial Accounting", 7 th Edition, Houghton Mifflin Company	2006
3.	Bhattacharya, H., "How to Read a Balance Sheet: Adapted to Indian laws and requirements", 2 nd Edition, Oxford and IBH Publishing Company	2008
4.	Bhattacharya, S.K. and Dearden, J., "Accounting for Management, Text and Cases", 2 nd Edition, Vikas Publishing House	2007
5.	Hornigren, C.T., Sundem, G.L., Elliott, J.A and Philbrick, D., "Introduction to Financial Accounting", 9 th Edition, Prentice Hall International	2009
6.	Narayanaswamy, R., "Financial Accounting: A Managerial Perspective", 3 rd Edition, PHI	2009
7.	Ramachandran, N. and Kakani, R. K., "Financial Accounting for Management", 2 nd Edition, Tata McGraw-Hill	2008
8.	Shah, P., "Basic Financial Accounting for Management", Oxford University Press	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-511 Course Title : Marketing Management

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 3 Practical: 0

4. Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0

5. Credits: 3 6. Semester: Autumn

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To develop basic conceptual abilities, analytical skills, and knowledge in the field of marketing analysis and planning.

10. Details of the Course:

S. No.	Contents	Contact Hours
1.	Introduction: Understanding marketing management.	2
2.	Developing Marketing Strategies and Plans: Marketing and customer value, corporate, division and business unit strategic planning.	5
3.	Capturing Customer Insights: Scanning the environment, conducting marketing research and forecasting demand.	4
4.	Connecting with Customers: Creating satisfaction, loyalty and analyzing markets, identifying market segments and targets.	5
5.	Building Strong Brands: Dealing with competition, creating brand equity, brand positioning.	6
6.	Shaping the Market Offerings: Designing, developing and managing product, services, and pricing strategies and programs.	5
7.	Delivering Value: Designing and managing integrated marketing channels, retailing, wholesaling and logistics.	5
8.	Communicating Value: Designing and managing integrated marketing communication, mass communications, and personal communications.	5
9.	Creating Long Term Growth: Introducing new market offerings, managing global markets and holistic marketing organization.	5
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication/ Reprint
1.	Kotler, P., Keller, K L., Koshy, A. and Jha, M., "Marketing Management", 13 th Edition, Pearson Education	2009
2.	Mullins, J., Walker, O. and Harper, B.J., "Marketing Management: A Strategic Decision-Making", 7 th Edition, McGraw-Hill	2009
3.	Etzel, M.J., Walker, B.J., Stanton, W.J. and Pandit, A., "Marketing: Concepts and Cases", 13 th Edition, Tata McGraw-Hill	2006
4.	Kurtz, D. L. and Boone, L.E., "Principles of Marketing", 12 th Edition, Thomson	2006
5.	Winer, R., "Marketing Management", 3 rd Edition, PHI	2006

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE: DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code :** BM-513 **Course Title :** Business Statistics

2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Autumn

7. **Pre-requisite:** Nil 8. **Subject Area:** PCC

9. **Objective:** To develop knowledge and understanding of some basic statistical techniques and ability for solving business problems.

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Definition and role of statistics, applications of statistics in managerial decision-making, sampling and sampling methods, sampling and non-sampling errors, central limit theorem, sampling distributions and their characteristics.	4
2.	Statistical decision theory; Introduction, ingredients of decision problem, optimal decisions, decision tree analysis, steps in decision tree analysis and advantages of decision tree approach.	4
3.	Measures of central tendency, mean, median and mode and their implications.	4
4.	Measures of dispersion including range, mean deviation, standard deviation, coefficient of variation.	4
5.	Meaning of correlation, types of correlation - positive correlation, negative correlation, perfect correlation, linear and non-linear correlation.	4
6.	Scatter diagram, Karl Pearson's coefficient of correlation, properties of correlation coefficient.	3
7.	Probable error of correlation coefficient, meaning of multiple and partial correlations; multiple and partial correlation coefficients.	3
8.	Meaning of regression, types of regression, simple and multiple regression.	4
9.	Linear and non-linear regression, statement of regression lines, definition of regression coefficients, properties of regression coefficients.	4
10.	Theory of estimation, testing of hypothesis: Large sample tests, small sample test (t, F, Z test and Chi Square test).	5
11.	Analysis of Variance- one way ANOVA, two way ANOVA.	3
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Levin, R.I. and Rubin, D.S., "Statistics for Management", 7 th Edition, PHI	2010
2.	Anderson, D. R., Sweeney, D.J. and Williams, T. A., "Statistics for Business and Economics", 8 th Edition, Thomson South-Western	2005
3.	Levine, D. M., Krehbiel, T.C., Berenson, M.L. and Viswanathan, P.K., "Business Statistics – A First Course", 4 th Edition, Pearson Education	2009
4.	Gupta, S.P. and Gupta, M.P., "Business Statistics", 15 th Edition, Sultan Chand and Sons	2008
5.	Gupta, S.P., "Statistical Methods", 31 st Edition, Sultan Chand and Sons	2003

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE: DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code :** BM- 502 **Course Title:** Management Accounting

2. **Contact Hours:** **L:** 2 **T:** 0 **P:** 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Spring

7. **Pre-requisite:** Nil 8. **Subject Area:** PCC

9. **Objective:** To develop an insight into utilization of financial and cost accounting information for planning, controlling and decision making in the business.

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Introduction: Nature, scope and tools of management accounting, management accounting vs financial accounting and cost accounting.	2
2.	Cost Accounting: Meaning, scope and classification of costs, absorption costing, cost sheet and cost analysis.	4
3.	Marginal Costing and Cost-Volume-Profit Analysis: Marginal cost equation, contribution, break-even point, P/V ratio and margin of safety, applications of marginal costing and CVP.	3
4.	Preparation of Budgets and Budgetary Control: Types of budgets, components of master budgets, operating budgets, financial budgets, budgeted income statement and balance sheet, sales forecasting and their use in the budgetary process.	4
5.	Standard Costing and Variance Analysis: Establishment of cost centers, types of standards, setting the standards; Material variances, labor variances, overhead variances, sales & profit variances, standard costing and budgetary control- a comparison.	3
6.	Responsibility Accounting: Concept, responsibility centres, goal congruence, managerial efforts and motivation; Controllability and measurement of financial performance, responsibility accounting in service, government and non-profit organizations.	3
7.	Activity Based Costing: Introduction, concept of ABC, cost drivers and cost pools, development of ABC system, allocation of overheads under ABC, traditional Vs ABC approach to designing a costing system.	4
8.	Management Control System: Concept, organizational goals, critical process, key success factors, responsibility centers, measures of performance, balance scorecard, key performance indicators and quality control.	3
9.	Decision involving Alternative Choices: Opportunity, outlay and differential costs; Make or buy, joint product cost, irrelevance of past costs, conflicts between decision making and performance evaluation, influence of income statements on decision making.	2
	Total	28

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Horngreen, C.T., Sundem, G.L. and Stratton, W.O., "Introduction to Management Accounting", 13 th Edition, PHI	2007
2.	Bamber, L.S., Braun, K.W. and Harrison, T.W., "Managerial Accounting, Pearson Education	2009
3.	Hansen, D.R. and Mowen, M.M., "Management Accounting", 7 th Edition, Thomson South Western	2005
4.	Khan, M.Y. and Jain, P.K., "Management Accounting", 4 th Edition, Tata McGraw-Hill	2007
5.	Louder, J.G. and Holmen, J.S. "Managerial Accounting", 10 th Edition, Thomson South Western	2008

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code :** BM-504 **Course Title :** Financial Management

2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** **CWS** **PRS** **MTE** **ETE** **PRE**

5. **Credits:** 6. **Semester:** Spring

7. **Pre-requisite:** Nil 8. **Subject Area:** PCC

9. **Objective:** To acquaint students with the planning and controlling of the firm's resources with a view to maximize the firm's wealth through the process of increased value of the shares.

10. Details of the Course:

S. No.	Contents	Contact Hours
1.	Time value of money.	4
2.	Valuation of securities.	6
3.	Capital investment decision making, quantification of relevant cash flows.	6
4.	Capital investment decision making, appraisal techniques.	6
5.	Capital investment decision making including projects with unequal lives, issue of tax shields and adjusted net present value (NPV), depreciation bias.	5
6.	Concept of cost of capital.	3
7.	Capital structuring decision, implications of debt funding.	6
8.	Brief overview of working capital computation and funding.	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Chandra, P., "Financial Management", 7 th Edition, Tata McGraw-Hill	2009
2.	Van Horne, J.C., "Financial Management and Policy", 12 th Edition, PHI	2009
3.	Khan, M.Y. and Jain, P.K., "Financial Management", 5 th Edition, Tata McGraw-Hill	2008
4.	Pandey, I.M., "Financial Management", 9 th Edition, Vikas Publications	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-506 Course Title : Business Environment

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: Practical:

4. Relative Weightage: CWS PRS MTE ETE PRE

5. Credits: 6. Semester: Spring

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective : To acquaint students with economic, technological, socio-cultural and political environment to enable them to understand the external forces that influence business policies.

10. Details of the Course:

S. No.	Contents	Contact hours
1.	Introduction to business environment, macro economic concepts, consumption, savings, investment, social, cultural, political and technological environment.	4
2.	An overview of planning in India, objectives of economic policy; Nature of economic policies, chronological survey of policy pronouncements and their impact on business.	5
3.	Industrial policy resolutions, IDRA, public-private partnership, privatisation and disinvestment, MSMEs, industrial sickness, Indian Company Law, MRTP, Competition Act.	7
4.	Labour legislation, laws relating to weaker sections, specific industries, trade unions and industrial relations.	3
5.	Business and government relations and government influence on income planning, prices and production policies.	4
6.	Impact of tax and inflation on corporate policy planning; Problem of determining planning horizon; Effect of uncertainties	3
7.	An overview of Indian financial system, financial institutions and financial markets.	4
8.	Societal environment, social responsibility of business, corporate governance, consumerism and consumer protection act, sustainable development.	6
9.	Global environment, impact of global integration, GATT/WTO, MNCs, flow of FDI and FII, FEMA.	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Aswathappa, K., "Essentials of Business Environment", 10 th Edition, Himalaya Publishing House	2009
2.	Cherunilam, F., "Business Environment-Text and Cases", 19 th Edition. Himalaya Publishing House	2009
3.	Dutt, R. and Sundaram, K.P.M., "Indian Economy", 59 th Edition, S. Chand and Co.	2009
4.	Gopal, N., "Business Environment", 2 nd Edition, Tata McGraw-Hill	2009
5.	Paul, J., "Business Environment-Text and Cases", 2 nd Edition, Tata McGraw-Hill	2007
6.	Saleem, S., "Business Environment", 2 nd Edition, Dorling Kindersley (India)	2010
7.	Worthington, I. and Britton, C., "The Business Environment", 6 th Edition, Pearson Education	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-508 Course Title : Human Resource Management

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 3 Practical: 0

4. Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0
3

5. Credits: 6. Semester: Spring

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To create an understanding of various facets of managing people and of policies and practices relating to management of human resources.

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Concepts and perspective on human resource management, role of HRM in a competitive business environment; environment affecting HRM at the enterprise level.	5
2.	HR planning and job analysis recruitment, selection, placement, induction and socialization of the employees.	5
3.	Appraising employee performance and potential evaluation.	3
4.	Manpower training and development.	3
5.	Compensation and reward administration.	3
6.	Introduction to HR accounting, inventory and information systems.	3
7.	Dispute resolution and grievance management, trade unions and their role in collective bargaining.	5
8.	Talent acquisition, talent management.	3
9.	Business environment and workforce adjustments (economic recession/ financial boom), creating high performance systems.	5
10.	HRD, organizational development, career planning and management.	3
11.	International human resource management, empowerment and counseling, innovations in HRM.	4
Total		42

11. Suggested Readings

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Rao, V.S.P., "Human Resource Management", 2 nd Edition, Excel Books	2009
2.	Dessler, G. and Verry, B. "Human Resource Management", 11 th Edition, Pearson Education	2009
3.	Snell, S. and Bohlander, G., "Human Resource Management", Cengage Learning	2009
4.	Decenzo, D. A. and Robbins, S.P, "Human Resource Management", 8 th Edition, John Wiley and Sons	2006
5.	Flippo, E. B., "Personnel Management", 6 th Edition, McGraw Hill	2006
6.	Mondy, R. W. and Noe, R. M., "Human Resource Management", 9 th Edition, Pearson Education	2006

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **DEPARTMENT OF MANAGEMENT STUDIES**

1. Subject Code: BM-510

Course Title: Marketing Research

2. Contact Hours: L: 2 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: Practical:

4. Relative Weightage: CWS PRS MTE ETE PRE

5. Credits: **6. Semester:** Spring

7. Pre-requisite: Nil

8. Subject Area: PCC

9. Objective: To familiarize students with essential elements and tools of the market research process and methodology.

10. Details of the Course:

S. No.	Contents	Contact Hours
1.	Introduction to marketing research and defining marketing research problem.	2
2.	Research design- exploratory, descriptive and causal.	3
3.	Attitude measurement and scaling- fundamental, comparative and noncomparative scaling techniques.	3
4.	Design data collection methods and forms- primary and secondary data, questionnaire and data collection forms.	3
5.	Sampling- design and procedures, determining sample size, non sampling errors.	3
6.	Frequency distribution, cross tabulation, regression, correlation, ANOVA, discriminate analysis.	6
7.	Factor analysis, cluster analysis, multidimensional scaling, correspondence analysis, conjoint analysis.	6
8.	Report preparation and presentation.	2
Total		28

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication/ Reprint
1.	Malhotra, N., "Marketing Research: An Applied Orientation", 6 th Ed., PHI	2009
2.	Aaker, D. A. Kumar, V., and Day, G.S., "Marketing Research", 10 th Ed., Wiley	2009
3.	Burns, A.C. and Bush, R.F., "Marketing Research", 6 th Ed., PHI	2009
4.	Iacobucci, D. and Churchill, G.A.J., "Marketing Research: Methodological Foundations", 10 th Ed., South-Western College Pub	2009
5.	Zikmund, W.G. and Babin, B.J., "Essentials of Marketing Research", 4 th Ed., South-Western College Pub	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-512 Course Title : Production and Operations Management

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 3 Practical: 0

4. Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0

5. Credits: 3 6. Semester: Spring

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To provide a systemic view of operations management and its role in the total enterprise management.

10. Details of the Course:

Sl. No.	Contents	Contact hours
1.	Introduction: System concept and OM systems, role of OM in the enterprise management.	2
2.	Manufacturing Strategy: Concept of product life cycle, manufacturing strategy and competitive advantage.	2
3.	Forecasting Techniques: Approaches, accuracy and control of forecast, computers in forecast.	5
4.	Inventory Models: Static and probabilistic models, inventory control methods.	4
5.	Aggregate Production Planning: Aggregate demand, dimensions of production capacity, mathematical models for aggregate planning; Master production scheduling	6
6.	Material Requirement Planning: Concepts, logic and system parameters, MRPI to MRP II to ERP.	3
7.	Scheduling and Dispatching Rules: Scheduling process-focused manufacturing, scheduling product-focused manufacturing.	3
8.	Facility Location and Layout: Methods of facility location and types of layout.	3
9.	Quality Control: Process capability, six sigma methodology, introduction to TQM and business excellence models.	5
10.	Project Management: project planning, scheduling and controlling.	4
11.	Advanced Manufacturing Technologies: JIT, TOC, lean/ green manufacturing, WCM and safety concepts.	5
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Chase, R.B., Jacobs, R.F., Aquileno, N.J. and Agarwal, N.K., "Operations Management for Competitive Advantage", 11 th Edition, Tata McGraw-Hill	2009
2.	Gaither, N. and Frazier, G., "Operations Management", 9 th Edition, Cengage Learning	2004
3.	Russell, R.S. and Taylor, B.W., "Operations Management", 6 th Edition, John Wiley and Sons	2009
4.	Kachru, U., "Production and Operations Management Text and Cases", Excel Books	2007
5.	Buffa, E. S. and Sarin, R., "Modern Production and Operations Management", 8 th Edition, John Wiley and Sons	2009
6.	Monks, J. G., "Schaum's outline of Operations Management", 2 nd Edition, McGraw Hill	2006

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM- 514 Course Title : Technology Management

2. Contact Hours: L: 2 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 2 Practical: 0

4. Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0

5. Credits: 2 6. Semester: Spring

7. Pre-requisite: Nil 8. Subject Area: PCC

9. Objective: To develop an integrated approach to technology management through life cycle of technology.

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Process and perspectives of technology management.	3
2.	Scanning, acquisition, assimilation, absorption, business strategy and technology strategy adaptation, critical factors in managing technology, improvement and planning.	5
3.	Technology life cycle and forecasting, technology transfer, technology development: Management of R&D, product design and development, commercialisation of R&D, R&D manufacturing- marketing interface, R&D project management.	5
4.	Technology development and competitiveness, technology and business strategy.	3
5.	Technology innovation and creative transformation in the knowledge age; critical trajectories.	3
6.	Technology entrepreneurship, assessing the need, market dynamics.	4
7.	IPR, technology and role of government; International protocols- treaties, standards; International comparisons of technology management.	5
Total		28

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Khalil, T., "Management of Technology: The Key to Competitiveness and Wealth Creation", International Edition, Tata McGraw-Hill	2009
2.	Langlois, S. L. (Ed.), "Technocrime: Technology, Crime and Social Control", Willan Publishing	2008
3.	Sherif, H. and Khalil, T., "New Direction in Technology Management", Elsevier Publisher	2007
4.	Thamhain, H. J., "Management of Technology: Managing Effectively in Technology Intensive Organisations", 2 nd Ed., John Wiley and Sons	2005
5.	Megantz, R.C., "Technology Management: Developing and Implementing Effective Licensing Programs", John Wiley and Sons	2002

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT / CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM- 601 Course Title: Management Information Systems

2. Contact Hours: L: 2 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 2 Practical: 0

4. Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0

5. Credits: 2 6. Semester: Spring

7. Pre-requisite: Nil

8. Subject Area: PCC

9. Objective: To provide insight into the approaches to information system design, development, operation and maintenance.

10. Details of the Course:

S.No.	Contents	Contact Hours
1.	Overview of digital economy and understanding of business pressures, strategic importance of information management; Definition of management information systems, the role of information systems, types of information systems, components of information systems, information system activities.	5
2.	Building systems, system design life cycle, need and stages in system analysis, system development models, roles of managers, users and designers; Structured Vs object oriented design.	5
3.	Linking information systems with information technology, information technology architecture, managing IT infrastructure, introduction to data centers and networking infrastructure, technologies for information distribution and messaging and publishing; securing IT and business transactions, emerging technologies – sensors and biometrics.	5
4.	Cross Functional e-business Applications, introduction to Enterprise Resource Planning (ERP), customer relationship management (CRM) and supply chain management (SCM), enterprise application integration.	8
5.	Business process reengineering, linking IT strategy to business strategy, business flexibility and IT, security and ethical challenges, managing information technology, outsourcing IT and IS, managing globally integrated organizations, societal implications and the future of IT.	5
Total		28

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	O'Brien, J.A., George, A., Marakas, M. and Behl, R., "Management Information Systems", 9 th Edition, Tata McGraw-Hill	2009
2.	Lucas, H.C., "Information Technology for Management", 7 th Edition, Tata McGraw-Hill	2009
3.	Loudon, K. and Loudon, J., "Management Information Systems", 11 th Edition, Pearson Educations	2010
4.	Murdick, R.G., Ross, J.E. and Clagget, J.R., "Information Systems for Modern Management", 3 rd Edition, PHI	1994
5.	Turban, E. and Volonino, L., "Information Technology for Managers: Improving performance in Digital Economy", 7 th Edition, Wiley India	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-603 Course Title : Legal Aspects of Business
2. Contact Hours: L: 3 T: 0 P: 0
3. Examination Duration (Hrs.): Theory: Practical:
4. Relative Weightage: CWS PRS MTE ETE PRE
5. Credits: 6. Semester: Autumn
7. Pre-requisite: Nil 8. Subject Area: PCC
9. Objective: To develop basic understanding of laws related to business.
10. Details of the Course:

Sl. No.	Contents	Contact Hours
1.	Introduction to Law: Sources and development of law, types of law: Civil, criminal, revenue, personal, labour, environmental.	2
2.	Constitution of India: Basic features, fundamental rights, union and state judiciary, writ jurisdiction, types of writs – habeas corpus, certiorari, mandamus, prohibition, division of power between union and state, public interest litigation.	3
3.	Laws of Contract: Formation of contract, offer, acceptance, revocation of offer and acceptance, essentials of contract, void and voidable contracts, consideration, tender, performance of contract, breach of contract and remedies thereof.	6
4.	Sale of Goods: Essentials of sale, sale and ownership, conditions and warranties, sale by description, sale by general name, caveat emptor, case studies.	3
5.	Negotiable Instruments: Meaning, promissory note, bill of exchange, cheque, parties to a negotiable instrument, negotiation, dishonor and discharge, banker and customer, liability of banker.	3
6.	Company Law : Formation of company, doctrine of ultra virus, indoor management, corporate veil, memorandum and articles of association, prospectus and raising of capital, meetings of companies, directors, foreign companies, winding up.	8
7.	Limited Liability Partnership : Meaning, formation, comparison with other business organizations.	3
8.	Direct Tax: Income tax law, concept of income, exempt incomes, income from business, major tax incentives, MAT.	5
9.	Indirect Tax: Excise duty, incidence, CENVAT, service tax, introduction to GST.	5
10.	Employee Related Legislation : Payment of bonus, gratuity, provident fund.	2

11.	Miscellaneous Laws: Right to information, business and criminal liability, mens rea, classification of offences, structure of courts in India.	2
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication /Reprint
1.	Datey, V.S., "Business and Corporate Laws", Taxmann Publications,	2009
2.	"Corporate Laws", Taxmann Publications	2008
3.	Jain, D.K., "Company Law Ready Reckoner", 8 th Edition, Bharat Law House	2010
4.	Constitution of India	
5.	Bare Acts – Indian Contract Act, Sale of Goods Act, Negotiable Instruments Act	

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-605 **Course Title : Strategic Management**

2. Contact Hours: **L: 3 T: 0 P: 0**

3. Examination Duration (Hrs.): **Theory: 3 Practical: 0**

4. Relative Weightage: **CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**

5. Credits: 3 **6. Semester:** Autumn

7. Pre-requisite: Nil **8. Subject Area:** PCC

9. Objective: To impart knowledge for developing long range strategic plans for any organization.

10. Details of the Course:

S. No.	Contents	Contact Hours
1.	Evolution of strategic management, conceptual foundations of strategy formulation, implementation and evaluation.	4
2.	Vision, mission, goals, objectives and policies.	3
3.	Environmental scanning covering both internal firm environment, and external environment including political, social, cultural, economic and technological issues.	4
4.	Business strategy, low cost strategies, differentiation strategies, strategic business units; Competitive strategies, competitive tactics, market location tactics, offensive tactics and defensive tactics.	6
5.	Cooperative strategies, collusion, strategic alliances, joint ventures, Licensing arrangement, Corporate strategy, growth strategies, stability strategies, downsizing strategies, mergers and acquisitions and the process of due diligence.	7
6.	Corporate parenting strategy, parenting advantage, core competence.	2
7.	Functional strategy, strategic flexibility, strategic marketing, strategic HRM, strategic SCM.	4
8.	Blue ocean strategy and fortune at the bottom of the pyramid capability approach	4
9.	Strategy implementation, balanced scorecard, strategy evaluation, strategic audit.	3
10.	Business strategy, sustainable business practices and management of environment, corporate social responsibility, ethics, values and business, ethics as a strategy.	5
	Total	42

11. Suggested Books:

S.No.	Name of the Authors/Book/Publishers	Year of Publication/ Reprint
1.	Hitt, M.A., Hoskisson, R.E. and Ireland R.D., "Management of Strategy" 7 th Edition, South-Western Cengage Publication.	2008
2.	Wheelen, T.L., Hunger, J.D. and Rangarajan, K., "Concepts in Strategic Management and Business Policy", 11 th Edition, Pearson Education	2006
3.	Jauch, L.R. and Glueck, W.F., "Business Policy and Strategic Management", 6 th Edition, Frank Brothers and Co.	2004
4.	Thompson, A.A., Jr., Strickland, A.J. III, and Gamble, J.E., "Crafting and Executing Strategy" 15 th Edition, Tata McGraw-Hill	2006
5.	Sen A., "Development as Freedom", Oxford University Press	2000
6.	Prahalad, C.K., "The Fortune at the bottom of the pyramid", Pearson Education	2006
7.	Kim, W.C. and Mauborgne, R., "The Blue Ocean Strategy", Perseus	2005
8.	Chakraborty, S.K., "Ethics in Management: Vedantic Perspectives", Oxford University Press	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-612 **Course Title :** Knowledge Management

2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To impart knowledge on various aspects of knowledge management and exposure to knowledge creation, storage and distribution practices in India and abroad.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Introduction to Knowledge Management, distinction between data, information and knowledge	3
2.	Concept of knowledge creation, intellectual capital creation, human capital, customer capital and organizational capital	5
3.	Socio-cultural aspects and organizational aspects, tacit and explicit knowledge, knowledge organization, group formation and team conversion as a social mechanism	5
4.	Knowledge storage and distribution, KM tools, data warehouse, data mining, knowledge management evaluation and valuation of knowledge	5
5.	Knowledge sharing practices and barriers, knowledge sharing proficiencies – the key to barriers to adoption of organizational memories: lessons from industry	3
6.	Knowledge culture, culture process, culture and knowledge, trust and KM, the human factor in KM culture, peer-to-peer knowledge, developing and sustaining methods of knowledge culture	4
7.	Knowledge initiative, knowledge strategic issues in knowledge management, identifying and transferring internal best practices	5
8.	Knowledge commerce combining data from existing company sources, architecture and experiences, commercialization- the next phase of KM, the convergence of electronic business and KM	4
9.	KM in Indian organizations and MNC, sharing tacit knowledge, case studies of companies such as Volvo, Tata Steel, Eicher Motors, General Motors, knowledge window at WIPRO, knowledge currency at TCS	4
10.	Learning organizations and organizational learning, alternative strategies for leveraging the knowledge asset, system and processes of learning organization	4
Total		42

11. Suggested Readings:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Raman, T., "Knowledge Management", Excel Books	2004
2.	Warrier, S., " Knowledge Management", Vikas Publishing House	2007
3.	Barnes, S., "Knowledge Management Systems: Theory & Practice", Thomson Learning Press	2002
4.	Maier, R., "Knowledge Management System", Springer	2002
5.	Tiwana, A., "Knowledge Management Tool Kit", Pearson Education	2002

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM- 613** **Course Title : Entrepreneurship Development**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To introduce various capabilities and issues in developing entrepreneurship.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Entrepreneurs- challenging the unknown, evolution and entrepreneurship, environment for entrepreneurship, new trends in entrepreneurship research, innovation, growth and survival	6
2.	Financial institutions and source of funding new ventures, search for capital, debt versus equity, venture capital market, types of investors	4
3.	Corporate entrepreneurship, entrepreneurial mind set in organizations, nature of corporate entrepreneurship, idea generation and innovation, corporate entrepreneurship strategy, developing team and individual managers for corporate entrepreneurship	6
4.	Pathway to new venture for entrepreneur, creating new venture, acquiring, franchising, franchise law, managing growth and ending the venture	5
5.	International entrepreneurship identifying opportunities and problems, SWOT analysis, international, multinational and global ventures, financial and legal issues for international entrepreneurship	4
6.	Entrepreneurs in small business enterprises, small business- concept and need, stages in small business development, distinctive feature of small business	4
7.	Intellectual Property Rights (IPR) and related issues- understanding IP, IP protection- patents, copyrights, trademark, trade secrets, IT and IP protection	4
8.	Entrepreneurship and legal aspects- understanding legal structure for entrepreneurial venture, sole proprietorship, partnership, corporations, limited liabilities companies, government policies and environmental issues	5
9.	SMEs and technology, data base management system, intranet and internet, IT and Entrepreneurship	4
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Norman, M. S., "Essentials of Entrepreneurship and Small Business Management", 6 th Edition, Prentice Hall of India	2010
2.	Steve, M. and Carolin, G., "Entrepreneurship: Starting and Operating a new Business", 2 nd Edition, Prentice Hall of India	2009
3.	Donald, F.K., "Entrepreneurship: Theory, Process, and Practice", 8 th Edition, South Western College Publications	2008
4.	Peggy, A. L. and Charles, R. K., "Entrepreneurship", 4 th Edition , Prentice Hall of India	2006
5.	Poornima, M.C., "Entrepreneurship and Small Business Enterprises", Pearson Education	2002

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code:** BM-614 **Course Title:** International Business

2. **Contact Hours:** L: 3 T: 0 P: 0

3. **Examination Duration (Hrs.):** Theory: Practical:

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To familiarize students with international trade and investment, global monetary system, strategies and structure of IB.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Introduction: Overview of international business	2
2.	Comparative environmental frameworks: Cultural, political, legal, and economic environment facing business	7
3.	Theories and institutions of trade and investment: International trade theory, government influence of trade, regional economic integration and cooperative agreements, factor mobility and FDI	7
4.	World financial environment: Foreign exchange market, determination of exchange rates	6
5.	Dynamics of international business-government relationships: Government policy and plan for FDI, IB negotiation and diplomacy	6
6.	Operations: Country evaluation and selection, collaborative and control strategies	7
7.	Managing business functions: Marketing, export and import strategies, global manufacturing and supply chain, finance and human resource management	7
	Total	42

11. Suggested Books:

S. No.	Name of Authors/ Book/ Publisher	Year of Publication/ Reprint
1.	Hill, C.W.L., "International Business", 8 th Edition, McGraw-Hill	2010
2.	Ball, D., Geringer, M., Minor, M. and McNett, J., "International Business: The Challenge of Global Competition", 12 th Edition, McGraw-Hill	2009
3.	Griffin, R. and Pustay, M., "International Business", 6 th Edition, Prentice-Hall	2009
4.	Wild, J.J., Wild, K.L. and Han, J.C.Y., "International Business: The Challenges of Globalization", 6 th Edition, Prentice-Hall	2009
5.	Daniels, J., Radebaugh, L., and Sullivan, D., "International Business", 12 th Edition, Prentice-Hall	2008

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-615 **Course Title :** **Industrial Waste Management**
2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** **6. Semester:** Both
7. **Pre-requisite:** Nil **8. Subject Area:** PEC
9. **Objective:** To introduce current ecological and environmental problems of industrial waste and its management.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Introduction- category of waste, evolution waste management, history of waste management, recent waste management initiatives	4
2.	Onsite handling- storage and processing, collection of solid wastes, transfer and transport, solid waste control and management	4
3.	Solid waste- definition and categories of solid waste, municipal solid waste, industrial solid waste, medicinal solid waste, hazardous waste, mining and agriculture waste, construction debris, disposal of solid wastes and residual matter, hazardous wastes management	5
4.	Management in transfer and transport of solid waste, management in processing and in materials and energy recovery	3
5.	Management of the disposal of "no alternative" option, plan development, selection and implementation	3
6.	Case studies, public information programs, statistical analysis of solid waste-techniques and procedures, process instrumentation and control, project procurement	5
7.	Typical cost data and cost-estimating waste water, introduction, water pollution and their sources, waste water sampling, flow measurement, estimation options, sampling and methods of sampling, sampling procedure and techniques	6
8.	Management of waste waters, Planning and managing industrial waste water treatment, Treatment technology, management of waste water disposal systems, waste water treatability assessment, batch test, bench-scale reactor test, physical and chemical test	6
9.	Meteorology and air pollution; micro and macro- meteorology, wind rose, atmosphere and air pollutants management of air pollution, management policies for pollution prevention and waste minimization, transfer of technology between plants	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Pichte, J., "Waste Management Practices: Municipal Hazardous and Industrial", CRC Press	2005
2.	Tchobanoglous, G. and Kreith, F., "Hand book of Solid Waste management", 2 nd Edition, Tata McGraw Hill	2002
3.	Blackman, W. C., "Basic Hazardous Waste Management", 3 rd Edition, CRC Press	2001
4.	LaGrega, M., Buckingham, P., Evans, J., "Hazardous waste management", 2 nd Edition, McGraw Hill	2001
5.	Vanatta, B., "Guide for Industrial Waste Management", Diane Publishing Co.	1999

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM- 616 **Course Title :** Management of Large Systems
2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To understand the nature and problems related to large systems and their management.
10. **Details of Course:**

S. No.	Contents	Contact Hours
1.	System- definition and concept, characteristics of system, categories of system, system approach, current environment and challenges	3
2.	Change paradigms of systems, need for system engineering, system analysis and system science, system architecture, system engineering management plan	3
3.	Large system configuration, hierarchy of large system, open and feedback system, system life cycle, managing large system risk	3
4.	Large system types- infrastructure, energy, transport and telecommunication, development of large systems, testing throughout system development	3
5.	Features and management of large systems, project approach, strategy planning, operations, co-ordination and control of large systems, investment planning and financing, valuation of capital source, cost estimation methods and work cost breakdown structure, corporate social responsibility and social cost benefit analysis, system administration and system management	10
6.	Managing technology, technology transfer for large systems, environmental impacts of large systems, regulatory and legal issues related to large systems	4
7.	Human resource management and large systems, creating proper climate, leadership characteristics, need of individuals, staffing the organization, training and development	4
8.	Optimizing learning systems, developing the learning system requirement, operational requirement analysis, performance requirement formulation and validation	4
9.	Simulation and modeling- IT based methods, system organics and applications, modeling throughout system development and management, tradeoff analysis	4
10.	Organization for large systems, developing the organizational structure, stakeholder management, customer organization and function, producer organization and function, supplier organization and function	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Jamshidi, M., "Systems of System Engineering", Wiley Inter science	2008
2.	Haraway, M., "Large Scale Incident Management", Delmer Cengage Learning	2008
3.	Sage, A.P. and Armstrong, J.E., "Introduction to system Engineering" Wiley Inter science	2000
4.	Khalil, T., "Management of Technology: The Key to Competitiveness and Wealth Creation", Tata McGraw Hill	2009
5.	Dessler, G. and Biju, V., "Human Resource Management" , 11 th Edition, Pearson Education	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM- 617 **Course Title :** **Environment Management**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** **CWS** **PRS** **MTE** **ETE** **PRE**
5. **Credits:** **6. Semester:** Both
7. **Pre-requisite:** Nil **8. Subject Area:** PEC
9. **Objective:** To introduce current environmental problems and their management.
10. **Details of Course:**

S. No.	Contents	Contact hours
1.	Introduction to environmental and ecological system: Level of organization, classification and different ecological systems, elements of ecosystem, productivity and its determination	3
2.	Tropic level: Tropic chains and food web, factors affecting the growth of ecosystem	4
3.	General pollution: Classification of pollutants, sources and emissions of pollutant, adverse effects of pollutants on flora and fauna, status of environmental degradation	5
4.	Environmental quality: Air and water quality criteria, goals and standards	5
5.	Air pollution: Importance of micro meteorology in air pollution, selection, evaluation and application of control devices at source, general equipment used for control of particulate and gaseous pollutants	5
6.	Solid waste management: Evaluation and physico-chemical characterization and handling, mechanical, thermal and biological processing of solid wastes, regeneration and recycling	5
7.	Noise pollution: Noise control criteria, engineering aspects of noise control, gas/liquid purging, heavy-duty machine drive/crushing, grinding and compressions/pumping equipment	5
8.	Philosophy of waste management: Environmental impact assessment with respect to air, water, land, socio economic aspect and cross media analysis	5
9.	Case studies: Beyond greening, strategies for sustainable world, business case for climate protection, regulation and economic model for meeting pollution reduction goals, capturing the free trade while protecting the environment	5
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Pathak ,A. and Bhagat, R., "International Management: Managing in a Diverse and Dynamic Environment", 2 nd Edition, Tata McGraw Hill	2009
2.	Charles, J. K., "Ecology: the experimental analysis of distribution and abundance", 6 th Edition, Benjamin-Cummins Pearson	2008
3.	Townsend, C.R. and Begon, M.H., "Essential of Ecology", 3 rd Edition, Wiley-Blackwell Publishers	2008
4.	Pepper, I.L., Charles, P.G. and Mark, L.B., "Environmental and Pollution Science", 2 nd Edition, Academic Press	2006
5.	Tchobanoglous, G., and Kreith, F., "Hand book of Solid Waste Management", 2 nd Edition, Tata McGraw Hill	2002

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM- 618 Course Title: Advanced Optimization Techniques for Management**

2. **Contact Hours: L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.): Theory: Practical:**

4. **Relative Weightage: CWS PRS MTE ETE PRE**

5. **Credits:** 6. **Semester: Both**

7. **Pre-requisite: Nil** 8. **Subject Area: PEC**

9. **Objective:** To impart knowledge of the advanced techniques of optimization with emphasis on application to business problems.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Concepts of vector spaces, normed spaces, pre-Hilbert and Hilbert spaces	6
2.	Basic notions of distance, topologies, convexity, projections, orthogonalization	6
3.	Convergence and approximation, normal equations and Fourier series based approximation of functions	6
4.	Least squares estimation and applications	6
5.	Elementary optimization of functionals using calculus of variations	6
6.	Global and local constrained optimization using Lagrange multipliers	6
7.	Newton's approximation method, descent methods, gradient methods	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Luenberger, D. G., "Optimization by Vector Space Methods", John Wiley	1997
2.	Sundaram, R. K., "A first course in optimization theory", Cambridge University Press	1996
3.	Taha, H. A., "Operations Research: An Introduction", 9 th Edition, Pearson Education	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-619** **Course Title : Basics of Management of Information**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory: Practical:**
4. **Relative Weightage:** **CWS PRS MTE ETE PRE**
5. **Credits:** **6. Semester: Both**
7. **Pre-requisite: Nil** **8. Subject Area: PEC**
9. **Objective:** To impart knowledge of classical information theory relevant to management.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Introduction to information, measures of information, concept of entropy and its variants, mutual information	6
2.	Basic inequalities of information theory	6
3.	Information channels and channel capacity, computation of channel capacity in simple cases	6
4.	Information in relation to stochastic processes, conditional random variables, Gaussian channels	6
5.	Elements of network information theory , multiple user Gaussian channels	6
6.	Information theory in financial management such as Kuhn Tucker characterization of portfolios, asymptotic optimality of portfolios	6
7.	Concept of universal portfolios.	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Cover and Thomas, "Elements of Information Theory", 2 nd Edition, Wiley	2006
2.	Reza F. M., "An Introduction to Information Theory", Dover Publications	1994
3.	Krippendorff, K., "Information Theory: Structural Models for Qualitative Data", SAGE Publications	1986

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-620** **Course Title : Soft Computing Techniques for Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: 3 Practical: 0**

4. **Relative Weightage:** **CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**

5. **Credits:** 3 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To introduce basic soft computing techniques for managerial decision making.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Soft computing constituents and conventional artificial intelligence	6
2.	Introduction to fuzzy mathematics, basic definitions and terminology, set-theoretic operations, membership function-formulation and parameterization	6
3.	Fuzzy union, intersection, and complement, extension principle and fuzzy relations, fuzzy if-then rules, fuzzy reasoning	6
4.	Application of fuzzy logic in business decision making	6
5.	Basics of genetic algorithms, simulated annealing, random search	6
6.	Downhill simplex search, swarm intelligence, genetic programming	6
7.	Fundamentals of neural networks and elementary applications to management decision making problems	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Jang, J.S.R. and Sun, C.T., Mizutani E., "Neuro-fuzzy and Soft Computing", Prentice Hall of India	2004
2.	Rajasekaran, S., Pai,G.A. and Vijaylakshmi, "Neural Networks, Fuzzy Logic, and Genetic Algorithms", Prentice Hall of India	2004
3.	Aliev, R.A., Fazlollahi , B. and Rashad R.A., "Soft Computing and its Applications in Business and Economics", Springer	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM- 631** **Course Title: Human Resource Planning and Development**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To impart knowledge of human resource planning (HRP), deployment and development issues in organizations.

10. **Details of Course:**

S. No.	Contents	Contact hours
1.	Manpower planning- introduction and objectives, labor market analysis and labor supply, process , challenges, responsibility of HRP; Organizational human resource planning, stock taking, identifying gap, source of manpower for organization, how to attract talent: planning and strategies	6
2.	Work force flow mapping-age and grade distribution mapping, career management, career counseling, career stages, career anchors, career planning Vs human resource planning, career development, organizational career development, preparing incumbent for future assignment, Succession planning and management, career planning Vs succession planning	6
3.	Models and techniques of manpower demand and supply forecasting, staffing table, markov analysis, skills inventory, replacement chart	4
4.	Recruitment-concept, constraint and challenge, situational audit for recruitment, source of recruitment, methods of recruitment, internet as source of recruitment, evaluation of the source of recruitment, recruitment policies and procedures, recruitment-Indian experience	6
5.	Behavioral factors in human resource planning, wastage analysis, retention, redeployment and exit strategies, exit interview and diary writing, job analysis- job task, job duty, job responsibility, process of job analysis, competency approach to job analysis, position analysis questionnaire, management position description questionnaire, behavioral factors in job analysis, job description, job specification, job evaluation- concept, process and methods, ranking method, classification method, factor comparison method, point method, role analysis and negotiation	8

6.	HR challenges in IT industry, technology and human resource planning and development	2
7.	Human resource development, evolution and history of human resource development, HRD matrix, HRD Vs HRM, human resource development subsystems, principles of human resource development, HRD in Indian industry, HRD survey, TQM and HRD strategies, HRD in strategic organizations, HRD climate	4
8.	Human resource information system, significance of HRIS Human resource valuation and accounting, accounting techniques for human resource, human capital management, human capital valuation: methods and models for valuation, human capital valuation in manufacturing and service industry	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Bernadin, H. J., "Human Resource Management", 4 th Edition, McGraw Hill	2010
2.	Bhattacharya, D.K., " Human Resource Research Methods", Oxford University Press	2007
3.	Snell, B., "Human Resource Management", Thomson India	2007
4.	Armstrong, M., " A Handbook of Human Resource Management Practices", 10 th Edition, Kogan Page Publishers	2006
5.	Burack, E.H. and Mathys, J., " Human Resource Planning: A Pragmatic Approach to Manpower Staffing and Development", 4 th Edition, Brace-Park Press	2001

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-632 **Course Title :** **Organizational Development**

2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To impart knowledge of processes of organization development and tools and techniques for change and development.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Understanding organization, approaches, typology; Organization development (OD)- characteristics, historical perspective and evolution, emerging issues of work organization, value and assumptions in OD	6
2.	Organizational change, process, forces, resistance to change, overcoming and minimizing resistance to change, change and human resource, organizational culture and climate as change agent, strategies for effective change, models of change, change and transition management, organizational growth, systematic approach to change, effective change management	9
3.	Model of OD action research, Action research and intervention model, action research as a process, features of action research, OD interventions, selection of OD intervention, classification and type of OD intervention-interpersonal interventions, team development interventions, intergroup development interventions	8
4.	Organization and implementation of OD process, diagnostic strategies and skills- process of diagnosis, diagnosis model, diagnostic skills, client consultants relations in OD, power politics and ethics in OD	7
5.	OD in Indian industries, future prospects, organizational learning, approaches to organizational learning, knowledge management and OD, knowledge workers as change agents	6
6.	OD and technology- use of IT for selecting, implementing, and analyzing OD intervention, intranet and internet for OD, significance of database management system in organizational development, human resource information system and OD	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Thomas G. C. and Christopher G. W., "Organization Development and Change", 9 th Edition, South Western College Publication	2008
2.	Hatch, M.J., "Organization Theory, 2 nd Edition, Oxford University Press	2006
3.	Daft, R.L., "Organization Theory and Design", 8 th Edition, Thompson Learning	2004
4.	French, W.L. and Bell, C.H., "Organization Development: Behavioral Science Interventions for Organization Improvement", 6 th Edition, Prentice Hall of India	1999
5.	Sorensen, P.F., Head, T.C., Yaeger, T. and Cooperrider, D., "Global and International Organization Development", Stipes Publishing L.L.C.	2004
6.	Wendell, L., French, B. and Robert A. Z., "Organization Development and Transformation", 6 th Edition, Tata McGraw Hill	2008

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-633 **Course Title :** Labor Legislation and Industrial Relations
2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** **6. Semester:** Both
7. **Pre-requisite:** Nil **8. Subject Area:** PEC
9. **Objective:** To introduce Indian industrial relations systems necessary for managing industrial relations and to impart knowledge of labor laws.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Industrial relations (IR) system, concept and structure, status of actors and their inter-relationships, trade unions and their growth, organization, formation, rivalry, leadership, multiplicity political affiliation, recognition	6
2.	Grievance handling, disciplinary proceedings, standing orders, domestic inquiry, contemporary issues in IR	8
3.	Factories act, 1948; Trade unions act, 1926; Industrial disputes act, 1947; Industrial employment (standing orders) act, 1946	8
4.	Payment of wages act, 1936; Minimum wages act, 1948; Payment of bonus act, 1965; Employees' provident fund	8
5.	Workmen's compensation act, 1923; Employee's state insurance act, 1948; Payment of gratuity act, 1972	8
6.	Industrial relations and organizational development; HRD approach to industrial relation, contemporary issues in Industrial Relation, industrial dispute and industrial conflict, dispute handling machinery in India	4
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	John R. C., "Principles of Labor Legislation", General Books	2009
2.	Mamroia, C.B. and Mamaroia, S., "Labour welfare, Social Security and Industrial peace in India", Kitab Mahal	2007
3.	Harper, M.C., "Labor Laws: cases, Material and Problems", 6 th Edition, Aspen Publishers	2007
4.	Harry, K., and Kochan, T., "An introduction to Industrial relation and Collective bargaining", 3 rd Edition, Tata McGraw Hill	2003
5.	Sinha, P.R.N. and Priyadarshini, S., "Industrial relation, Trade Unions and Labor Legislation", Pearson Education	2003
6.	Deery, S., Plowman, D., Walsh, J. and Brown, M., "Industrial relation : A contemporary Analysis", Tata McGraw Hill	2001

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM- 634 **Course Title :** Career Planning and Performance
2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To develop skills for career planning and development.

10. Details of Course

S.No.	Contents	Contact Hours
1.	Concept of career, stages, choices, anchors, development, development programs, counseling, patching, human resources aspects	10
2.	Career information systems (CIS), management and supervisory development, organizational assessment programs- assessment centers	8
3.	Psychological testing, training, special groups issues, development of different career stages, career development problems and issues	8
4.	Performance audit and its rationale, appraisal systems, rating scales, human errors in ratings, employees' participation in appraisal process	8
5.	Frequency of appraisals, appraisal counseling, analyzing existing appraisal system, designing new appraisal system	8
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Rao, V.S.P., "Human Resource Management", 2 nd Edition, Excel Books	2009
2.	Dessler, G. "Human Resource Management", 11 th Edition, Pearson Education,	2009
3.	Herman, A., "Performance Planning", 2 nd Edition, Pearson Education	2009
4.	Flippo, E.B., "Personnel Management", 6 th Edition, McGraw Hill	2006
5.	Peel, "Career Development and Planning", Tata McGraw Hill	1992

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM- 635 **Course Title :** **Management of Training and Talent Development**
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To provide an understanding of role of training in the HRD and training systems and processes.
10. **Details of Course:**

S. No.	Contents	Contact hours
1.	Introduction to employee training, factors influencing training, training investment leaders, role, responsibility, competencies, positions and challenges of training managers, cost effective training model, designing effective training, strategic training, training department- models of organizing training department, faculty model, customer model, matrix model, corporate university model, business embedded model, globalization and training practices in Indian organizations, outsourcing of training	8
2.	Organization and management of training function, organizational culture and climate and training, Transfer of training	4
3.	Training needs assessment and action research, methods used for need assessment, process of need assessment- organizational analysis, person analysis, task analysis, competency model of need assessment, scope of need assessment	6
4.	Employee development, approach to employee development- formal education, assessment, job experience, interpersonal relationships, development planning process, organizational strategies for employee development, return on employee investment	6
5.	Learning; theories and program design, E-Learning and use of technology in training, E-learning and employee development, developing effective online learning, blended learning, use of technologies for training delivery, training for virtual work arrangements, computer based training, sharing of intellectual capital through information technologies	6
6.	Training methods and techniques, presentation methods- lecturer and audiovisual techniques, hands on methods: on the job training, simulations, case studies, business games, role plays, behavior modeling,	6

	group building methods, adventure methods, team training, action learning, selecting a training method	
7.	Training evaluation, evaluation practices, evaluation designs, future of training and development, special issues in training and employee development, partnership with local community, business environment and training and development, training issues related to internal environment of organizations	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Raymond, A. N. and Kodwani, A.D., "Employee Training and Development", 4 th Edition, Tata McGraw Hill	2008
2.	Pareek , U., "Training instruments in HRD and OD", Tata McGraw Hill	2008
3.	Mustsuddi, I., "Essentials of HRM", New Age International	2010
4.	Dhar, U. and Dhar, S., "Management Education and Training", 2 nd Edition, Excel Books	2008
5.	Desimone, R.L., Werner, J. M. and Harris, D.M., "Human Resource Development", 3 rd Edition ,Thomson Publications	2003
6.	Rao, T.V., "Future of HRD", Macmillan Books	2003

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM- 636 **Course Title:** Compensation Management and Reward Systems
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** **Theory:** **Practical:**
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To develop understanding of rewarding systems for human resources.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Compensation management, objectives of compensation planning, components of pay structure in India, economic theory related to compensation management, wage and salary administration, principles of wage administration, wage policy in India, factors influencing compensation level	6
2.	Internal and external equity in compensation systems, determination of inter and intra industry compensation, wage differential, techniques for wage differential, compensation practices of MNCs, strategic compensation systems	6
3.	Understanding tools used in designing, improving and implementing compensation packages, skill competency and knowledge based pay, incentive compensation program design, reward system management, advantages and disadvantages of reward system, essential of sound reward system	6
4.	Managerial compensation, Compensation designs for specific type of human resource such as directors, CEO, CFO, Senior Managers, R& D staff	4
5.	Components of compensation packages such as fringe benefits, incentives, bonus, and retirement plans, pay for performance systems, incentive plans, individual incentive plans, team based incentive plans, organization based incentive plans	6
6.	Statutory provisions governing different components of reward systems, minimum wages act 1948, the payment of wages act 1936, payment of bonus act 1965	8

7.	Working of different institutions related to reward system like wage board, pay commissions, adjudication of wage disputes, compensation administration and technology	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Berger, L. and Berger, D., "Handbook of Compensation" 5 th Edition, Tata McGraw Hill	2008
2.	Milkovich, G. and Newman, J., "Compensation" 9 th Edition, McGraw-Hill/ Irwin	2007
3.	Mondy, R., Wayne, N. and Robert M. "Human Resource Management", 9 th Edition, Pearson Education	2006
4.	Henderson, R.I., "Compensation Management in a Knowledge-Based World" 10 th Edition, Prentice Hall	2005
5.	Gupta, A., "Wage and Salary Administration in India", Anmol Publications	2002

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-637 **Course Title :** Management of Change
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** Theory: Practical:
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To understand various aspects of change management process and methodologies.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Forces of change, planning for change, change agents and champions, resistance to change, managing organizational change; Organization development (OD) and transformation	6
2.	Types of change- cultural, strategic, structural, process and technological changes	4
3.	Transformational leadership, learning organizations	4
4.	OD interventions, creativity and innovation	3
5.	Cross role of visioning and leadership, change mechanisms, functional linkages.	4
6.	Teams and teamwork; empowerment and participative management collaboration and intrapreneurship, knowledge based organization.	6
7.	TQM, business process reengineering , simultaneous engineering, small group activities, self managed teams, QFD, workplace innovations, lean organization, kaizen, pokayoke	7
8.	Implementing organizational change, diffusion of change, management of change projects, evaluation of impacts, building and sustaining changing organizations	8
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	John, H., "Theories and Practices of Change Management", 2 nd Edition, Palgrave Macmillan	2007
2.	Sharma, R., "Change Management: Concept and Applications", Tata McGraw Hill	2006
3.	Michal, B., "Strategic Organizational Change", 2 nd Edition, Practitioner Press International	2006
4.	Richard, L., "Managing Change and Transition", Harvard Business School	2003
5.	Harrington, H., Conner, D. and Horney, N., "Project Change Management", Tata McGraw Hill	1998

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-638** **Course Title : Managing Innovation and Creativity**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite:** Nil **8. Subject Area: PEC**

9. **Objective:** To impart knowledge of management of creativity and organizational innovations.

10. Details of Course

S.No.	Contents	Contact Hours
1.	Creativity, process, determinants, skills, creative thinking, nature and characteristics of creativity, innovation incremental and radical innovation, innovation in process, service innovation, case studies- GE-success story of innovation, BBC's walking with Dinosaurs, an innovative leader- a case of apple	10
2.	Stages in creative thinking, creative decisions, training in creative problem solving, tapping the ideas of customers, learning from lead users	6
3.	Creativity and leadership, opportunity recognition, develop and innovation friendly culture, apply portfolio thinking, organizing team creativity and innovation and harvest ideas	5
4.	Creativity and entrepreneurship, creativity and organizational innovations, establish strategic direction, improve the idea to commercialization, creation of an ambidextrous organization, developing self creativity	7
5.	Channeling creativity in organizations, managing creativity, creativity and innovation, handling creative groups, enriching the organization and workforce, time pressure and creativity	7
6.	Cultural innovation, innovation-group style, creativity and organizational innovations	7
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Constatine, P., and Dowsan ,M.B., “Managing Change Creativity and Innovation”, Sage Publications	2009
2.	Estrin, J., “ Losing the Innovation Gap: Reigniting the Spark of Creativity in a Global Economy”, Tata McGraw Hill	2008
3.	Sawyer, R. K., “Explaining creativity: The science of human innovation” Oxford University Press	2006
4.	Biech , E., “ Creativity and Innovation”, Tata McGraw Hill	1998

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-639 **Course Title :** Management of Self and Interpersonal Dynamics
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** Theory: Practical:
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To impart knowledge on managing oneself and the conflicts while working with others in an organization.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Exploring the self- capabilities, orientation, time management, johari window self assessment-strength and weaknesses	8
2.	Conflict- introduction and concept, new view to conflict, approaches to conflict handling, ingredients of conflict, conflict partnership process, cognitive aspect of conflict, emotional side of conflict	8
3.	Transactional analysis, exchange relationship, inputs and outcomes of relationships, relevance of inputs and outcomes	5
4.	Resource allocation norms, dynamics of role stress, role stress and burnout, role stress and coping, career goals and paths, career planning and knowing others	7
5.	Conflict, intra-individual conflict, interpersonal conflict, resolving conflict, techniques and methods to resolve conflict, essentials of conflict resolution, develop mutual benefits agreements	7
6.	Interpersonal dynamics and relationship, team conflict competence, organizational conflict competence	5
7.	Self and organizational culture, culture and conflict management, organizational leader and conflict management	2
Total		42

11. Suggested Books

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Kavitha, G. , “Occupational Stress and Coping Strategies”, Discovery Publishing House	2009
2.	Pastonjee, D.M. and Pareek, U., “Studies in Stress and Its Management”, Oxford Publications	1999
3.	Robbins S.P., “ Organizational Behavior” , 13 th Edition, Pearson-Prentice Hall	2009
4.	Fincham, R.and Rhodes, P., “Principles of Organizational Behavior”, 4 th Edition, Oxford University Press	2008
5.	Baron, R. A. and Byne, D., “Social Psychology: Understanding Human Interactions”, 10 th Edition, Prentice Hall	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./ CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code** : BM-641 **Course Title** : Manufacturing Strategy

2. **Contact Hours:** L: 3 T: 0 P: 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To provide a strategic perspective of manufacturing function and its role in competitive strategy of an enterprise.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Strategic issues in manufacturing, developing a manufacturing strategy-principles and concepts	4
2.	Order winners and qualifiers- basic characteristics, specific dimensions	3
3.	Issues in new product development, strategic importance, types of new product development, process of new product development, CAD, modular design, product profiling	6
4.	Manufacturing investment, process choice and strategy.	3
5.	Developing a manufacturing strategy- methodology	5
6.	Process choice- overview, business implications, hybrid processes, technology strategy	5
7.	Focused manufacturing- principles and concepts, trade offs in focused manufacturing.	4
8.	Focus methodology, origins of existing plants, moving to focused plants, focus regression Vs focus progression, focused plants outcome	5
9.	Managing the supply chain	3
10.	Manufacturing infrastructure development, World class strategic manufacturing- concepts, cases, development	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Hill, T. and Hill, A., "Manufacturing Operations Strategy Text and Cases", 3 rd Edition, Palgrave MacMillan	2009
2.	Brown, S., "Strategic Manufacturing for Competitive Advantage", 2 nd Edition, Prentice Hall	1996
3.	Todd, J., "World Class Manufacturing", 2 nd Edition, McGraw- Hill	2008
4.	Schonberger, R.J., "World Class Manufacturing: The Lessons of Simplicity Applied", 3 rd Edition, The Free Press	2008
5.	Slack, N. and Lewis, M., "Operations Strategy", 2 nd Edition, Pearson Education	2009
6.	Sahay, B.S., Saxena, K.B. C. and Kumar, A., "World Class Manufacturing- A Strategic Perspective", Macmillan	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM - 642** **Course Title : Computer Integrated Manufacturing**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To impart knowledge of computer integrated manufacturing systems.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Evolution and stages of automated manufacturing systems, history of manufacturing, the product cycle, manufacturing automation, economies of scale and scope	6
2.	Computer controlled machines, numerically controlled machines, pallets and fixtures, constituents of machine centres, automated inspection systems	6
3.	Plant layout, process layout- computerized layout techniques, SLP, product layout- assembly line, splitting task, flexible and U shaped line layout, group technology	5
4.	Flexible manufacturing systems, architecture, automated work piece flow, automated assembly systems	7
5.	Performance measures- operational measurements throughput, inventory, operating expenses	3
6.	Computer based control systems- networking, automation protocol, database management system	5
7.	Computerized process planning and scheduling in flexible manufacturing	5
8.	Economic justification of CIMS- financial measurements such as net profit, return on investment (ROI), cash flow and implementation issues	5
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Grover, M.; "Automation, Production Systems and Computer Integrated Manufacturing", 3 rd Edition, Prentice Hall of India	2009
2.	Talavage, J., "Flexible Manufacturing Systems: Design, Analysis and Simulation (Manufacturing Engineering and Materials Processing)", CRC Press	1987
3.	Weatherall, A.; "Computer Integrated Manufacturing", 2 nd Edition, Butterworths and Co.	1992
4.	Kraebber, H. W. and Rehq, J. A., "Computer Integrated Manufacturing", 3 rd Edition, Prentice Hall	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM - 643** **Course Title : Operations Planning and Control Systems**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To impart knowledge of advanced concepts of operational planning and control.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Operations planning as a system, current status of operating system, factors affecting domestic and international productivity, manufacturing and service system	6
2.	Aggregate planning of production, varying use of work force, use of overtime, varying inventory level, accepting back orders, subcontracting, changing existing capacity	6
3.	Materials requirement planning- dependent Vs independent demand, bill of materials, time phasing, lot sizing, manufacturing resource planning, distribution requirement planning	6
4.	Scheduling- overview of operations scheduling, scheduling and control functions, scheduling in high intermediate low volume systems, order release; Dispatching; Personnel scheduling	6
5.	Shop floor control, loading and assignment, sequencing, lead time control, expediting, status control, input and output control	6
6.	Just-in-time planning and control systems, tie-up with suppliers, pull type movement of materials, low cost set up time, continuous improvement	6
7.	Computer based planning and control systems, computer aided design, computer aided manufacturing, flexible manufacturing system, automated guided vehicles, automated storage and retrieval system, computer communication	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Stephen, N. and Chapman, "Fundamentals of Production Planning and Control", Pearson Education	2007
2.	Khalid, S., "Manufacturing Resource Planning (MRP II) with Introduction to ERP, SCM, and CRM", Tata McGraw Hill	2002
3.	Wight, O.; "MRPII: Unlocking America's Productivity Potential", Wiley	1995
4.	Narasimhan, S.L., McLeavey, D.W. and Billington, P.J., "Production Planning and Inventory Control", 2 nd Edition, Prentice Hall of India	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-644** **Course Title : Supply Chain Management**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory: Practical:**
4. **Relative Weightage:** **CWS PRS MTE ETE PRE**
5. **Credits:** **6. Semester: Both**
7. **Pre-requisite: Nil** **8. Subject Area: PEC**
9. **Objective:** To provide a comprehensive view of Supply Chain Management (SCM) function in enterprises.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Meaning and evolution of SCM, environmental factors and changing nature of competition, SCM as a philosophy, cycle view, process view	4
2.	Supply chain design, competitive and SC strategies, achieving strategic fit, SC and value chain, parameters for SC performance	4
3.	SC drivers and metrics, framework for structuring drivers, facilities, inventory, transportation, information, sourcing, pricing	4
4.	Demand forecasting in a SC, aggregate planning and inventory management, planning supply and demand in a SC, managing predictable variability	5
5.	Transportation in a supply chain, role, modes of transportation, infrastructure and policies	4
6.	Sourcing decisions in supply chain- in-house or outsource, 3PL and 4 PL, supplier scoring and assessment	4
7.	Pricing and revenue management in supply chain- multiple customer segments, perishable assets, seasonal demand	4
8.	Warehouse management and operation, location and networking	3
9.	Supply chain quality, supplier relationships and the quality management function	3
10.	Supply chain coordination and performance, IT and SCM	3
11.	International logistics and supply chain	2
12.	Decision support and optimization models for LSCM	2
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Books/Publisher	Year of Publication / Reprint
1.	Chopra, S., Meindl, P. and Kalra, D.V., "Supply Chain Management Strategy, Planning and Operation", 3 rd Edition, Pearson Prentice Hall	2009
2.	Kachru, U., "Exploring the Supply Chain theory and practice", Excel Books	2009
3.	Bowesox, D.J. and Closs, D.J., "Logistical Management: The Integrated Supply Chain Process", Tata McGraw Hill	2008
4.	Deshmukh, S.G. and Mohanty, R.P., "Supply Chain Management Theories and Practices", 2 nd Edition, Biztantra	2008
5.	Coyle, J.J., Bardi, E.J. and Lanley, C.J. Jr., "The Management of Business Logistics A Supply Chain Perspective", 7 th Edition, Thomson South Western	2003
6.	Shapiro, J.F., "Modelling The Supply Chain", 2 nd Edition, Duxbury Press	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-645** **Course Title : Total Productive Maintenance**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory: Practical:**
4. **Relative Weightage:** **CWS PRS MTE ETE PRE**
5. **Credits:** **6. Semester: Both**
7. **Pre-requisite: Nil** **8. Subject Area: PEC**
9. **Objective:** To understand the principles and practices of maintenance management and related issues of safety and reliability.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Role of maintenance function, fundamental concepts in safety system and maintenance management, types of maintenance systems	4
2.	Organising for safety and maintenance management, maintenance systems and procedures	4
3.	System failure analysis, models of system reliability and failure analysis	5
4.	Decision models for maintenance, planning and allocation of maintenance effort in breakdown, preventive and predictive maintenance	5
5.	Replacement and repair analysis, spares inventory management	4
6.	Manpower planning, scheduling and allocation in maintenance, condition monitoring	4
7.	Maintenance cost analysis and cost management, total productive maintenance	4
8.	Maintenance standards, budgeting, performance analysis and control	4
9.	Management of industrial safety, scheduling of major overhaul and shut downs	4
10.	Maintenance management information systems	4
	TOTAL	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Venkataraman, K., "Maintenance Engineering and Management", 2 nd Edition, Prentice Hall of India	2009
2.	Higgins, L. and Morrow, L., "Maintenance Engineering Hand Book", McGraw-Hill	1977
3.	Wireman, T., "Total Productive Maintenance", 2 nd Ed., Industrial Press	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE: **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM- 646** **Course Title : Project Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To provide an integrative approach to management of projects, detailing the concepts of various phases of the Project life cycle.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Definition of projects, project life cycle / phases, stakeholders, organization and skills	4
2.	Role of project manager, conflicts in projects and resolution, project objectives / processes	4
3.	Proposal engineering management, project feasibility and appraisal	5
4.	Project cost estimation and control, project financing and managing cash flows; risk analysis in project	8
5.	Project structuring, planning and scheduling, resource scheduling and allocation, project acceleration, network approach, PERT/CPM, PERT/COST, GERT, simulation of networks	10
6.	Project monitoring systems, line of balance	3
7.	Contract management and structuring	4
8.	Project management in production, services and construction industries	4
	Total	42

11. Suggested Books:

S.No.	Name of Authors /Book/ Publisher	Year of Publication / Reprint
1.	Chandra, P., "Projects-Planning, Analysis, Financing, Implementation and Control", 5 th Ed., Tata McGraw Hill	2002
2.	Maylor, H., "Project Management", 2 nd Ed., Pitman Publication	2000
3.	Ghattas, R.G. and Mc Kee, S.L., "Practical Project Management", Pearson Education Asia	2001
4.	Pinto, P.K., "Project Management", Pearson Education	2009
5.	Wyzocki, R.K. and McGary R., "Effective Project Management", Wiley	2003

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-647** **Course Title : Productivity Management**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory: Practical:**
4. **Relative Weightage:** **CWS PRS MTE ETE PRE**
5. **Credits:** **6. Semester: Both**
7. **Pre-requisite: Nil** **8. Subject Area: PEC**
9. **Objective:** To provide a total organisational approach to productivity management.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Overview of productivity and productivity improvement	3
2.	Conceptual framework of productivity measurement	5
3.	Productivity measurement in manufacturing sector	5
4.	Productivity measurement models, historical perspective, production function models, financial ratios, production based models, product oriented models, surrogate models, economic utility models, models based on system approach	5
5.	PO-P application, productivity measurement in service sector	5
6.	Interfacing productivity with other factors such as quality, flexibility and innovation	4
7.	Japanese approaches for high productivity management systems	5
8.	Techniques of productivity improvement, work analysis, value analysis	5
9.	Behavioural techniques, job design, organisation learning, incentive and reward systems, waste elimination	5
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Premvrat, Sardana, G.D. and Sahay, B.S., "Productivity Management: A systems Approach", Narosa Publishing House	1998
2.	Schaffer, R., "Managing Productivity", Jaico Publishing House	2001
3.	Schonberger, R., "Japanese Manufacturing Techniques: nine hidden lessons in simplicity", The Free Press	1982
4.	Premvrat, Sardana, G.D. and Sahay, B.S., "Productivity Measurement for Business Excellence", Narosa Publishing House	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM – 648** **Course Title : Quality Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To introduce various concepts and philosophies of quality management.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Basic concepts and definition of quality, characteristics of quality leaders, role of TQM leaders, strategic planning and decision making	4
2.	Customer satisfaction, service quality, customer retention	3
3.	Motivation and its tools, performance appraisal and benefits of employee involvement	2
4.	Continuous process improvement, improvement strategies, PDCA cycle, Kaizen, reengineering, six sigma	4
5.	Principles of customer/ supplier relationship, sourcing, selection, certification of suppliers	3
6.	Strategies of performance measurement, cost of quality, and awards related to quality	3
7.	Benchmarking, process, planning, pitfalls and criticism of benchmarking, role of IT in quality	4
8.	Quality management systems (ISO 9000 series), environment management systems (ISO 14000 series)	4
9.	Quality function deployment, quality by design and various communication models	5
10.	Statistical process control, various tools and their application, acceptance sampling	3
11.	Methods of experimental design and taguchi method	7
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Besterfield, D.H., Michna, C.B., Besterfield, G.H. and Sacre, M.B., "Total Quality Management", 9 th Ed., Pearson Prentice Hall	2009
2.	Juran, J. M. and Gryna, Jr. F.M., "Quality Planning and Analysis", 5 th Ed., Tata McGraw Hill	2005
3.	Ronald, G.D., "Quality Function Deployment Linking a Company with its Customers", ASQ Quality Press	1993
4.	Howard, G., Oppenheim, A., Oppenheim, R. and David L., "Quality Management", 3 rd Ed., Tata McGraw Hill	2008
5.	Marash, I. and Block, M. , "Integrating ISO 14001 into a Quality Management System", Tata McGraw Hill	2000

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM 651** **Course Title : Management of Information Technology**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To impart knowledge on use of information technology for achieving organisational goals.

10. Details of Course:

S. No.	Contents	Contact hours
1.	IT strategy context and content: Linking IT and business strategy, soft aspects of IT - relating IT and organizational structure, leadership and culture, role of chief information officer, chief technology officer and IT managers, IT for internal effectiveness, IT for inter-organisational linkages	6
2.	IT strategy formulation: IT strategy components, strategy formulation techniques and models, nolan's stage model and revised models for Nolan's stages, critical success factors, scenario analysis, linkage analysis, enterprise modeling	8
3.	Investment decisions in a high velocity environment: Information economics and ROI, IT-enabled business process redesign	4
4.	Enterprise architecture: Enterprise architecture framework – TOGAF, ZACHMAN	5
5.	Basics of enterprise computing: Centralization and decentralization, data center, networks, monitoring, security, standards, IT governance	7
6.	Risk and compliance in the global enterprise: Basics of Information Technology Infrastructure Library (ITIL), managing IT outsourcing, managing legacy systems	4
7.	Emerging technologies: Overview of specific emerging technologies, cloud computing, semantic web, global collaboration and tools	8
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Turban, E., McLean, E. and Wetherbe J., "Information Technology for Management, Transforming Organizations in the Digital Economy", 6 th Edition, John Wiley	2008
2.	Kulkarni,P. and Chandle,P., 'IT Strategy for Business", Oxford University Press	2008
3.	Chew,E.K. and Gottschalk,P., "Information Technology Strategy and Management Best Practices", IGI Global	2009
4.	Applegate,L.M., Austin,R.D. and McFarian,F.W., "Corporate Information Strategy and Management", Tata McGraw Hill	2007
5.	Dubey,S.S., "IT Strategy and Management", Prentice Hall of India	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-652** **Course Title : Enterprise Business Applications**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To impart knowledge on various aspects relating to selection, implementation and management of enterprise.

10. **Details of Course:**

S. No.	Contents	Contact hours
1.	Introduction: Enterprise wide information system applications, cross functional framework, introduction to concept of enterprise resource planning, supply chain management, customer relationship management, product life cycle management and enterprise performance management	4
2.	Enterprise resource planning: Introduction, historical development, modules such as financials, manufacturing, maintenance, procurement, HRM, inventory	9
3.	Management of ERP projects: ERP platform and vendor selection methods, ERP project management, management of issues in ERP projects	7
4.	Supply chain management systems: Nature and concept of supply chain management, IT support to supply chain management – EDI, data warehousing, RFID, SCM packages and functionalities including supply chain planning, warehousing, logistics and transportation, order management, price management, global trade management and optimization	7
5.	Customer relationship management systems: Defining CRM, sales force automation, partnership relationship management, e-CRM technologies and applications, popular CRM packages and functionalities like sales, marketing and loyalty, contact center and service, self service and e-billing, partner relationship management	7
6.	Implementation methodologies: Deployment models, support models (onsite and offsite), upgrade and patch management, risk management, data migration strategy, training strategy and customization management	6
7.	Enterprise application integration: Overview of EAI, integration of various enterprise applications	2
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Leon, A., "Enterprise Resource Planning", Tata McGraw Hill	2008
2.	Olson, D., "Managerial Issues of Enterprise Resource Planning Systems", Tata McGraw Hill	2004
3.	Paul, G., "CRM at the speed of light", 3 rd Edition, Tata McGraw Hill	2007
4.	Rangarajan, N., "Supply Chain Management", Tata McGraw Hill	2009
5.	Monk, E. and Wagner, B., "Concepts in Enterprise Resource Planning", 3rd Edition, Cengage Learning	2009
6.	Goldenberg, B.J., "CRM in real time: Empowering Customer Relationships", Information Today	2008
7.	Linthicum, D.S., "Enterprise Application Integration", Addison Wesley	2000

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-653 Course Title : Information Technology Project Management**

2. **Contact Hours: L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.): Theory: 3 Practical: 0**

4. **Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**

5. **Credits: 3** 6. **Semester: Both**

7. **Pre-requisite: Nil** 8. **Subject Area: PEC**

9. **Objective:** To provide an insight into the life cycle of an IT project highlighting specific and unique requirements of IT projects.

10. **Details of Course:**

Sl. No.	Contents	Contact hours
1.	Characteristics of IT programs and projects: Difference between IT and business projects, specific requirements of IT projects, success of IT projects - why projects fail, typical large projects - issues and challenges, program and project life cycle	6
2.	Pre-project activities: Vision, objectives and goals, estimation pricing models, proposal preparation	3
3.	Project framework: Project processes, IT project planning, phases and stages, critical considerations for the project	4
4.	Project execution: Management of multivendor projects, project and vendors structure, service level agreements and contracts finalization	6
5.	Project implementation: Project kickoff and nodal teams, deliverable mapping and development/customization, project reviews and sign-off, stakeholder liaison mechanisms	8
6.	Solution Review: Solution review stages, proof of concept, scope changes, risk management, change management and user adoption challenges	6
7.	Project infrastructure and readiness: Legacy systems integration, infrastructure requirements, emerging options and models	4
8.	Project roll out: Checklists, pilots, training, handover, project closure, feedback	5
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Marchewka, J.T., "Information Technology Project Management", Wiley	2006
2.	Kelkar, S.A., "Information Technology Project Management", Prentice Hall	2005
3.	Taylor, J., "Managing Information Technology Projects, Applying Project Management Strategies to Software, Hardware and Integration Initiatives", AMACOM books	2004
4.	Schwalbe, K., "Information Technology Project Management", 6 th Edition, Cengage Learning	2010

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM 654** **Course Title : Software Engineering and Management of Software Development**

2. **Contact Hours:** L: 3 T: 0 P: 0

3. **Examination Duration (Hrs.):** **Theory:** **Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To provide insight into software project and product development and the importance of software engineering tools and techniques.

10. **Details of Course:**

S. No.	Contents	Contact hours
1.	Introduction to software products, characteristics of software products and projects, software processes, various models of software development life cycle, process visibility and deliverables	6
2.	Introduction to systems engineering and systems architecture, introduction to project management	2
3.	Requirements engineering- analysis, definition, and specification, prototyping	4
4.	Software design process, architectural and user interface design, function oriented design, object oriented design, detailed design, verification and validation	8
5.	Software cost estimation, software testing, configuration management and version control, software maintenance, reverse engineering and software reengineering	8
6.	Product development, evaluating opportunities , domain expertise, sales and marketing cycle, proposal preparation effort estimation, system development metrics, <i>a priori</i> ROI analysis	8
7.	Project teams and work breakdown structure, project planning and tracking, quality management and process improvement	4
8.	Service oriented architecture	2
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Pressman, R.S., "Software Engineering", 7 th Ed., McGraw Hill	2009
2.	Sommerville, I., "Software Engineering", 8 th Ed., Pearson Education	2007
3.	Jalote, P., "An Integrated Approach to Software Engineering", 3 rd Ed., Narosa Publishing House	2010
4.	Gopaldaswamy, R., "Managing Global Software Projects", McGraw Hill	2005

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM- 655** **Course Title : Design of On-Line Systems**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory: Practical:**
4. **Relative Weightage:** **CWS PRS MTE ETE PRE**
5. **Credits:** **6. Semester: Both**
7. **Pre-requisite: Nil** **8. Subject Area: PEC**
9. **Objective:** To impart working knowledge of online systems and new technologies which are driving changes in the online systems domain.
10. **Details of Course:**

S. No.	Contents	Contact hours
1.	Introduction: Various online systems and technologies including service oriented architecture, cloud computing, business and social networking, e-commerce, e-payments, mobile computing and mobile applications, business models of online systems	6
2.	Service oriented architecture: Principles, web services approach, SOA and web services protocols, SOA Concepts, SOA definitions, service contract, SOA and network management architecture	3
3.	Cloud computing: Characteristics, types, comparisons, architecture, key features, layers, deployment models, privacy and compliance issues, open standards in cloud computing	4
4.	Social networking: History, social impacts, structure, emerging trends in social networking, social networking hosting services, business models, issues concerning to privacy, potential for misuse, social networking in government, business, education and medical field	8
5.	Mobile computing: Types of mobile computing, different applications of mobile computing, application of mobile computing in different industries, technical and other limitation of mobile computing	8
6.	Electronic commerce: History, early development of e-commerce, timeline, various business applications like email, enterprise content management, instant messaging, newsgroups, online shopping, online banking, online office suites, payment systems, shopping carts, teleconferencing and e-ticketing, commercial and government regulations, electronic forms	8
7.	Enterprise dashboards and analytics: Types of enterprise dashboards interface designing, history, benefits of digital dashboards, corporate performance	5

	management, data mining, and enterprise manufacturing intelligence, applications, challenges and competing on analytics	
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Bhasker, B. , “Electronic Commerce: Framework, Technologies and Applications”, 3 rd Ed., Tata McGraw Hill	2008
2.	Shuen, A., “Web 2.0 – A Strategy Guide”, Shroff/ O’Reilly Media	2008
3.	Velte, T., Velte, A., and Elsenpeter, R.C. , “Cloud Computing a Practical Approach” McGraw- Hill	2009
4.	Jeff, J., “What Would Google Do”, Harper Collins Publishers	2009
5.	Schneider, G.P., “E commerce – Strategy, Technology and Implementation”, Course Technology	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM 656** **Course Title : Decision Support and Expert Systems**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: 3 Practical: 0**

4. **Relative Weightage:** **CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**

5. **Credits:** 3 **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To impart knowledge of developing decision support systems and expert systems for management.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Managers and decisions: decision making contexts (certainty, risk and uncertainty), computers and decisions; Decision support systems (DSS) concepts, decision modeling	8
2.	Decision Support Framework: Structured, semistructured unstructured decisions, bounded rational decision making phases - intelligence, alternative generation, choice, feedback, overview of available technologies	3
3.	Modeling and analysis: Different types of models (analog, mental heuristic and statistical models), decision tree, spreadsheet based systems, quantitative system modeling	9
4.	Designing a DSS – Approach and methodologies, tools - statistical and simulation modeling, sensitivity analysis, scenario analysis, monitoring and controls, optimization and search methods - heuristic methods, and evolutionary algorithms, GUI design, visual interactive systems, evaluating the effectiveness of a DSS	8
5.	Intelligent systems: Knowledge based systems, knowledge engineering, knowledge capture	4
6.	Application : Expert and AI systems, neural network systems, intelligent systems over the web	4
7.	Implementing DSS: Strategies for implementing and maintaining management support systems	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Turban, E., Jay, E. A. and Liang, T.P., "Decision Support Systems and Intelligent Systems" 7 th Ed., Prentice Hall	2004
2.	Marakas, G.M., "Decision Support Systems in the 21 st Century", 2 nd Ed., Prentice Hall	2008
3.	Janakiraman, V.S. and Sarukesi, K., "Decision Support Systems" 6 th Ed., Prentice Hall	2006
4.	Burstein, F. and Holsapple, C. W. (Eds.), "Handbook on Decision Support Systems 2", Springer	2008

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-657** **Course Title : Business Process Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To provide an understanding of business performance, linkages to processes towards managing business and unlocking value in the activity chain.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Introduction: Organization strategy, structure, closed-loop process linking strategy to execution, role of IT in performance management, planning and management reporting	3
2.	Business performance management and measurement: Overview of BPM methodologies, six sigma, balanced scorecard, management by objectives	4
3.	Process engineering: Business activity management, process study, authority and responsibility, critical success factors, process maturity	3
4.	Process design: Process modeling and innovation, workflow automation, collaborative processes, document and content management systems, collaboration tools, group support systems	9
5.	Process control and Governance: Process metrics, rollout challenges of new processes, mechanisms for process governance	6
6.	Business intelligence Data warehousing, data mining, business analytics, balanced score card implementation	5
7.	Knowledge management(KM): Introduction, distinction between data, information and knowledge, knowledge creation, evolution of knowledge management, models of knowledge management, coding of knowledge, data mining	6
8.	The KM process: Strategic issues in knowledge management, knowledge management ROI and evaluation, valuation of intellectual capital, human factors, socio-cultural and organizational aspects, relationship with technological components, the knowledge organization and knowledge distribution	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Chang, J.F., "Business Process Management Systems" Auerbach Publications	2006
2.	Havey, M., "Essential Business Process Modelling", Shroff/o'reilly	2005
3.	Kahn, R.N., "Understanding workflow automation: A guide to enhancing customer loyalty", Prentice Hall	2004
4.	Jeston, J. and Nelis, J., "Management by Process – A Roadmap to Sustainable Business Process Management", Elsevier	2008
5.	Debowski, S., "Knowledge Management" Wiley India	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM 658** **Course Title : Electronic Commerce and e-Governance**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: 3 Practical: 0**

4. **Relative Weightage:** **CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**

5. **Credits:** 3 **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To impart knowledge of various aspects of electronic commerce and electronic governance.

10. Details of Course:

Sl. No.	Contents	Contact hours
1.	Introduction to e-commerce- meaning and definition, frameworks such as EDI, WAN, www, intranets, business models, formulating an e-commerce strategy, sector strategies, e-branding	7
2.	E-commerce technologies- search engines and directories, infrastructure in e-commerce (ISPS, local loops, backbone), bottlenecks, overall selection considerations	6
3.	Architecture of internet model, technologies such as HTML, XML, WML, java applets, java servlets, browsers, payment systems and security	3
4.	E-commerce management, content management, infrastructure management, security policy, web hosting service models, types of hosting accounts, cyber laws and other legal issues including ethics, malpractices and torts, website management tools, market valuation of website, generation of traffic on website; M-commerce	6
5.	Introduction to E-governance- governance and e-governance, concepts, government reforms and government process reengineering, government information systems, design of e-governance projects	5
6.	Social cost benefit analysis of investment in IT projects, project appraisal techniques, UNIDO approach, world bank methods	4
7.	Management of e-governance initiatives, business models for e-governance – public private partnership models, change management, people management and technology tools for e-governance projects	6
8.	IT infrastructure management, security and legal challenges	3
9.	Indian experience in e-governance, critical sectors mission mode projects, success stories	2
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Loudon, K., "E-Commerce" 5th Ed., Prentice Hall	2009
2.	Bajaj, K.K. and Nag, D., "E-commerce: The Cutting Edge of Business", Tata McGraw Hill	2009
3.	Satyanarayana, J., "e-Government: The Science of the Possible" Prentice Hall of India	2004
4.	Bhatnagar, S., "E-Government: From Vision to Implementation", Sage Publications	2004

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-661** **Course Title : Internet Marketing**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To acquaint students with Internet technologies for use of marketing, selling and distribution of goods and services.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	The Online Environment: The impact of internet on society and business, online buying behavior, online marketing objectives	6
2.	The B2C Online Presence: Introduction, niche marketing, comparison shopping engines	5
3.	The B2B Online Presence: Introduction, e-marketplaces, online auctions	5
4.	Online Advertising: Objectives and management, search engine advertising, network advertising	5
5.	Permission Marketing: Introduction, RSS feeds, personalization and mobile marketing	5
6.	Social Media Marketing: Introduction, consumer generated content, viral marketing	6
7.	New product development and Online market research: On line pricing strategies and tactics	6
8.	The Internet as part of the Integrated Marketing Strategy: Introduction, integrated online marketing	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/ Book/ Publishers	Year of Publication
1.	Jason, M., "Principles of Internet Marketing: New Tools and Methods for Web Developers", Cengage Learning	2010
2.	Wilson, R. F., "Planning Your Internet Marketing Strategy", Wiley,	2001
3.	Hanson, W., "Principles of Internet Marketing," , South Western Publishing Co.	1999

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code: BM-662** **Course Title: Consumer Behaviour Analysis**

2. **Contact Hours:** L: 3 T: 0 P: 0

3. **Examination Duration (Hrs.):** Theory: Practical:

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To develop an understanding of the consumer decision making process and its application in marketing functions of firms

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Consumer behavior: Introduction, nature, scope, understanding consumers and market segments	5
2.	Environmental influences on consumer behavior I: Culture, cross-cultural understanding of consumer behaviour, subcultures, the nature of subculture, social class, the process of social stratification, social class and consumer behavior, social groups, group properties	7
3.	Environmental influences on consumer behavior II: Family, family life cycle, family purchase decisions, personal influence and diffusion of innovations, opinion leaders in marketing, marketing implications of personal influence	6
4.	Individual determinants of consumer behavior I: Personality and self- concept, personality theories and applications, personality and marketing	7
5.	Individual determinants of consumer behavior II: Motivation and involvement, the nature and role of motives, classifying motives, information processing, learning and memory, attitudes, characteristics and functions of attitude, attitude theories and models	6
6.	Consumer decision processes: Problem recognition, search and evaluation, purchasing processes, post-purchase behavior	6
7.	Additional Dimensions: Modeling and researching consumer behavior, organizational buyer behavior	5
Total		42

11. Suggested Books:

S. No.	Name of Authors/ Book/ Publishers	Year of Publication
1.	Schiffman, L. and Kanuk, L., "Consumer Behavior", 10 th Ed., Prentice Hall	2009
2.	Solomon, M.R., "Consumer Behavior", 9 th Ed., Prentice Hall	2010
3.	Graham, G., "Critical Thinking in Consumer Behavior: Cases and Experiential Exercises", 2 nd Ed., Prentice Hall	2009
4.	Blackwell, R.D., Miniard, P.W. and Engel, J.F., "Consumer Behavior", 10 th Ed., South-Western College	2005
5.	Assael, H., "Consumer Behavior: A Strategic Approach", South-Western College	2003

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code: BM-663 Course Title: Product and Brand Management**

2. **Contact Hours:** L: 3 T: 0 P: 0

3. **Examination Duration (Hrs.):** Theory: Practical:

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil

8. **Subject Area:** PEC

9. **Objective:** To impart knowledge on complexities of a company's market offer and Product and Brand management.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Role of product management in contemporary marketing environment	3
2.	Product strategy and integration with marketing mix elements, impact of product strategy on marketing mix elements and marketing process, supply chain system including cost and competition considerations	5
3.	Product planning and marketing planning, understanding the relationship with respect to objectives of marketing departments involved and interdepartmental considerations	5
4.	Category planning and evaluation, category attractiveness analysis, competitors analysis, customers analysis, market potential and sales forecasting	5
5.	Introduction to product and offerings, developing product strategy, role of technology, inventions and innovations, pricing and brand development considerations	5
6.	Understanding innovation and new product development, keeping pace with market expectations, understanding of customers, future market development and global market scenario	5
7.	Taking innovation to markets, propelling market share and growth through innovation, brand development, integrated marketing communication and strategic choices	4
8.	Branding as a concept, brand creation principles, relevance of brand development, brand evolution and growth, branding and brand development strategies	5
9.	Building global brands, integrating brand strengths with globalized marketing perspective, customer orientation, awareness and buying behavior process	5
	Total	42

11. Suggested Books:

S.No.	Name of the Authors/ Book/Publisher	Year of Publication/ Reprint
1.	Donald, R. L. and Russell, S. W., "Product Management", 3 rd Ed., Tata McGraw Hill	2002
2.	Kotler, P., Keller, K., Koshi, A. and Jha, M., "Marketing Management" 13 th Ed., Pearson	2009
3.	Wheelwright, S. C. and Clark, K. B., "Revolutionizing Product Development: Quantum Leaps in speed efficiency and quality", Free Press	1992
4.	Trott, P., "Innovation Management and New Product Development", 4 th Ed., Prentice Hall	2008
5.	Kapferer, J. N., "Strategic Brand management : New Approaches to Creating and Evaluating Brand Equity", 2 nd Ed, Kogan Page	1997

11. Suggested Books:

S.No.	Name of the Authors/ Book/Publishers	Year of Publication/ Reprint
1.	O'Guinn,T., Allen, C., Semenik, R.J., "Advertising Management" Cengage Learning	2009
2.	Clow, K. E. and Baack, D., "Integrated Advertising, promotion and Marketing Communications", 2 nd Edition, Pearson Prentice Hall	2008
3.	Smith, P. R., "Marketing Communications- An integrated approach", 2 nd Ed., Kogan page Publication	2004
4.	Iane, R.W., King, W. K., Russell, T.J. and Keeppner's "Advertising Procedure", 16 th Ed., Pearson Education	2005
5.	George, E. B. and Michael, A. B. , " Advertising and Promotions, An Integrated Marketing Communications Perspective", 6 th Ed., McGraw Hill	2003
6.	Kotler, P., Keller, K., Koshi, A. and Jha, M., Marketing Management 13 th Ed., Pearson'	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-665** **Course Title : Sales and Distribution Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. Objective: To impart knowledge of sales and distribution channel management in coherence with complete supply chain management system.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Nature, scope and process of sales management, relevance integration with product management and integrated marketing communication	4
2.	Recruiting, selecting, training and development of sales force and sales organization, evaluation of sales personnel	6
3.	Compensation and motivation of sales personnel, impact on the sales practices and sales achievements	3
4.	Designing territories and allocating sales efforts, associated strategic advantages and disadvantages	4
5.	Managing major accounts, role of major accounts versus average business accounts and approach towards the balance of efforts associated with the same	5
6.	Sales budgeting, sales forecasting and control, approaches, techniques, role as a sales and marketing performance measurement tool and strategic marketing tool	5
7.	Importance of distribution management in competitive business environment, associated strategies and techniques	3
8.	Marketing channels – roles, structures, functions and relationships with the elements of marketing mix	4
9.	Managing distribution channels, channel design and planning and associated models, strategies and the role of strategies in business enhancement and growth	5
10.	Physical distribution management – transportation and warehousing	3
	Total	42

11. Suggested Books:

S.No.	Name of the Authors/ Book/Publisher	Year of Publication/ Reprint
1.	Jeff, T., Earl, D. H. and Robert, C. E. " Sales Management" Prentice Hall	2008
2.	Still, R.R., Cundiff, E.W. and Govoni, N.A.P., "Sales Management", 5 th Ed., Prentice-Hall	1988
3.	Kotler, P., Keller, K., Koshi, A. and Jha, M., "Marketing Management" , 13 th Ed., Pearson	2009
4.	Jobber, D., Lancaster, G., "Selling and Sales Management", 5 th Ed., Prentice Hall	2000

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-666** **Course Title : International Marketing**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To acquaint students with environmental procedural, institutional and decision aspects of international marketing with emphasize on global nature of marketing.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Globalization: Globalization imperative, globalization of markets, evolution of global marketing	5
2.	Global marketing environment I: Global economic environment, country competitiveness, evolution of cooperative global trade agreements, financial environment, foreign exchange and foreign exchange rates	5
3.	Global marketing environment II: Elements of culture, culture and the marketing mix, political environment and legal environment, international law and local legal requirements, issues transcending national boundaries	5
4.	Developing competitive marketing strategies I: Global marketing research, market size assessment, segmentation and positioning, international market segmentation approaches, segmentation scenarios, international positioning strategies	5
5.	Developing competitive marketing strategies II: Global marketing strategies, regionalization of global marketing strategy, market-entry strategies, strategic alliances, exit strategies, global sourcing strategies, value chain and functional interfaces, procurement and types of sourcing strategies	5
6.	Global marketing strategy development I: New product development, global product strategies, multinational diffusion, managing products and services, global branding strategies, managing multinational product lines, global marketing of services, global pricing, transfer pricing, price coordination	5
7.	Global marketing strategy development II: , Global distribution and logistics, free trade zones, global retailing, communication for global markets, creative strategy, global media decisions, sales management, export and import management	6
8.	Managing global operations: Planning, organizing, and control of global marketing operations, using internet for global marketing	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/ Book/ Publishers	Year of Publication/ Reprint
1.	Keegan, W. J. and Green, M., "Global Marketing", 6 th Ed., Prentice-Hall	2010
2.	Kotabe, M. and Helsen, K., "Global marketing Management", 5 th Ed., Wiley	2010
3.	Czinkota, M.R. and Ronkainen, I. A., "International Marketing", 9 th Ed., South-Western College	2009
4.	Lee, K. and Carter, S., "Global Marketing Management", 2 nd Ed., Oxford University Press	2009
5.	Johansson, J., "Global Marketing: Foreign Entry, Local Marketing, and Global Management", 5 th Ed., McGraw Hill	2008

11. Suggested Books:

S. No.	Name of Authors/ Book/ Publisher	Year of Publication/ Reprint
1.	Hutt, M.D. and Speh, T.W., "Business Marketing Management: B2B", 10 th Ed., South-Western College	2009
2.	Brennan, R., Canning, L.E. and McDowell, R., " Business-to-Business Marketing", Sage Publications	2007
3.	Coe, J., "The Fundamentals of Business-to-Business Sales and Marketing", McGraw-Hill	2003
4.	Morris, M.H., Pitt, L. and Honeycutt, E. D., "Business-to-Business Marketing: A Strategic Approach", 3 rd Ed., Sage Publications	2001
5.	Reeder, R.R., Brierty, E.D, and Reeder, B. H., "Industrial Marketing: Analysis, Planning, and Control", 2 nd Ed., Prentice-Hall	1998

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-668** **Course Title : Services Marketing**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To impart knowledge of special needs of marketing of services.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	Introduction: Characteristics of services compared to goods, services marketing mix	4
2.	Focusing on the customer: Consumer behavior in services, consumer experience, post purchase evaluation, customer expectations, factors influencing customer expectations, customer perceptions, service quality, service encounters	8
3.	Customer requirement analysis: Marketing research for services, customer relationship management and service recovery	6
4.	Service design and standards: Service development, design and standards, physical evidence and servicescape	6
5.	Delivering services: Employees' and customers' roles in service delivery, delivering services through intermediaries and electronic channels, managing demand and capacity	6
6.	Managing service promises: Managing integrated marketing communications and pricing of services	6
7.	Economic and financial impact of service: Customer retention, balanced performance scorecard, strategy maps	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/ Book/ Publisher	Year of Publication/ Reprint
1.	Schultz, M. and Doerr, J., "Professional Services Marketing", Wiley,	2009
2.	Lovelock, C. and Wirtz, J., "Essentials of Services Marketing", Pearson Education	2008
3.	Zeithaml, V. A., Bitner, M.J., Gremler, D. D. and Pandit, A., "Services Marketing", 4 th Ed., Tata McGraw Hill	2008
4.	Gronroos, C., "Service Management and Marketing", 3 rd Ed., Wiley,	2007
5.	Hoffman, K.D. and Bateson, J.E.G., "Services Marketing", 3 rd Ed., Cengage Learning	2006

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-671** **Course Title : Quantitative Analysis for Financial Management**

2. **Contact Hours:** L: 3 T: 0 P: 0

3. **Examination Duration (Hrs.):** Theory: Practical:

4. **Relative Weightage:** CWS PRS MTE ETE PRE

5. **Credits:** 6. **Semester:** Both

7. **Pre-requisite:** Nil 8. **Subject Area:** PEC

9. **Objective:** To impart knowledge of the contemporary mathematical framework for financial management.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Relevance of probabilistic concepts in financial markets, moments, conditional expectations, binomial, normal and poisson distributions, attributes of lognormal distribution, relevance of lognormal distribution in financial modeling	9
2.	Markov processes and their relevance, convergence of random variables	3
3.	Differentiation in stochastic environment, integration in stochastic environment, the ITO integral	6
4.	Discrete time and continuous time martingales, uses of martingales in asset pricing	6
5.	Option pricing models- binomial models, the black-scholes model, simple applications and variants of the black-scholes model	6
6.	Warrants and option pricing theory, overview of pricing in incomplete markets	6
7.	Sensitivity analysis of options, delta hedging, relationship between Delta Δ , Vega v , Theta Θ , Rho ρ	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Hull, J.C., "Options, Futures, and Other Derivatives", 7 th Ed., Prentice Hall	2009
2.	Neftci, S.N., "Introduction to the Mathematics of Financial Derivatives", 2 nd Ed., Academic Press	2000
3.	Cerny, A., "Mathematical Techniques in Finance : Tools for Incomplete Markets", 2 nd Ed., Princeton University Press	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE: **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM- 672** **Course Title : Working Capital Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objectives of Course:** To acquaint the students with various aspects of management of current assets and current liabilities in the firms for effective decision making.

10. Details of the Course:

S. No.	Contents	Contact Hours
1.	Working capital management, meaning, concepts, classification and importance of working capital, objectives of working capital, factors determining working capital requirements, working capital approaches	6
2.	Assessment and forecasting of working capital requirement, working capital financing, determining the working capital financing mix	6
3.	New trends in financing of working capital by banks, recommendations of Tandon committee report, Chore committee report, major recommendations of Marathe committee report, Chakravarty committee report and Kannan committee report	6
4.	Management and nature of cash, motives of holding cash, cash management, managing cash flows, determining optimum cash balance, cash management models, Baumol model, Miller-Orr model, Stone model, Investment of surplus funds	6
5.	Receivables management, meaning of receivables, cost of maintaining receivables, factors influencing receivables, formation and execution of credit policy	7
6.	Inventory management, meaning and nature of inventory, purpose and benefits of holding inventory, risk and cost of holding inventory, inventory management - tools, techniques, objective and meaning, determining stock levels and safety stocks	7
7.	Management of payables, meaning, objectives and dimensions of payables management	4
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Bhattacharya, H., "Working Capital Management", 2 nd Ed., Prentice Hall of India	2009
2.	Mathur, S. B., "Working Capital Management and Control: Principles and Practice", New Age	2003
3.	Bhalla, V.K., "Working Capital Management: Text and Cases", 4 th Ed., Anmol Publications	2007
4.	Hampton, J.J. and Wagner, C.L. "Working Capital Management", 4 th Ed., John Wiley	2007
5.	Pandey, I.M., "Financial Management", 9 th Ed., Vikas Publications	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-673** **Course Title : Security Analysis and Portfolio Management**
2. **Contact Hours:** **L: 3 T: 0 P: 0**
3. **Examination Duration (Hrs.):** **Theory: Practical:**
4. **Relative Weightage:** **CWS PRS MTE ETE PRE**
5. **Credits:** **6. Semester: Both**
7. **Pre-requisite: Nil** **8. Subject Area: PEC**
9. **Objective:** To provide a comprehensive knowledge of security analysis and portfolio management for investment decisions.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Risk-return analysis in investment decisions, measures of risk and return	3
2.	Portfolio optimization in the mean variance framework – two security case	6
3.	Portfolio optimization in the mean variance framework – multi security case	6
4.	Single index model and arbitrage pricing model	4
5.	Capital asset pricing model and its variants	6
6.	Portfolio performance appraisal	3
7.	Efficient market hypotheses	3
8.	Fixed income portfolio management and concept of duration, immunization and key rates	5
9.	Equity analysis and valuation – asset, income and cash flow basis, brief overview of fundamental analysis	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Chandra, P., "The Investment Game, How to Win", Tata McGraw Hill	1993
2.	Reilly, F.K., "Investment Analysis and Portfolio Management", 5 th Ed., Dryden	1997
3.	Pike, R. and Bill, N., "Corporate Finance and Investment., Decisions and Strategies", , 5th Ed, Prentice Hall	2006
4.	Fisher, D.E. and Jordan, R.J. " Security Analysis and Portfolio Management",.6 th Ed., Prentice Hall	1996
5.	Elton, E.J., Gruber, M.J., Brown S.J. and Goetzman, W., "Modern Portfolio Theory and Investment Analysis", 6 th Ed., Wiley	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-674** **Course Title : Indian Financial System**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To acquaint students with the organisation, operations and growth of the financial system in India.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Nature and role of financial system, Indian Financial System, an overview	4
2.	Reserve Bank of India-history, structure and growth, Monetary Policy, evaluation	4
3.	Commercial Banks and Co-operative Banks- history, structure and growth	3
4.	Call Money Market, Treasury Bills Market, Commercial Bills Market, Markets for Commercial Paper and Certificate of Deposits, Discount Market, Market for Financial Guarantees, level and structure of interest rates, interest rates in India	5
5.	Non Banking Financial Companies	2
6.	National Bank for Agriculture and Rural Development, Deposit Insurance and Credit Guarantee Corporation, Export Credit Guarantee Corporation, Export-Import Bank of India	3
7.	Specialized financial institutions like Power Finance Corporation, Indian Railway Finance Corporation, Unit Trust of India, Insurance companies	5
8.	Financial instruments- equity, debt, mutual funds	3
9.	Securities and Exchange Board of India- origin, structure and growth	2
10.	Capital Markets and other institutional arrangements of Capital Markets like SHCIL, NSE, BSE, scams in Indian Financial Markets	6
11.	International dimensions of financial markets, integration of Indian financial system with global financial system, global financial crisis	5
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Bhole, L.M. and Mahakud, J., "Financial Institutions and Markets: Structure, Growth and Innovations", 5 th Ed., Tata McGraw Hill	2009
2.	Burton, M. and Brown, B., "The Financial System and the Economy", 5 th Ed., Prentice Hall of India	2009
3.	Desai, V., "Fundamentals of the Indian Financial System", 6 th Ed., Himalaya Publishing House	2008
4.	Gomez, C., "Financial Markets, Institutions and Financial Services", Prentice Hall of India	2008
5.	Gurusamy, S., "Indian Financial System", 2 nd Ed., Tata McGraw Hill	2009
6.	Kohn, M., "Financial Institutions and Markets", Oxford University Press	2007
7.	Pathak, B. V., "The Indian Financial System-Markets, Institutions and Services", 2 nd Ed., Pearson Education	2008
8.	Srivastava, R.M. and Nigam, D., "Management of Indian Financial Institutions", 8 th Ed., Himalaya Publishing House	2008

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM – 675** **Course Title : International Financial Management**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester: Both**

7. **Pre-requisite: Nil** **8. Subject Area: PEC**

9. **Objective:** To provide students with an overall view of international financial system and the way multinational corporations.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Exposure and risk – concept, types and measurement	6
2.	Concept of arbitrage between spot markets	4
3.	Spot v forward markets and the parity principles	5
4.	Hedging and exposure/risk management- instruments and strategies	6
5.	Hedging and speculations with options	6
6.	Hedging with futures and forwards	6
7.	Swaps – applications and pricing	5
8.	Management of operating exposure	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Shapiro, A.C., "Multinational Financial Management", 8 th Edition, Allynand Bacon,	2006
2.	Levi, M., "International Financial Management and the International Economy", 4 th Edition, Routledge	2005
3.	Buckley, A., "Multinational Finance", 5 th Edition, Pearson	2006
4.	Apte, P.G., "International Financial Management", Tata McGraw-Hill	2006

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code :** BM-676 **Course Title:** Financial Management Control Systems
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** Theory: Practical:
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To impart knowledge of process of evaluating, monitoring, and controlling the various sub units of the organization.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Framework for planning and control, goal and strategies	3
2.	Structure of control mechanism, various forms of organizational structure and their relevance to the control systems	3
3.	Responsibility centres and control centers, revenue centres, cost centre; profit centre and investment centre	5
4.	Traditional and contemporary measures of performance return on investment, residual income	6
5.	Key variables as control indicators, information system as support to management control	5
6.	Transfer pricing as a tool for management control, international transfer pricing	4
7.	Budget as an instrument of control, analysis of budget variances for control action	5
8.	Management control in non-profit organisations, projects, development programme	6
9.	Management control in multinational corporations and services organizations	3
10.	Mathematical models for management control	2
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Anthony, R.N. and Govindrajan, V., "Management Control Systems", 12 th Edition, Tata McGraw Hill	2007
2.	Sharma, S., "Management Control Systems, Text and Cases", Tata McGraw Hill	2007
3.	Mohanty, B., "Management Control System: Implementation and Administration", McMillan	1979
4.	Merchant, K. A. and Stede, W. V. D., "Management Control Systems: Performance Measurement, Evaluation and Incentives", 2 nd Edition, Prentice Hall	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code :** BM-677 **Course Title :** Taxation and Tax Planning
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** Theory: Practical:
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** To provide knowledge of various taxes, mainly direct taxes and taxation and their implication for business.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Basic concepts, sources of tax laws, act and rules, administrative instructions issued by CBDT, annual finance acts	2
2.	Income tax definitions, concept of income, heads of income	3
3.	Residential status and tax liability, scope of total income, concept of permanent establishment, business connection in India, taxability of BPO units	3
4.	Exempt incomes	2
5.	Income from salary, scope, allowances and perquisites, deductions from salary	3
6.	Income from house property, coverage and deductions	2
7.	Income from business and profession, express allowances and disallowances, tax incentives on R &D expenses, depreciation allowance, method of accounting	5
8.	Income from capital gains, concept of capital asset and transfer, short term and long term capital assets, exemptions	3
9.	Income from other sources	2
10.	Set off and carry forward of losses, tax planning	2
11.	Deductions under chapter VI A, incentives to infrastructure sector, hotels, etc	3
12.	Taxation of companies, MAT, calculation of book profits, credit for MAT	3
13.	Assessment of Income including reassessment, appeals, rectification and revisions, ITAT, reference to High Court and Supreme Court	3
14.	Tax Deduction at Source	3
15.	International taxation, transfer pricing, double taxation avoidance agreements	3
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Singhania, V.K. and Singhania, K. "Direct Taxes Law and Practice", Taxmann Publications	2010
2.	"Income Tax Act", Pocket Edition, Taxmann Publications	
3.	Ahuja, G. and Gupta, R., "Direct Taxes Ready Reckoner(with tax planning)", 10 th Ed., Bharat Law House	2009
4.	Mehrotra, H.C., "Practical Problems In Income Tax", Sahitya Bhawan Publications	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-678** **Course Title : Merchant Banking and Financial Services**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: Practical:**

4. **Relative Weightage:** **CWS PRS MTE ETE PRE**

5. **Credits:** **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To acquaint the students with various aspects relating to legal, procedural and evaluatory framework for fee and fund based financial services.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Capital Market- introduction, history, growth and structure of Capital Market	5
2.	Various types of markets, instruments and issues	5
3.	Regulatory framework, Securities and Exchange Board of India (SEBI)	3
4.	Merchant banking- nature and scope	2
5.	Market intermediaries for issues, merchant bankers, registrar and share transfer agents, underwriters, bankers to issue, debenture trustees, stock brokers and sub brokers and depository services	7
6.	Role of merchant banker, pre and post issue management, advisory role, role in corporate restructuring, mergers, amalgamations, takeovers and joint ventures	10
7.	Credit rating, lease finance, hire purchase, loan syndication, bill discounting, factoring and forfeiting and venture capital	10
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Machiraju, H.R., "Merchant Banking", 4 th Edition, New Age	2010
2.	Fabozzi, F. J., Franco Modigliani, "Capital Markets – Institutions and Instruments", 4 th Edition , Prentice Hall of India	2009
3.	Clifford, G., "Financial Markets, Institutions and Financial Services", Prentice Hall of India	2009
4.	Gurusamy, S., "Merchant Banking and Financial Services", 3 rd Edition, Tata McGraw-Hill	2009
5.	Christopher, V., "Financial Institutions, Instruments and Markets", 6 th Edition ,Tata McGraw-Hill	2009
6.	Khan, M. Y., "Financial Services", 5 th Edition, Tata McGraw-Hill	2007

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : **DEPARTMENT OF MANAGEMENT STUDIES**

1. **Subject Code : BM-679** **Course Title : Financial Statement Analysis and Reporting**

2. **Contact Hours:** **L: 3 T: 0 P: 0**

3. **Examination Duration (Hrs.):** **Theory: 3 Practical: 0**

4. **Relative Weightage:** **CWS 15 PRS 0 MTE 35 ETE 50 PRE 0**

5. **Credits:** 3 **6. Semester:** Both

7. **Pre-requisite:** Nil **8. Subject Area:** PEC

9. **Objective:** To impart knowledge of tools, techniques and approaches for financial statement analysis based on qualitative and quantitative information.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Introduction: Economy, industry, company analysis	3
2.	Annual Report: Content of annual report, quality of financial reporting, reporting regulation in India for different types of entities, directors' report and auditor's report	5
3.	Understanding Financial Statements: Nature, objectives, uses, limitations and stakeholders of financial statements , balance sheet and income statement as per Indian Companies Act 1956	8
4.	Financial Statement Analysis: Sources of information, tools and techniques of financial statement analysis	9
5.	Ratio Analysis: Nature, importance and types of ratios, Dupont analysis	4
6.	Distress analysis: Need for corporate failure analysis, concepts on sickness, distress, failure and insolvency, stages, signals and symptoms of financial distress	2
7.	Reporting: Report preparation of financial statement analysis	2
8.	Combinations and Consolidation: Types of business combinations, consolidated financial statements, intercompany transactions and profit confirmations, minority interest, consolidated net income and consolidated retained earnings, changes in ownership	5
9.	Ethical issues in financial reporting: Window dressing, recent scandals in financial reporting	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Ormiston, Aileen, Fraser and Lyn, M., "Understanding Financial Statements", 9 th Edition ,Prentice Hall of India	2010
2.	Sinha, G., "Financial Statement Analysis", Prentice Hall of India	2009
3.	Narayanaswamy, R., "Financial Accounting – A Managerial Perspective", 3 rd Edition , Prentice Hall of India	2009
4.	Subramanyam, K. R. and John, J.W., "Financial Statement Analysis", 10 th Edition, Tata McGraw Hill	2008
5.	Penman, S.H., "Financial Statement Analysis and Security Valuation", 2 nd Edition, Tata McGraw Hill	2006
6.	Erich, A. H., "Techniques of Financial Analysis: A Guide to Value Creation", 11 th Edition ,Tata McGraw Hill	2002

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-680 Course Title : Banking and Bank Finance

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 3 Practical: 0

4. Relative Weightage: CWS 15 PRS 0 MTE 35 ETE 50 PRE 0

5. Credits: 3 6. Semester: Both

7. Pre-requisite: Nil 8. Subject Area: PEC

9. Objective: To apprise students with basic understanding of Financial System, Banking and Bank Finance.

10. Details of Course:

S. No.	Contents	Contact hours
1.	Introduction; Trade, commerce, business, barter system, origin of money, medium of exchange, role of money in economy, structure of financial system, instruments, institutions and markets, growth perspectives of financial system in India since 1947	4
2.	Bank; Origin, nature and history, structure of banking, central bank – functions, role and organization structure, instruments of central banking (RBI) policy – bank rate, CRR, SLR and open market operations	4
3.	Commercial banking; Deposits, credit offering, forms of advances and types of credit, letter of credit, deferred payments, guarantees, charging of securities, hypothecation, pledge, mortgage, lien and set-off	7
4.	Development banking; Nature and types, participation in economic development, role of IDBI, IFCI, SIDBI, ICICI, SHCL, DFHI, NHB, SFCs, EXIM Bank and ECGC	6
5.	Rural banking; History, structure and growth, role of NABARD in agriculture and rural development	4
6.	Role of banks in financial market, Merchant banking, bankers to issue, investment banking, asset management, portfolio management, depository and stock broking services	8
7.	Changing scenario in banking sector; Core banking, universal banking, retail banking, housing finance, technology, virtual banking, e-banking, credit cards and ECS	5
8.	Financial upheavals; Scams, frauds, global financial crisis and its effect	4
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Sethi, J. and Bhatia, N., "Elements of Banking and Insurance", Prentice Hall of India	2009
2.	Gurusamy, S., "Indian Financial System", 2 nd Edition, Tata McGraw-Hill	2009
3.	Christopher, V., "Financial Institutions, Instruments and Markets", 6 th Edition, Tata McGraw- Hill	2009
4.	Clifford, G., "Financial Markets, Institutions and Financial Services", Prentice Hall of India	2009
5.	Khan, M. Y., "Financial Services", 5 th Edition, Tata McGraw- Hill	2007

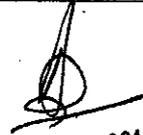
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPARTMENT : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code: **BM-649** Course Title: **Services Operations Management**
2. Contact Hours: L:3 T:0 P:0
3. Examination Duration (Hrs.): Theory: 3 Practical: 0
4. Relative Weightage: CWS: 25 PRS: 0 MTE: 25 ETE: 50 PRE: 0
5. Credits: 3 6. Semester: Both 7. Subject Area: PEC
8. Pre-requisite: Nil
9. Objective: To impart knowledge on various aspects of services operations management and provide exposure to tools and techniques to gain strategic advantage through service operations.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Understanding services economy, global trends in services sector; Changing paradigms in competitiveness of services; Services – manufacturing continuum, role of services in manufacturing firms, recent trends in manufacturing, increased role of services in manufacturing	5
2.	Developing a service strategy, service positioning and implications for service delivery design, degree of customer contact, divergence, customization; Service blue printing	5
3.	Service quality, SERVQUAL, technology in services, pricing strategies in services	5
4.	Performance issues in service systems - DEA	3
5.	Service facility location , capacity issues in service systems	3
6.	Notion of capacity, capacity build up strategy, capacity vs system performance	3
7.	Queuing theory applications in service systems, simulation as a tool for design of services, use of simulation software for modelling, nature of design issues addressed using simulation	6
8.	The services supply chain, service supply relationships, services management in IT/ITES sectors, capacity management issues,	6


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	models for manpower planning	
9.	Managing facilitating goods, services management in health care, insurance and financial services etc.	6
Total		42

11. Suggested Readings:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Fitzsimmons, J. A., and Fitzsimmons M. J., "Service Management: Operations, Strategy, and Information Technology", McGraw-Hill	2008
2.	Haksever, C., Render B., Russel S. R. and Murdick R. G., "Service Management and Operations", 2nd Ed., Prentice Hall	2007



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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPARTMENT : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code: **BM-691** Course Title: **HR ANALYTICS**
2. Contact Hours: L:3 T:0 P:0
3. Examination Duration (Hrs.): Theory: 3 Practical: 0
4. Relative Weightage: CWS:25 PRS:0 MTE:25 ETE:50 PRE:0
5. Credits:3 6. Semester: **Both** 7. Subject Area: **PEC**
8. Pre-requisite: **Nil**
9. Objective: To impart knowledge in basic areas of HR in terms of different matrices.

10. Details of Course:

Sl. No.	Contents	Contact hours
1.	Introduction to HR analytics, importance of HR metrics, the relevance of HR value creation	5
2.	Foundation of HR metrics and the genesis of various metrics like workforce planning, compensation and benefits metrics, performance management metrics, career development, attrition and employee engagement, employee capability, employee utilization and ROI, implementation of HR, importance of HR dashboards, types of dashboards, creation of dashboards.	5
3.	HR Measurement in tune with HR maturity journey, understanding the distinctive capabilities of the firm, human capital drivers, HR scorecard, return on investment	5
4.	Current approaches to measuring HR and reporting value from HR contributions	4
5.	Strategic HR metrics versus benchmarking, HR scorecards and workforce scorecards and HR analytics	5
6	HR maturity framework : from level 1 to level 5 HR analytics frameworks: (A) lamp framework; (B) HCM:21 framework and (C) talentship framework, 5 overarching components of an effective analytics framework	5
7	Predictive analytics: conditions including correlation, causality and isolation, diagnosing and clarification of symptoms of HR problem	5
8	Linking the business problem to the core technical problem and investigation, quantification and measurement tools	4
9	HR analytics through gamification, future of HR analytics	4
Total		42


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11. Suggested Books:

S. No.	Name of Authors/Books/Publisher/Edition	Year of Publication / Reprint
1	Cascio, W. & Boudreau, J.W., "Investing in People: Financial Impact of Human Resource Initiatives", Upper Saddle River NJ: Pearson Education, Inc.	2011
2	Fitz-Enz, J., "The ROI of Human Capital: Measuring the Economic Value of Employee Performance"	2009
3	Boudreau J.W. & Ramstead, P.M., "Beyond HR: The New Science of Human Capital", Cambridge, Harvard Business School Press	2007
4	Fitz-Enz, J., "The New HR Analytics: Predicting the Economic Value of Your Company's Human Capital", AMACOM.	2010


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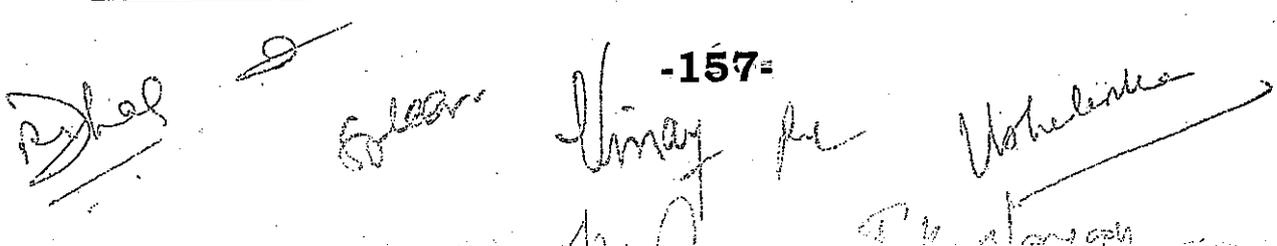
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. / CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. **Subject Code :** BM-681 **Course Title :** Six Sigma and Applications
2. **Contact Hours:** L: 3 T: 0 P: 0
3. **Examination Duration (Hrs.):** Theory: Practical:
4. **Relative Weightage:** CWS PRS MTE ETE PRE
5. **Credits:** 6. **Semester:** Both
7. **Pre-requisite:** Nil 8. **Subject Area:** PEC
9. **Objective:** The objective of this subject is to acquaint students about tools and techniques in implementing six sigma in a manufacturing and service organization.

10. Details of the Course:

Sl. No	Contents	Contact Hours
1	Introduction –Six Sigma Basics – Overview & Implementation, Define phase, Measure phase, Process Flow Charting/Process Mapping, Basic Tools, Probability, Overview of Distributions and Statistical Process, Six Sigma Measurements, Basic Control Charts, Process Capability and Process Performance Metrics.	10
2	Six Sigma Analysis Phase – Visualization of Data, Confidence Intervals, Six Sigma Improve Phase – Benefiting from Design of Experiments (DOE) Understanding the Creation of Full and Fractional Factorial 2K DOEs	12
3	Planning 2K DOEs Design and Analysis of 2K DOEs, Response Surface Methodology. Lean Six Sigma – Lean and its Integration with Six Sigma process, Integrating of Theory of Constraints	10
4	Design for Six Sigma – Manufacturing applications, Service/Transactional Applications, DFSS Overview and Tools, Product DFSS, Process DFSS. Management of Six Sigma – Change Management, Project Management and Financial Analysis, Team Effectiveness, Creativity	10
	Total	42 Hrs



11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1	Breyfogle, Forrest, Implementing : Six Sigma : Smarter Solutions Using Statistical Methods, New York – John Wiley & Sons	1999
2	Harry, Mikel and Rich Schroeder, Six Sigma : The Breakthrough Management Strategy Revolutionizing the World's Top Corporations, New York – Doubleday	2000
3	Besterfield, D C and Besterfield C, "Total Quality Management", Pearson Education Asia	1999
4	Montgomery, D.C, "Statistical Quality Control- A modern introduction", 6 th Edition, Wiley India	2010
5	Feigenbaum, "Total Quality Control", 3 rd Edition, McGraw Hill	1991
6	Hansen B L, and Ghare P M, "Quality Control and Application", Prentice Hall India	1993

	process control, FRIZ, Classification and regression trees, (CART), Chi-squared automatic, interaction detector (CHAID), Value stream mapping.	
7	Big Data Analytics: Introduction to big data; sources of big data; big data technologies: Hadoop distributed file system; Employing Hadoop Map Reduce; Statistical Analysis of Big Data	6
8	Advanced Analytics Modules: complex decision-making scenario under uncertainty and how to deal with such problems using advanced tools and big-data. Discussion problems will be drawn from many sectors such as finance, banking, insurance, IT, ITeS, retail, service, manufacturing, pharmaceuticals, etc.	6
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1	Big Data: A Revolution That Will Transform How We Live, Work and Think by Viktor Mayer-Schonberger, Kenneth Cukier; Paperback, John Murray Publisher,	2013
2	Big Data Big Analytics by Michael Minelli, Michele Chambers, Ambiga Dhiraj, John Wiley & Sons, Inc.	2013
3	Data Analytics: Models and Algorithms for Intelligent Data Analysis by Thomas A. Runkler, Springer publication.	2012
4	Big Data Analytics by D Loshin, Elseviers publication	2013
5	Business Analytics for Managers by Jank, Wolfgang, Springer publication.	2011
6	A Practitioner's Guide To Business Analytics: Using Data Analysis Tools to Improve Your Organization's Decision Making and Strategy , by Randy Bartlett. McGraw-Hill.	2013

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-683 Course Title : STRATEGIC HUMAN RESOURCE MANAGEMENT

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 3 Practical: 0

4. Relative Weightage: CWS 25 PRS 0 MTE 25 ETE 50 PRE 0

5. Credits: 3 6. Semester: Both

7. Pre-requisite: Nil 8. Subject Area: PEC

9. Objective: To develop the perspective of strategic human resource management and understand the relationship of HR strategy with overall corporate strategy.

10. Details of the Course:

S. No.	Contents	Contact Hours
1	Overview of Strategic Management : Need and Importance, The resource based view of the firm, Strategic Fit: A conceptual framework, Mission, Values and Objectives, Analysis of organizational resources and capabilities	3
2	Strategic Human Resource Management – Theoretical perspectives on Strategic HRM, HRM in the Knowledge Economy, Linking HR strategies with business strategies .	3
3	Business environment and Human Resource strategies : Human Resource based competitive advantage and external labor market, Suppliers of Human Resource, Users of Human Resource, Technological environment and its impact on Human Resource, Meaning of Human Resource systems, Inter-relationship between different systems and creating a HR based competitive advantage, Human Resource strategy options.	3
4	Strategic Human Resource planning: Classification of organizations based on the purpose of HR plan, Integration of HR plan and business plan, Activities related to strategic HR planning, Techniques of HR planning, Significance of HR planning in Indian industries	4
5	Strategic approach to manpower acquisition and selection: Introduction to Strategic recruitment, Location based employee market segmentation : Internal vs. External market, HR strategy driven employee market choice, External market: Advantages and Disadvantages, Business strategy driven external employee market choice, Segmenting employee market on the basis of time chosen to source market, Segmenting external market using instruments of contact, Segmenting the job seekers on basis of advertisement message used to attract them, Developing knowledge stock for future use. Objectives of strategic selection, Selection error and strategic implementation of cut-off score, Commonly used selection instruments and their advantages and disadvantages, Managerial selection for supporting the strategy of diversity.	4

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6	Strategic approach to management structure, job design and work systems: Introduction to organizational structure, Evolution of structure, Structure when market knowledge assets are more valuable than purchased assets, Structure and organizational culture, Job Design, Alternative and high performance work systems, Developing knowledge resource for management of manpower.	4
7	Strategic management of performance: Introduction to Strategic management of performance, Linking strategy to results at different levels, Assessing performance at different levels, Assessing the performance of organization's human infrastructure, Developing effective performance management systems, Correcting the performance gaps.	4
8	Strategic approach to compensations and benefits: Introduction to employee compensation, Generic approach to strategic compensation, Strategic approach to compensation, Trends in Top-level Executive Compensation, Business Strategy and Compensation, Total Compensation and Rewards Strategy, Executive compensation.	4
	Mergers & acquisitions and HRM: Introduction, Mergers & Acquisition and resource driven strategies, Why a company acquires or merges with other company, Common problems in mergers and acquisitions, Role of HR in managing human capital stock: pre-acquisition planning, Post acquisition manpower planning and deployment, Approach towards HR system integration.	4
9	Developing HR as strategic value addition Function Gaining competitive advantage through HR, HR as a strategic business partner, the VRIO framework, Changing role of HR, Future challenges of HR	3
10	Outsourcing and its HR implications: Introduction, Why companies resort to outsourcing, Types of outsourcing, Outsourcing of HR management services.	3
12	Strategies for quality of life for employees: Changing notions of the work family relationship, Role of HR in creating work life balance, Family friendly work place, HRD perspective on work life integration, Development of work life initiatives, Towards a strategic approach to work life integration.	3
Total		42 hrs

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Das, Pulak. "Strategic Human Resource Management", 3 rd Edition, Cengage Learning	2012
2.	Agarwala, T., "Strategic Human Resource Management", 4 th Edition, Oxford University Press	2007
3.	Mello, Jeffrey A. "Strategic Human Resource Management", 3 rd Edition, Cengage Learning	2010
4	Armstrong, M., "Armstrong's Handbook of Strategic Human Resource Management", 5 th Edition, Kogan Page	2011
5	Stewart, L. Greg and Brown, Kenneth, "Human Resource Management: Linking strategy to practice, 2nd edition, John Wiley	2012
6	Bratton, J.; Gold, J., "Human Resource Management: Theory and Practice", 5 th Edition, Palgrave Macmillan	2012
7	Mondy, W. "Human Resource Management", 10th Edition, Pearson	2009

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BM-684 **Course Title :** MARKETING METRICS

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: Practical:

4. Relative Weightage: CWS PRS MTE ETE

5. Credits: **6. Semester:** Both

7. Pre-requisite: Nil **8. Subject Area:** PEC

9. Objective: To help students utilize the theoretical knowledge of marketing in the real world by being able to calculate the different measures and thus help in decision making.

10. Details of the Course:

S. No.	Contents	Contact Hours
1	Customer focus and profitability metrics: De-averaging customer satisfaction and customer profitability, Profit impact of customer dissatisfaction, Lifetime value of a customer, Net promoter score, Measuring customer loyalty.	5
2	Marketing performance and marketing profitability: Marketing performance versus financial performance, Measuring Marketing performance, Marketing profitability metrics, Marketing ROI, Profit impact of marketing profitability metrics	5
3	Market potential, demand and market share: Calculating market potential, Market development index, Market demand and prices, Calculating margin across PLC Market share metrics	5
4	Customer experience and value creation: Empathic design, Reverse innovation, Cost of purchase index, Mass collaboration, Life cycle cost and customer value	5
5	Market segmentation and segmentation strategies: Need based segmentation, The demographic trap, Calculating the profitable segment, Customer relationship marketing	4

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6	Value based pricing and pricing strategies: Price margin management, Product pricing across life cycle, Pricing and profitability, Pricing and breakeven volume, Pricing substitute products	5	
	Marketing channels and channel mapping: Customer reach calculation, Operating efficiency, Improving cost efficiency across channel, Calculating size of sales force, Alternative channel marketing profitability	5	
8	Marketing communications and customer response metrics: Customer response, index, Message frequency and customer awareness, Estimating Advertising elasticity, Promotional price elasticity, Statistical methods to estimate advertisement effects	4	
9	Performance metrics and strategy implementation: Leveraging core capabilities, Resource allocation, Develop a revenue plan and marketing budget, Margin per customer, Customer volume, Gross profit, Return measures of profitability	4	
Total		42 hrs	

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Marketing Metrics, 2nd edition by Paul Farris, Neil Bendle, Philip Pfeifer and David Reibstein, Pearson Publication	2010
2.	Profitable customer engagement concept, metrics and strategies by V. Kumar, Sage Publications	2013
3	Market based management by Roger J Best, PHI Publications	2012

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE: **DEPARTMENT OF MANAGEMENT STUDIES**

1. Subject Code : **BMN-612** Course Title: **Financial Engineering & Risk Management**

2. Contact Hours: L: 3 T: 0 P: 0

3. Examination Duration (Hrs.): Theory: 3 Practical: 0

4. Relative Weightage: CWS : 25 PRS : 0 MTE : 25 ETE : 50 PRE : 0

5. Credits: 3 6. Semester: Both 7. Subject Area : PEC

8. Pre-requisite: Nil

9. Objective: To impart knowledge on various aspects of financial risk management and provide exposure to the tools and techniques of financial engineering for design of new financial products.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Introduction to the various measures of financial risk and their mathematical and statistical properties.	6
2.	Financial products for hedging / risk management and the risk-return trade-off embedded therein. Payoff profiles of these instruments. Trading strategies.	5
3.	Option Greeks and their relevance in risk management	4
4.	Management of interest rate risk: instruments and strategies	5
5.	Concept of volatility in financial management. Measurement & management of volatility	5
6.	Value at risk: measurement and application by financial institutions and banks for portfolio optimization.	6
7.	The BASEL Accords	5
8.	Basic knowledge of credit risk and operational risk in relation to banks and financial institutions.	6
Total		42

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Hull, John, C., "Risk Management & Financial Institutions", Wiley Finance	2012
2.	Neftci, Salih, N. "Principles of Financial Engineering", Academic Press	2008
3.	Saunders, Anthony & Cornett, Marcia Millon, "Financial Institutions Management: A Risk Management Approach" McGraw Hill/Irwin	2008
4.	Marshall, John, F & Bansal, Vipul, "Financial Engineering" PHI Learning	1992
5.	Cuthbertson, Keith & Nitzsche, Dirk, " Financial Engineering: Derivatives & Risk Management" John Wiley	2001

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13 AUG 2015

**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE**

No. Acd. ³⁵⁹⁹ / IAPC-64

Dated: July 30, 2018

Prof. & Head,
Department of Management Studies
(through e mail)

The IAPC in its 64th meeting held on 25.07.2018 vide **item no.64.2.3** considered the recommendations of DFC of Department of Management Studies regarding following:

1. Programme Elective Course BMN-692: Introduction to Econometrics.
2. (BM-646) Project Management and (BM-682) Data Analytics as Programme elective in the area of IT.

The IAPC accepted the proposal. Further action may kindly be taken accordingly.


Asstt. Registrar (Curriculum)

Encl: as above

Copy to (through e mail):-

1. Dean Academic Affairs
2. Associate Dean of Academic Affairs (Curriculum)

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT. /CENTRE : DEPARTMENT OF MANAGEMENT STUDIES

1. Subject Code : BMM-6XX Course Title : Introduction to Econometrics
2. Contact Hours: L: 3 T: 0 P: 0
3. Examination Duration (Hrs.): Theory: Practical:
4. Relative Weightage: CWS PRS MTE ETE PRE
5. Credits: 6. Semester: Autumn/Spring
7. Pre-requisite: Nil 8. Subject Area: OBC PFC
9. Objective: The objective of this course is to introduce the main econometric methods and techniques used in the analysis of issues related to economics and finance.

10. Details of the Course:

Sl. No.	Contents	Contact hours
1.	Introduction: Introduction to econometrics; Formulation of econometric modeling; Review of basic concepts	04
2.	A Brief Overview of Classical Linear Regression Model: simple and multiple regression; properties of OLS estimator; statistical inference and hypothesis testing	04
3.	Assumption of Classical Linear Regression Models and Diagnostic Test: problems of multicollinearity, omitted variables and parameter stability	04
4.	Binary Dependent and Independent variables Models: spline function, categorical variables, logit models, multinomial logit models	04
5.	Univariate Time Series Modelling and Forecasting: AR, MA and ARMA processes	04
6.	Multivariate Models: modelling and estimation of simultaneous equation systems; vectors autoregressive models, VARs with exogenous variables; impulse responses and variance decompositions	06
7.	Modelling Long Run Relationships in Finance: stationarity and unit root testing; cointegration and testing for cointegration; modelling cointegrated systems	06
8.	Modelling Volatility and Correlations: modelling and estimation of ARCH/GARCH models; extensions to the basic GARCH model	06
9.	Panel Data: Fixed effects models; time-fixed effect models; random effect models	04
	Total	42

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11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Jeffrey M. Wooldridge/ Introductory Econometrics /South-Western Cengage, 4 th edition	2009
2.	William H. Greene / Econometric Analysis / Pearson / 7 th edition	2012
3.	Damodar Gujarati / Basic Econometrics / McGraw Hill / 5 th edition	2017