GANPAT UNIVERSITY										
FACULTY OF PHARMACY										
TEACHING AND EXAMINATION SCHEME							EFFECTIVE YEAR		2018-19	
PROGRAMME		B.PHARM					SEMESTER		VIII	
			TEACHING SCHEME				EXAMINATIN SCHEME			
S.N	CODE	NAME OF SUBJECT	THEORY		PRACTICAL + TW		MARKS (Theory)		MARKS (Practical)	
			Hrs/wk	Cr.	Hrs/wk	Cr.	Int.	Ext.	Int.	Ext.
1	BPH8A1	Novel Drug Delivery System	3	3	3+1	2	40	60	40	60
2	BPH8A2	Medicinal Chemistry-III	3	3	3+1	2	40	60	40	60
3	BPH8A3	Pharmaceutical Analysis-IV	3	3	3+1	2	40	60	40	60
4	BPH8A4	Pharmacology and Pharmacotherapeutics-III	3	3	3+1	2	40	60	40	60
5	BPH8A5	Pharmacognosy-VI	3	3	3+1	2	40	60	40	60
6	BPH8A6	Pharmaceutical Management	2	2	-	-	40	60	-	-
			17	17	15+5	10	240	360	200	300

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Semester	VIII				Version	2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2015
Subject code	BPH8A1		Subject Name		**Novel Drug Delivery System**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	2		2	Theory	40	60	100
Hours	3	-	3	1	4	Practical	40	60	100

Pre-requisites:

Nil

Learning Outcome

- The course will help the student to have a good understanding of fundamentals of Novel drug delivery systems & their various types in detail.
- Students should be able to learn about Novel drug delivery systems & their significance.

Theory Syllabus

Unit	Content	Hrs
1.	Controlled and sustained release dosage forms Design of oral sustained release systems: Biological factors, Physicochemical factors. Diffusional systems: Reservoir system, Lag time, Burst effect, Matrix system, Effect of porosity and tortuosity Dissolution controlled system, Cube route dissolution equation, Diffusion layer controlled dissolution. Bioerodible and Combination of diffusion and dissolution systems. Introduction to various controlled and sustained release formulations.	**08**
2.	Oral controlled drug delivery system: Classification, Design and development of oral controlled release dosage forms: Matrix, hydrogels, ion exchange, osmotic pressure controlled, gastro retentive, colon targeting etc. delivery system	**06**
3.	Vesicular & Particulate Delivery systems: Formulation and characterization of Liposomes, Niosomes, Microparticles, Nanoparticles, Micro/Nano Emulsion etc.	**06**
4.	Transdermal and Transmucorsal drug delivery systems: Various approaches, Formulation using various technologies, Iontophorosis, Sonophorosis, Micro needle array.	**06**
5.	Microencapsulation : Importance of microcapsules in pharmacy, methods of preparation: coacervation phase separation, multiorifice centrifugal method; spray congealing, polymerization, air suspension technique, coating pan and other technique, evaluation of microcapsules.	**06**
6.	Immediate release delivery systems: An overview	**03**
7.	Implants/Inserts: Types of implants, Osmotic pumps, design and evaluation methods. Types if Inserts, design and evaluation methods.	**05**
8.	Supercritical Fluids Technology: Introduction to supercritical fluids, Pharmaceutical applications of supercritical fluids in extraction, size reduction, preparation of inclusion complexes, preparation of solid dispersions and particulate formulation, basic concept of equipments etc.,	**05**

Practical contents

	Practical shall be conducted from the topics covered in theory explaining the principle involved in design and development of controlled and Novel Drug Delivery Systems etc.

References	
1.	Controlled drug delivery systems; J.R.Robinson, V.H.Lee., Marcel Decker, Inc., New York, 1992.
2.	Modern Pharmaceutics; Banker and Rhodes, , Marcel Decker Inc., New York, 2nd Edition, 1990.
3.	Remington, the Science and Practice of Pharmacy, Lippincott Williams, 21st Edition, 2000.
4.	Novel drug delivery systems;Y.W.Chien, 2nd edition, revised and expanded, Marcel Decker, Inc., New York, 1992.
5.	Pharmaceutical Dosage Forms & Drug Delivery Systems; Howard C. Ansel, Nicholas G., Popovidloyd, Allen junior BI; Waverly pvt, Ltd,6th edition, New Delhi, 2005.
6.	Vyas SP., Khar RK., Controlled drug delivery-concepts and advances, VallabhPrakashan, New Delhi, first edition 2002.
7.	Encyclopedia of Pharmaceutical Technology, Vol 13, James Swarbrick, James, C. Roylan, Marcel Dekker Inc, New York 1996.
8.	Controlled and novel drug delivery N.K.Jain, CBS Publishers & Distributors, New Delhi,First edition, 1997 (reprint in 2001)
9.	Pharmacopoeia : I.P., U. S. P., B.P

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Semester	VIII				Version	2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2015
Subject code	BPH8A2		Subject Name		**Medicinal Chemistry-III**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	2		2	Theory	40	60	100
Hours	3	-	3	1	4	Practical	40	60	100
Pre-requisites:									
Nil									

Learning Outcome

- Students will learn in detail novel synthetic approaches, mechanisms of action and recent advances in drug design as well as Quantitative Structure Activity Relationship of some important therapeutic classes of Drugs.

Theory Syllabus

Unit	Content	Hrs
1	**Strategies in the search for new lead compounds**: Introduction, improvement of existing drugs, systematic screening including extensive screening, random screening and high-throughput screening, screening of synthetic intermediates, selective optimization of side activities (SOSA) approach, new use for old drugs – an illustrative study with suitable examples	**07**
2	**QSAR**: Introduction, SAR versus QSAR, various QSAR methods, linear regression and multiple linear regression analysis, Hansch analysis, FreeWilson analysis, mixed approach, parameters used in QSAR, experimental and theoretical approaches for the determination of physicochemical parameters, statistical significance and interpretation of QSAR models, prediction of novel potent molecule, 2D QSAR, 3D QSAR- examples, CoMFA and CoMSIA	**15**
3	**Introduction to structure and ligand based drug design**: Structure based drug design, requirement of SBDD, understanding of drug receptor/enzyme/target interactions, preparation of protein/target along with active site analysis, docking process, various docking methods, De-nova drug design and ligand based drug design	**08**
4	**Combinatorial Chemistry**: Introduction, principle, importance of new drug discovery, various synthetic approaches and library Purification	**06**
5	**Introduction to recent advances in drug design**: Quantitative structure pharmacokinetic relationship (QSPR), Cheminformatics	**09**

Practical contents

1	Reaction monitoring and characterization of synthesized compounds with the of TLC, UV and IR spectroscopy
2	Experiments related QSAR and QSPR Study
3	Experiments related Docking Study

References

1.	Textbook of Organic Medicinal and Pharmaceutical Chemistry, Wilson and Giswolds J. Lippincott Co. Philadelphia
2.	Principles of medicinal chemistry, W. C. Foye, Lea and febiger, Philadelphia.
3.	Burgers Medicinal chemistry, H. E. Wolff, John Wiley and sons, New York
4.	Strategies for organic drug synthesis and design, Daniel Lednicer, John Wiley and Sons USA

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Semester	VIII				Version	2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2015
Subject code	BPH8A3		Subject Name		**Pharmaceutical Analysis-IV**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	2		2	Theory	40	60	100
Hours	3	-	3	1	4	Practical	40	60	100

Pre-requisites:

Nil

Learning Outcome

- By the end of this course, the student should have an understanding of the spectroscopic and chromatographic methods for qualitative and quantitative analysis of drugs/substances
- Student will be able to apply these techniques in routine pharmaceutical qualitative analysis as well as structure elucidation using the knowledge of different spectroscopic techniques.

Theory Syllabus

Unit	Content	Hrs
1	**Gas Chromatography:** Introduction; Theory and Principle of GC; Mobile phase, Stationary phases for GSC and GLC; Instrumentation (including temperature programming and derivatization) and applications of GC; Overview of GC-MS.	**05**
2	**High Performance Liquid Chromatography (HPLC):** Introduction; Theory, Classification and Principle of HPLC, Comparison with column chromatography; Mobile phase, Stationary phases for normal and reversed phase HPLC; Instrumentation (including significance of guard column), parameters for chromatographic separation and applications of HPLC; Comparison of HPLC with GC; Overview of LC-MS, LC-MS/MS. An Overview on partition, adsorption, ion-exchange, size exclusion, supercritical fluid and Affinity chromatography.	**08**
3	**HPTLC:** Introduction, Principle; Comparison with HPLC; Instrumentation, applications, advantages and limitations of HPTLC.	**02**
4	**IR spectroscopy:** Theory of absorption of Infrared radiation by molecules; Molecular vibrations; Factors influencing vibrational frequencies; Calculation of vibrational frequencies (Hooke's law); Sample handling techniques; Instrumentation (Dispersion and FTIR spectrometer) and applications of IR Spectroscopy; Calibration of IR Spectrophotometer as per Pharmacopoeia.	**06**
5	**Mass spectrometry:** Theory; Ionization techniques, Ion separating techniques; Different types of ions and their significance in mass spectra, Fragmentation rules and rearrangements; Instrumentation and applications of mass spectrometry.	**06**
6	**Nuclear Magnetic Resonance spectroscopy:** Fundamental Principles –nuclear spin, magnetic moment; Proton NMR spectroscopy - theory, chemical shift and factors affecting chemical shift, spin- spin coupling, coupling constant, relaxation process, Instrumentation and applications of PMR; Brief overview of C13 NMR.	**08**
7	Structure elucidation by spectroscopic technique/s	**02**
8	**Fluorescence spectroscopy:** Introduction, principle and theory of fluorescence and phosphorescence, comparison of fluorimetry and UV, types of fluorescence, Factors affecting fluorescence intensity (structural and non-structural), quenching and types, Instrumentation, applications and limitations of fluorescence spectroscopy	**08**

Practical contents	
	Practical based on instrumental techniques eg. Pharmacopoeial or other methods for analysis of various drugs as alone or in combination using different analytical techniques.
References	
1	Principles of Instrumental Analysis by skoog, holler, Nieman, 5 thedition.
2	Instrumental methods of Analysis, H.H. Willard, L.L. Meritt, J.A. Dean and F.A. Settle Wadsworath, New York
3	Pharmaceutical Analysis: Modern methods Part A, Part B, James W. Munson.
4	G. H. Jeffery, J. Basset, J. Mendham, R. C. Denny (Rev. by) Vogel's Text Book of
5	Quantitative Chemical Analysis, Longman, London
6	A Textbook of Pharmaceutical Analysis. Connors K.A.
7	A.H. Beckett and J.B. Stenlake, Practical Pharmaceutical chemistry, part 1&2, the athlone press, London.
8	Merck Index, 14th Edition, 2006
9	Pharmacopoeia of India, Govt. of India, Ministry of Health.
10	British Pharmacopoeia, ministry of health and social welfare, UK.
11	The United States Pharmacopeia–National Formulary (USP–NF)
12	Instrumental Analysis by AshutoshKhar
13	Instrumental Analysis by Vidyasagar Part – II
14	Instrumental analysis by Chatwal and Anand
15	Organic Spectroscopy by P. S. Kalsi
16	Organic Spectroscopy by Pavia
17	Spectroscopy by Silverstein

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Semester	VIII				Version	2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2015
Subject code	BPH8A4		Subject Name		**Pharmacology and Pharmacotherapeutics-III**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	2		2	Theory	40	60	100
Hours	3	-	3	1	4	Practical	40	60	100

Pre-requisites:

Nil

Learning Outcome

- To teach students history of evolvement of antibacterial agents and approaches are being applied to eradicate infections.
- To foster innovative concepts in student community in connection to understand pharmacology and therapeutics of various diseases.
- To strengthen the hand on skill of students to identify quantity of drug in solution and interpret complicated clinical problems.

Theory Syllabus

Unit	Content	Hrs
1.	General principles of chemotherapy **Pharmacology of following class of drugs** **A)** Sulfonamides, cotrimoxazole and quinolones **B)** Beta lactam antibiotics **C)** Tetracycline and chloramphenicol **D)** Aminoglycoside antibiotics **E)** Macrolides **F)** Antitubercular drugs **G)** Antileprosy drugs **H)** Antifungal drugs **I)** Antiviral drugs **J)** Antiprotozoal (Antimalarial, Antiamoebic etc.) drugs **K)** Anthelmintic drugs **L)** Anticancer drugs	**17**
	Drugs acting on Endocrine system: **A)** Hypothalamic & pituitary hormones **B)** Thyroid and antithyroid drugs, parathormone, calcitonin and vitamin D **C)** Glucagon, insulin and oral hypoglycaemic drugs **D)** Corticosteroids **E)** Androgens and anabolic steroids **F)** Estrogens, progesterone and oral contraceptives **G)** Oxytocics and Tocolytics.	**10**
2.	**Definition, epidemiology, etiology, pathophysiology, signs and symptoms, diagnosis, complications, treatment and management of following diseases/conditions:**	
	A) Tuberculosis **B)** Urinary Tract Infections, Enteric Infections, Meningitis, Respiratory Tract Infections **C)** Septicemia, Skin And Soft Tissue Infections (Cellulites, Bed Sores, Diabetic Foot Infection) **D)** Leptospirosis, Syphillis, Nosocomial Infection, Filariasis, Leishmaniasis, Gonorrhoea **E)** Viral Infections (AIDS, Bird Flu, Swine Flu, Congo Fever, Chickenguniya, SARS (Sub Acute Respiratory Syndrome) **F)** Surgical Antibiotics Prophylaxis **G) Neoplastic:** Leukemia, Lymphomas, Breast Cancer, Cervical Cancer, Prostrate Cancer **H)** Diabetes mellitus, Thyroid disorders, Parathyroid disorders, Osteoporosis, Hormone Replacement Therapy.	**18**

Practical contents

1	Introduction to general principles of bioassay, pharmacopoeial bioassays and biostandardization of various drugs
2	Bioassay of Acetylcholine using Rat/Guinea pig/Chicken ileum by Graphical method, Matching method, Three point method, Four point method.
3	Bioassay of Atropine using Rat/Guinea pig/Chicken ileum by Graphical method.
4	Bioassay of Histamine by Graphical/Matching/Three point method using Guinea pig/chicken ileum.

5	Bioassay of Mepyramine by Graphical method using Guinea pig/chicken ileum.
6	Demonstration experiments: **a)**To demonstrate effect of l-thyronine on respiration rate **b)**To demonstrate the effect of hypoglycemic agents on blood sugar level (metformin, glibenclamide/Insulin) using experimental animals **c)** To demonstrate bioassay of oxytocin using rat uterus.
7	Introduction to cell based assay: Definition, Types, Advantages, limitations of cell based assay, and application to High throughput screening.
8	To evaluate case study (minimum 2 cases)of Upper Respiratory Tract Infection, Lower Respiratory Tract Infection, Enteric Infection, Urinary Tract Infection, Meningitis Infection, Septicemia, Skin And Soft Tissue Infections, Nosocomial Infection, Leptospirosis, Syphillis, Filariasis, Leishmaniasis, Viral Infections, Swine Flu and SARS, Leukemia, Lymphomas, Breast Cancer, Cervical Cancer, Prostrate Cancer, Diabetes mellitus, Thyroid disorders, Osteoporosis
References	
1	Goodman & Gilman's, The Pharmacological basis of therapeutics, 12th Edition, McGraw Hill, New Delhi, 2011.
2	Rang, H.P. & Dale, M.M., Rang and Dale's Pharmacology. 7th ed., Elsevier Churchill Living stone, London, 2012.
3	Basic and clinical pharmacology by Katzung, B.G., 12th ed., McGraw Hill, New Delhi, 2009.
4	Roger Walker and Cate Whittlesea, Clinical Pharmacy and Therapeutics, 5th ed., Churchill Livingstone, Edinburgh, 2011.
5	Eric T. Herfindal et al., Text Book of Therapeutics: Drug and Disease Management, 8th ed., Williams and Wilkins, Philadelphia, 2006.
6	Brian R. Walker et al., Davidson's Principle and Practice of Medicine, 22nd ed., Churchill Livingstone, Edinburgh, 2014.
7	S. George Carrutherset.,Melmon and Morrelli's Clinical Pharmacology, 4th ed., McGraw Hill Medical, 2008.
8	Joseph T. Dipiro et al., Pharmacotherapy: A Pathophysiological Approach, 9th ed., McGraw-Hill Education, 2014.
9	Satoskar, R.S. and Bhadarkar, S.D., Pharmacology and Pharmacotherapeutics, 21st ed., Popular Prakashan, Mumbai, 2010.
10	Richard A. Harvey et al., Pharmacology (Lippincott Illustrated Reviews Series), 5th Ed. Lippincott- Raven Company, Philadelphia, New York, 2011.
11	G. Parathsarthee, K. Nyfort-Hansen and M. C. Nahata. A Textbook of Clinical Pharmacy Practice: Essential Concepts and Skills, 2nd Ed., Universities Press, 2012.
12	K.D. Tripathi, Essential of Medical Pharmacology, 6th Ed., Jaypee Brothers Medical Publisher (P) Ltd., New Delhi, 2008.
13	Seth S.D., Vimlesh Seth, Text Book of pharmacology, 3rd Ed., Elsevier, 2008.
14	Sheth U.K. et al-Selected topics in Experimental Pharmacology, 1st Ed., The Kothari Book Depot, Mumbai, 1972.
15	R.K. Goyal et al., Elementals of Clinical Pharmacy, 6th Ed., B.S. Prakashan Ahmedabad, 2011-12.
16	Fundamentals of experimental pharmacology by Ghosh, M.N., 6th ed., Hilton & Company, Kolkatta, 2014.
17	Kulakarni S.K., Handbook of Experimental Pharmacology, 4th Ed., Vallabh Prakashan, New Delhi, 2012.
18	Practicals in Pharmacology by R. K. Goyal, 9th ed., B.S. Shah Prakashan, Ahmedabad, 2010.

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Programme	Bachelor of Pharmacy				Branch/Spec.	B.Pharm.		
Semester	VIII				Version	2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2015
Subject code	BPH8A5		Subject Name		**Pharmacognosy -VI**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	2		2	Theory	40	60	100
Hours	3	-	3	1	4	Practical	40	60	100

Pre-requisites:

Nil

Learning Outcome

- Students get acquainted with techniques of production and characterisation of phytoconstituents.
- Students learn techniques and basic requirements for plant tissue culture.
- Students will have thorough knowledge of regulatory requirements and current status of research and production of phytoconstituents.

Theory Syllabus

Unit	Content	Hrs
1.	Principle of extraction of herbal drugs, different methods of extraction, Factors affecting extraction of herbal drugs, different types of extracts, concept of standardized extracts and their preparation, General method of extraction of alkaloids, Glycosides (anthraquinone, saponin, cardiac, flavonoid), Tannins, volatile oil etc.	**10**
2.	Phytochemical screening: General procedure of preparation of extracts and their characterization using chemical tests and TLC profiling.	**3**
3.	Introduction, classification, principle of separation of different chromatographic methods. Applications of GC, HPLC, HPTLC in evaluation of herbal drugs.	**5**
4.	Sources, Biogenesis, chemistry, isolation and production, pharmacology and analysis of alkaloids such as Cinchona, Tropane, Ergot, Opium, Rauwolfia, Vinca.	**8**
5.	Sources, Biogenesis, chemistry, isolation and production, pharmacology and analysis of Glycoside such as Diosgenin, Solasodine, Glycyrrhizin, Sennosides, Digoxin.	**6**
6.	Sources, Biogenesis, chemistry, isolation and production, analysis and utilization of Terpenoids such as Citral, Limonene, Menthol, Vitamin A and Iridoids.	**6**
7.	Brief account on government organizations and industries involved in research and production of medicinal and aromatic plants and products derived from them.	**2**
8.	Plant Tissue Culture: Introduction, Basic requirements, Types of culture, Nutritional requirements, & Application plant tissue culture with special emphasize in production of secondary plant metabolites.	**5**

Practical contents

1.	Extraction, isolation and purification of phytoconstituents of medico-commercial values.
2.	Analysis of major class of phytoconstituents using proximate method of analysis and pharmacopoeial methods.
3.	Estimation of phytoconstituents using spectrophotometric and other reported methods of analysis.
4.	Chromatographic separation and characterization of important crude drugs and extracts.
5.	Demonstration on classical extraction techniques such as soxhlet extraction, percolation, Clevenger apparatus, rotary evaporator.
6.	Demonstration of HPTLC, HPLC and GC.

References	
1.	Plant Drug Analysis: A Thin Layer Chromatography Atlas: Wagner Hildebert ,Bladt Sabine , Springer.
2.	Quality Standards of Indian Medicinal Plants, Volume I and II, A. K. Gupta, ICMR, 2003.
3.	Quality Control of Herbal Drugs: Mukherji P. K., Business Horizon Pharma. Publishers, 1st Edition, 2002.
4.	Organic Chemistry of Natural Products Volume I and II: Chatwal G., 7th Reprint 1998, Himalaya Publishing House, Mumbai.
5.	The Practical Evaluation Of Phytopharmaceuticals: Brain K. R. & Turner T. D., Wright Scientechnica, 1975.
6.	Trease and Evan's Pharmacognosy; W. C. Evans; W. B. Saunders Co., Singapore; 15th Edition; 2008.
7.	Chemistry of Organic Natural Products, Vol. I and II, O. P. Agrawal, Goel Publishing House, 31st Edition, 2005
8.	Medicinal Natural Products. A biosynthetic Approach: Dewick P., John Willey and Sons, 2nd Edition, 2001.
9.	Indian Herbal Pharmacopoeia, Published by Indian Drugs Manufacturers' Association, Revised new Edition, 2002.
10.	Herbal drug technology, S. S. Agrawal and M. Paridhavi, Universities Press, 1st Edition, 2007.
11.	Medicinal Natural Products. A biosynthetic Approach: Dewick P., John Willey and Sons, 2nd Edition, 2001.
12.	Method in Plant tissue culture by U. Kumar Agro botanica 1999. Bikaner India.
13.	Chemistry of Natural Products, S. V. Bhat et al., Narosa publications, Delhi, reprint 2008.
14.	Pharmacognosy and pharmacobiotechnology, Ashutosh Kar, New Age International (P) Ltd, Publishers, 2nd edition 2007
15.	Quality control methods for medicinal plant materials, W.H.O., Geneva, A.I.T.B.S. Publishers and distributors, 1st Indian Edition, 2002.
16.	Textbook of industrial Pharmacognosy, Kalia A.N., C.B.S. Publisher, New Delhi.

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Programme	Bachelor of Pharmacy				Branch/Spec.	B.Pharm.		
Semester	VIII				Version	2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			June 2015
Subject code	BPH8A6		Subject Name		**Pharmaceutical Management**			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	-		-	Theory	40	60	100
Hours	2	-	-	-	-	Practical	--	--	--

Pre-requisites:

Nil

Learning Outcome

- Students get acquainted with basic principles of management
- Students learn concepts of economics, organization and total quality management
- Students will have knowledge of managerial communication and business environment

Theory Syllabus

Unit	Content	Hrs
1.	**Basic Principle of Management:** Introduction to management, Evolution of management theories, Basic managerial function (Planning, Organizing, Leading, Controlling)	**7**
2.	**Managerial Economics & Foreign Trade:** Nature And scope, Consumer behaviour and Demand analysis, Profit maximization of firms, Monopoly, Oligopoly, National Income, Inflation, Foreign Trade & Rate function, EXIM policy.	**6**
3.	**Organizational behaviour:** Concept, Nature, Characteristics, Determinants and importance, concept of Perception, Motivation, Group dynamic, Leadership, Organizational conflict.	**6**
4.	**Managerial communication:** Definition, Objective of communication, Forms of communication (Written; no-verbal, oral), Business Negotiation.	**3**
5.	**Business environment:** Significance and nature, Relationship with Government Consumer Protection Act, Public and Private sector, Technological collaboration, Liberalization, Globalization.	**4**
6.	**Total Quality Management:** Juran's and Deming's principles, Small group activities, Quality circles, Suggestion scheme, Project team approach, Continuous improvement.	**4**

References

1.	Principles and practice of management by L. M. Prasad
2.	Organization theory by Stephens P. Robins, 3th edition
3.	Organization behaviour by Stephens P. Robins, Pearson education
4.	Organization behaviour by Himalaya Publishing Pvt. Ltd.
5.	Contemporary Business Communication by Scot O., 2004
6.	Business environment by excel books and Himalaya Publishing
7.	The 5 Pillars of TQM: How to Make Total Quality Management Work for You by Bill Creech.