SECOND SEMESTER

TEACHING SCHEME

Subject Code	Subject	Teaching Scheme			Marking System			
		Theory (Hrs)	Practical (Hrs)	Total Credits	Theory		Practical	
					Internal	External	Internal	External
08101151	Pharmaceutical Chemistry-II (Physical Chemistry)	3	3	5	25	75	25	75
08101152	Unit Operation-II	3	3	5	25	75	25	75
08101153	Dispensing Pharmacy	3	3	5	25	75	25	75
08101154	Human Anatomy, Physiology and Health Education-II	3	3	5	25	75	25	75
08101155	Applied Bio-statistics	3	-	3	25	75	-	-
08193151	Communication Skills and Personality Development -II	1	3	3	25	75	25	75
Total Credits		**16**	**+ 10**	**= 26**	**Note: For theory 1 hour is counted for 1 credit For practical 1 hour 30 min is counted for 1 credit**			

DETAILED SYLLABUS SECOND SEMESTER B.PHARM

SUBJECT NAME: PHARMACEUTICAL CHEMISTRY-II (PHYSICAL CHEMISTRY)

(Theory & Practical)

Hours Per Week		Marking System			
Theory	**Practical**	**Theory**		**Practical**	
3	**3**	**Internal**	**External**	**Internal**	**External**
		30	70	30	70

Objective of the course:

- The course covers fundamentals of chemistry including solutions, kinetics, equilibria, thermodynamics, chemical catalysis, nuclear chemistry and photochemical reactions.

Students learning outcomes/objectives:

- By the end of this course, the student should have a good understanding of the history and basic concepts of physical chemistry
- Students should understand principles of states of matter, aqueous solutions, acid base chemistry, thermodynamics, chemical catalysis and their applications.

Instructional methods and pedagogy:

- Using blackboard and one-way communication from a teacher to a student.
- Using an overhead and LCD projector

Detailed syllabus (Theory) 3 hr/week

Sr. No.	Course Contents	Hours
1	**The Liquid State** Physical properties and applications of surface tension, Parachor, Viscosity, Refractive index, Optical rotation, Dipole moment of the chemical constituents in pharmacy.	7
2	**Nuclear and Radiopharmaceutical Chemistry** Structure of nucleus, Methods of nuclear radiation measurement, Nuclear reaction, Fusion and fission, Radiation dosimetry, Radio opaque contrast medium, (Therapeutic and diagnostic applications of radio pharmaceuticals). Basic principles of Radioactivity Rays and Measurement of Radioactivity, Applications.	6
3	**Photochemistry** Consequences of lights adsorption, Jablonski diagram, Quantum efficiency,	4

	Photosensitization reactions	
4	**Solutions** Ideal and real solutions, Solutions of gases in liquids, Colligative properties, Partition co-efficient, Conductance and its measurement, Debye-Huckel theory.	**10**
5	**Chemical Catalysis and kinetics** Zero, first and second orders reactions, complex reaction, theories of reaction kinetics and characteristics of homogeneous and heterogeneous catalysts, Acid-base catalysis	**10**
6	**Thermodynamics** Basic principles, First, Second and Third laws, Zeroth Law, Absolute temperature scale, Thermochemical equations, Phase equilibria and Phase rule, One and two component systems	**8**

Detailed syllabus **(Practical)** **3 hrs/week**

Sr.No	Course contents	Hours
1	Experiments on surface tension and viscosity, partition coefficient, adsorption, order of reaction (First and Second), refractive index and molar refraction should be covered	45

Reference books

1. Indian Pharmacopoeia; Government of India: New Delhi, 2007
2. "Medicinal and Pharmaceutical Chemistry" Inorganic; J. H. Block, E. B. Roche; Varghese Publication; Indian edition.
3. "Text Book of Pharmaceutical Chemistry" Revised by L. M. Atherden, Bentley & Driver's ; Oxford Medical Publications; 8th edition.
4. "Essential of Physical Chemistry"; B.S. Bhal, G.D. Tuli and Arun Bhal, S. Chand and Company Ltd. 23rd Edition,1996.
5. "The Science and Practice of Pharmacy"; Remington, Lipincott, William and Wilkins; 20th edition.
6. "Advanced Physical Chemistry", Gurdeep Raj, Goel Publishing House; 20th Edition, 1996.
7. "Textbook of physical chemistry" Soni P. L., Sultan Chand and Sons.
8. "Text book of Physical Chemistry"; Semuel Glasstone, Macmillan India Limited, 2nd Ed. 1995.
9. "Elements of physical Chemistry"; Peter Atkins, Julio De Paula, Oxford University Press, 4th Ed. 2007.

Subject Name: **UNIT OPERATION-II**

(Theory & Practical)

Hours Per Week		**Marking System**			
Theory	**Practical**	**Theory**		**Practical**	
3	**3**	**Internal**	**External**	**Internal**	**External**
		30	70	30	70

Objective of the course:

- The course covers importance and principles of basic operations involved in pharmaceutical production along with commonly used equipments.

Students learning outcomes/objectives:

- Students will learn insights of basic operations in a pharmaceutical industry
- By the end of the semester, students will feel easy to select appropriate equipment for different operations.

Instructional methods and pedagogy:

- Using blackboard and LCD projector with the help of few videos wherever applicable
- At the end of session, 10 min. for discussion

Detailed syllabus **(Theory)** **3 hr/week**

Sr. No.	**Course Contents**	**Total Hours**
1	**Filtration:** Theory and mechanism of filtration process, Types of filtration, factors influencing filtration, filter aids, filter media, industrial filter including filter press, filter leaf, rotary filter, edge filter, cartridge filters, membrane filters, mathematical problems on filtration, optimum cleaning cycle in batch filters, applications in pharmacy	**8**
2	**Centrifugation:** Principle and theory of centrifugation, industrial centrifuges including, perforated basket centrifuge, sedimentation type centrifuge, continuous centrifuges, etc., applications in pharmacy	**4**
3	**Drying:** Theory and mechanism of drying, moisture content, loss on drying, rate of drying & time of drying calculations, classification of dryers, factors	**9**

	affecting selection of dryers, dryers used in pharmaceutical including drum dryer, spray dryer, fluidized bed dryer, tray dryer, tunnel dryer, rotary dryer vacuum dryer, Microwave, Radiant heat dryer (Infra Red), Mathematical problems on drying, applications in pharmacy.	
4	**Evaporation:** Basic concept of phase equilibrium, factors affecting evaporation, heat transfer in evaporators, Duhring's Rule and Raoult's law, evaporators including natural circulation, forced circulation & film evaporators, single effect and multiple effect evaporators, mathematical problems, applications in pharmacy	**8**
5	**Distillation:** Raoult's law and its limitation, Henry's Law, Phase diagram, volatility & relative volatility, General parts of distillator, simple steam and flash distillation, batch and continuous distillation, rectification distillation columns and their efficiency, McCabe Thiele method for calculation of number of theoretical plates, azeotropic, molecular & steam distillation, mathematical problems, applications in pharmacy.	**8**
6	**Humidity, Ventilation and Air Conditioning Systems (HVAC):** Basic concepts & definitions, measurement of humidity, psychometric charts, theory and calculations of humidification processes, humidity control, applications of humidity, equipment for humidification and dehumidification operations. Types of refrigeration cycles, air conditioning, applications in pharmacy. Design of HVAC systems	**8**

Detailed syllabus (Practical) 3 hr/week

Sr. No.	Aim of the Practical
1	To study the effect of filter aid on sedimentation rate and to determine optimum concentration of filter aid
2	To determine specific cake resistance using $CaCO_3$ slurry.
3	To study the effect of various factors on rate of filtration.
4	To study the rate of drying curve.
5	To study the effect of surface area on rate of drying.
6	To study the effect of material bed thickness on rate of drying.
7	To study various distillation process.
8	To compare efficiency of different column used in distillation process.
9	To study the effect of temperature on rate of evaporation.
10	To study the effect of viscosity of liquid on rate of evaporation.
11	To study the effect of surface area on rate of evaporation
12	To determine humidity and % humidity of air using wet bulb-dry bulb

	method
13	To determine humidity and % humidity of air using dew point method
14	Demonstration on centrifuge
15	Demonstration of various dryers

References Books:

1. Pharmaceutical Engineering – K.Sambamurthy, 2002 NAI (P) Ltd., Delhi.
2.The Theory & Practice of Industrial Pharmacy – Lachman L.,Lieberman H.A. & Kanjig J.L., 3rd edition, 1990 Varghese Publishing House, Bombay.
3. Pharmaceutical Engineering (Principles and Practices) by C.V.S. Subrahmanyam, Vallabh prakashan, Delhi 110034.

Subject Name: **DISPENCING PHARMACY**

(Theory & Practical)

Hours Per Week		**Marking System**			
Theory	**Practical**	**Theory**		**Practical**	
		Internal	**External**	**Internal**	**External**
3	**3**	30	70	30	70

Objective of the course:

- The course covers importance and principles of basic operations involved in dispensing techniques adopted for different pharmaceutical products along with commonly used equipments.

Students learning outcomes/objectives:

- Students will learn handling of prescriptions and different calculations involved as well as identification of various errors and incompatibility with their remedy for effective health care management.

Instructional methods and pedagogy:

- Using blackboard and LCD projector with the help of few videos wherever applicable
- At the end of session, 10 min. for discussion

Detailed syllabus **(Theory)** **3 hr/week**

Sr. No.	**Course Contents**	**Total Hours**
1	Definition, scope & its relevance in present scenario. Introduction to pharmacopoeia with special reference to IP, BP, USP, EP.	**1**
2	**The prescription:** Handling of prescription, sources of errors in prescription, care required in dispensing procedures including labeling at dispensed products.	**2**
3	**Dispensing techniques:** Compounding and dispensing procedures, packaging, storage and stability of medicines, labelling of dispensed products.	**2**
4	**Pharmaceutical calculations:** Introduction to imperial and metric system, avoirdupois and apothecaries system of weights and measures.	**10**

	Posology: Calculation of doses for infants, adults and elderly patients, enlarging and reducing recipes, percentage solutions, allegation, alcohol dilution, proof spirit, isotonic solutions, displacement value etc.	
5	**Dosage forms:** Principles involved and procedures adopted in dispensing of ▪ Liquid Products: Oral and external solutions, Mixtures and Emulsions. Liniments, lotions etc. ▪ Semi - solid Products: Ointments, Creams, Gels, Pastes. ▪ Solid Products: Powders, Lozenges, Pastilles, Tablet triturates etc. ▪ Oral unit dosage forms ▪ Ophthalmic formulations: Eye drops, Eye lotions, Eye ointments, Contact lens solutions etc. ▪ Suppositories & Pessaries: Bases, Displacement value, etc. ▪ Inhalations, etc.	**23**
6	**Incompatibilities** ▪ Physical, chemical and therapeutic incompatibilities observed in prescriptions of dispensed products. ▪ Inorganic incompatibilities including incompatibility of metals and their salts, non metals, acids, alkalis. ▪ Organic incompatibilities: purine bases, alkaloids, ammonium compounds, carbohydrates, glycosides, anesthetics, surface active agents. ▪ Identification and correction of incompatibilities.	**7**

Detailed syllabus **(Practical)** **3 hr/week**

Sr. No.	**Aim of the Practical**
1	To study about different systems of weights and measures, their inter-conversions & Latin to English translation.
2	To prepare and dispense aromatic waters (e.g. Chloroform / Camphor, Peppermint water), mouthwash (eg. Compound Sodium chloride / Phenol) and gargles (eg. Phenol gargle / Potassium chlorate and Phenol gargle)
3	To prepare and dispense throat paint (eg. Compound iodine throat paint), Linctuses (eg. Codeine phosphate linctus), douches (eg. Boric acid douche, Potassium permanganate douche), enema (eg. Glycerin enema)
4	To prepare and dispense syrups (eg. Simple syrup), Elixirs (eg. Paracetamol paediatric

	elixir / Phenobarbitone elixir), ear drops (Sodium bicarbonate ear drops), eye drops (Zinc sulphate eye drops)
5	To prepare and dispense mixtures containing diffusible (eg. light magnesium carbonate and kaolin mixture), indiffusiable solid (eg. acetyl salicylic acid mixture), precipitate forming liquid (eg. etherial tincture of lobelia), slightly soluble liquid (eg. paraldehyde mixture), potent medicamnent (eg. Strychnine hydrochloride mixture/ Hyoscine hydrobromide mixture)
6	To prepare and dispense lotions (eg. Calamine lotion I.P. , Oily calamine lotion B.P., Salicylic acid lotion) and Liniments (Turpentine liniment, white liniment)
7	To prepare and dispense emulsions (eg. Castor Oil emulsion, Turpentine oil emulsion, Liquid paraffin-castor oil emulsion, Liquid paraffin oral emulsion, calcium soap emulsion)
8	To prepare and dispense ointments (eg. Boric acid/ Sulphur/ Tannic acid/ Compound Benzoic acid, Non-staining iodine ointment) and pastes (eg. Compound Zinc oxide paste/ Lassar's paste)
9	To prepare and dispense Creams (eg. Cold cream, Vanishing cream) and Gels (eg. Sodium carboxy methyl cellulose gel/ sodium alginate gel)
10	To prepare and dispense powders (eg. Compound sodium bicarbonate powder, Zinc-starch-and talc dusting powder, Efferevescent compound powder, camphor-menthol eutectic powder,camphor menthol insufflation), Lozenge (eg. Compound bismuth Lozenge), Tablet triturate (eg. Calomel tablet triturate), Poultice (Kaolin poultice).
11	To prepare and dispense suppositories with cocoa butter as base containing insoluble solid (eg. Boric acids suppositories), soluble solid (eg. Chloral hydrate / phenol), liquid (eg. Eucalyptus oil suppositories)
12	To prepare and dispense suppositories with glycerogelatin base (eg. Zinc oxide glycerogelatin suppository), soap glycerin suppositories, Icthammol suppositories with macrogol base and pessaries (eg. Lactic acid pessaries)
13	To identify and solve physical incompatibilities (eg. Immiscibility, insolubility, liquidification)
14	To identify and solve chemical incompatibilities (eg. Alkaloidal salts with alkaline substance, salicylates, iodides, soluble salicylates with alkali bicarbonate, acid, ferric salts)
15	To identify and solve chemical incompatibilities causing evolution of gas (eg. Sodium bicarbonate, Borax and glycerin mixture / magnesium sulphate and sodium bicarbonate mixture) and incompatibility of potassium chlorate with oxidizable substances

Reference Books:

1. Dispensing for pharmaceutical students by Cooper and Gunn, S.J. Carter, CBS Publishers.
2. Pharmaceutical Practice, Edited by A.J. Winfield and R.M.E. Richards.
3. Remington: The Science and Practice of Pharmacy, Latest Edition, by Mack Publishing Company
4. Bentley's Textbook of pharmaceutics, E A Rawlins
5. Pharmaceutical Dosage forms and Drug delivery systems by Howard C. Ansel, Lippincott Williams and Wilkins.
6. Pharmaceutical Calculations by Mitchell J. Stocklosa and Howard C. Ansel, B. I. Waverly Pvt. Ltd., New Delhi.
7. Dispensing Pharmacy - a practical manual by Sanmathi B.S., Mehta K.K., Gupta A, PharmaMed Press.

Name of Subject: Human Anatomy, Physiology and Health Education II

Hours Per Week		Marking System			
Theory	Practical	Theory		Practical	
		Internal	External	Internal	External
3	3	30	70	30	70

Objective of the Course:

- To make students familiar with the principles of human anatomy and physiology as well as basic concepts related to health.

Student Learning Outcomes:

- At the end of the course, the student will be able to understand the concept of anatomy and physiology of different organ systems which is a prerequisite for understanding the concepts of diseases and pharmacology.

Instructional Methods:

- The faculty shall explain the lectures using black board, over head projector and video based methods.

Detailed syllabus (Theory) 3 hr/week

Sr No	Topic	Hours
1	**Nervous system:** Neurons & Nerve fibers, Sensory & motor nerves, Physiology of nerve excitation & conduction. **Central nervous system:** Specialized function of different parts of brain and spinal cord, Neurohumoral transmission in the CNS, Reflex action, RAS, Limbic System, Electroencephalogram, Physiology of sleep, CSF. **Autonomic nervous system:** Physiology and function of ANS, Mechanism & significance of the neurohumoral transmission in the ANS. **Peripheral Nervous System** (PNS): Description & function of Cranial & Spinal nerves.	13
2	**Respiratory system** Anatomy of Respiratory organs, Physiology (mechanism and regulation) of respiration, Physiology of Internal Respiration, Brief overview of measuring lung functions i.e. respiratory volumes, Vital capacity, Respiratory disorders.	5
3	**Reproductive system:** Male and female reproductive system and their hormones, Physiology of menstruation, coitus and fertilization. Sex differentiation, spermatogenesis and oogenesis. Pregnancy, its	5

	maintenance and parturition.	
4	**Endocrine system (Hormones):** Basic anatomy and physiology of pituitary, thyroid, parathyroid, adrenals, pancreas, testis and ovary, their hormones and function. Brief outline of their disorders.	6
5	**Sense organs:** Basic anatomy and physiology of eye (vision), ear (hearing), taste buds, nose (smell). Structure & function of skin (superficial receptors).	5
6	**Urinary System:** Various parts of urinary system and their functions, Structure and functions of Nephron, Physiology of Urine formation, Brief outline of renal diseases, Acid- base balance.	4
7	**Concept of health and disease:** Demography and family planning. First aid treatment in shock, snakebite, burns, poisoning and resuscitation methods.	4
8	**Brief outline of common communicable diseases with special emphasis on causative agent, mode of spread and prevention/treatment of the following diseases:** Chicken Pox, Measles, Influenza, Diphtheria, Poliomyelitis, Cholera, Typhoid fever, Food poisoning, Plague, Rabies, Tetanus.	3

Detailed syllabus **(Practical)** **3 hr/week**

Sr. No.	**Course contents**	**Hours**
1	Biochemical Analysis of Urine for Physical Characteristics and Normal Constituents.	3
2	Biochemical Analysis of Urine for Abnormal Constituents.	3
3	Analysis of provided urine sample for normal and abnormal constituents.	3
4	Study of Anatomy of Respiratory System with the help of charts and models.	3
5	Study of Anatomy of Urinary System with the help of charts and models.	3
6	Study of Anatomy of Male Reproductive System with the help of charts and models.	3
7	Study of Anatomy of Female Reproductive System with the help of charts and models.	3
8	Study of Anatomy of Eye with the help of charts and models.	3
9	Study of Anatomy of Ear with the help of charts and models.	3
10	Study of Anatomy of brain with the help of charts and models.	3
11	Study of Anatomy of spinal cord with the help of charts and models.	3
12	Determination of body temperature.	3

13	Histology of Various organs of above mentioned Systems.	3
14	Determination of Lung Volumes and Vital Capacity.	3
15	Study of Reflexes, Vision and Hearing capacity.	3

Recommended study materials: (Latest edition)

Text books

1. Tortora G. J. and Anagnodokos N. P. Principles of Anatomy and Physiology (Harper and Colling Publishers, New York)
2. Goyal R. K. & Mehta A.A. Human Anatomy Physiology and Health Education, (B. S. Shah Prakashan)
3. Waugh A. and Grant A.: Ross and Wilson's Anatomy and Physiology in Health & illness — Churchill Livingstone
4. Goyal R.K. et al.: Practical Anatomy Physiology and Biochemistry (B. S. Shah Prakashan, Ahmedabad)

Reference books

1. Guyton A.C. and Hall J.E.: Textbook of Medical Physiology, W. B. Saunders.
2. Martini, F. Fundamentals of Anatomy and Physiology (Prentice Hall)
3. West, J. B. Best and Taylor's physiological Basis of Medical Practice (Williams and Wilkins, Baltimore)

SUBJECT NAME: BIO-STASTICS

(Theory)

Hours Per Week		Marking System			
Theory	**Practical**	**Theory**		**Practical**	
3	**-**	**Internal**	**External**	**Internal**	**External**
		30	70	-	-

Objective of the course:

- The course covers fundamentals of biostatics.

Students learning outcomes/objectives:

- By the end of this course, the student should have a good understanding theory and basic concepts of biostastics.

Instructional methods and pedagogy:

- Using blackboard and one-way communication from a teacher to a student.
- Using an overhead and LCD projector

Detailed syllabus (Theory) 3 hr/week

Chapter. No	Course Contents	Hours
1	Definition, data frequency, distribution, Classification of data. General graphical representation of the data: histogram, Frequency curve and frequency polygon and Ogive. Semilog line graph. Use of semilog scale-examples.	10
2	Measures of central tendency: Arithmetic mean, geometric mean and harmonic mean. Median, Mode, Calculation of quartiles and percentiles deciles.	7
3	Measures of dispersion: Range, quartile deviation, Mean deviation, Standard deviation, variance, coefficient of variation, skewness and curtosis.	8
4	Correlation, Regression: Linear correlation, coefficient of correlation: Karlpersons formula, spearman's rank method, curve fitting by the method of least squares: Fitting a straight line y=a+bx, Fitting a power curve y=axb, Fitting an exponential curve y=abx, y=aebx, Regression analysis for lines.	12
5	Definition of probability: Random experiment, sample space, Addition and multiplication laws of probability (without proof), probability distribution: binomial, poisson's normal and chi-square, Student test and Pharmaceutical examples, Sampling and types of sampling.	8

Reference Books

1. Steven PM, Andreas K. Applied statistics in the pharmaceutical industry. 2001.
2. Munrao BH. Statistical methods for health care research. 4th ed. Lippincott Company Publication;2000.
3. Pagano M, Kimberlee, Gauvreau. Principles of biostatistics. 10th ed. Lib of American Publication;2000.
4. Gotteti BK, Patricia KS. Statistics. London;Jones and Bartlet Publication;1994.

SUBJECT NAME: ENGLISH AND COMMUNICATION SKILLS & PERSONALITY DEVELOPMENT-II

(Theory)

Objective of the course:

- The course covers communication skills and overall development of student.

Students learning outcomes/objectives:

Express their ideas / opinions in English
Discuss and present their views on familiar issues / topics in English
Develop positive attitude and self-motivated personality.

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Instructional methods and pedagogy:

- Using blackboard and one-way communication from a teacher to a student.
- Using an overhead and LCD projector

Teaching and Examination Scheme:

Teaching Scheme (Hrs/Week)			Credit	Examination Scheme					Total
				External		Internal			
L	T	P		Theory	Practical	Theory	*C.E.	Practical	
1	0	2	3	30	40	20	60	__	150

L- Lectures; **T**- Tutorial; **P-** Practical; **C.E**. -Continuous Evaluation

Lectures:

Sr. No.	Topic	Weightage	Teaching Hrs
1.	**Grammar**: Degree of Comparison, Transitional Tags	13%	2
2.	**Listening Skills:** Traits of a Good Listener	12%	2
3.	**Speaking Skills & Personality Developments:** **Group Discussion: Personality Developments:** Development of Positive Attitude, Positive Thinking: Book Review, Self-Evaluation of Goal-Setting in First Semester & Resetting Goals, Building Self-Confidence	31%	5

4.	**Reading Skills :** Reading Reference Books, Reading Magazines, Reading Journals	19%	3
5.	**Writing Skills:** Techniques for Precise Writing, Formal Letter Writing, Standard and Additional Elements, Layouts, Principles, Types	25%	4
	Total	100%	16

Practical:

Sr. No.	Topic	Weightage	Teaching Hrs.
1.	**Vocabulary:** Class Test and 1 to 1 counseling for improvement	6%	2
2.	**Listening Skills:** Speeches by the leaders (Audio – Video)	6%	2
3.	**Speaking Skills** ITEP (International Test of English Proficiency) – Speaking Task 2: To speak on a given topic for 2 minute, Category: Comparison-contrast. E.g. What do you prefer Job or Business, IELTS (International English Language Testing System) Speaking Task 2: Cue Card - To speak on a given topic, using the prompts to guide you, for 3 minutes, Presentation, Group Discussion	44%	14
4.	**Writing Skills** Formal Letter Writing**,** Precise Writing**,** IELTS – writing task 2**,** Comparison-contrast**,** Problem-solution**,** Picture description – degree of comparison	31%	10
5.	**Writing a Book Review**	6%	2
	List of Books Suggested for the Book Review: The Secret by Rhonda Byrne, Wings of Fire by A P J Abdul Kalam. Who Moved My Cheese by Dr Spancer Johnson, You Can Win by Shiv Khera, Stay Hungry Stay Foolish by Rashmi Bansal, I am Ok You are Ok by Thomas Harris, The Seven Habits of Highly Effective People by Stephen Covey , The Eighth Habit by Stephen Covey, Bhagvat Gita on Effective Leadership by Poojan Roka, The Kalam Effect by Nair, Tough Times Never Last But Tough People Do by Dr. Robert Schuller, What Employers Want But Business Schools Don't Teach by Yasmin D'sousa and Amitabh Singh, Freedom is not Free by Shiv Khera, Be an Extraordinary Person in an Extraordinary World by Robert Schuller, Making Miracles by Arnold Fox and Barry Fox , The Road Less Travelled by M. Scott Peck to Name a few., I have a Dream by Rashmi Bansal, Connect the Dots by Rashmi Bansal, The saint, The Surfer and The CEO by Robin Sharma, Attitude is Everything by Jeff Keller **NOTE: These are few references of books. Students can prepare book review on a book of their choice after consulting tutorial faculty**		
		100%	32

Reference Books:

1. Technical Communication : Principles And Practice by Sangeetha Sharma, Meenakshi Raman, Oxford

2. University Press, New Delhi (Green Cover page 2008)Oxford University Press, New Delhi (Green Cover page)

3. Dr. Lin Lougheed, Barron's The Leader in Test Preparation 2011, New Age International (P) Limited Publishers, New Delhi

4. UTS Insearch English Prepare for IELTS: Academic module 2012, University of Technology, Sydney

5. Maria Sara, IELTS Speaking Success with Cue Cards and Idioms 2014, Maria Sara Publisher

6. Veena Selvam, Sujatha Priyadharsini and Shreesh Chaudhary, English for Engineering Students 2nd edition, 2009, Vikas Publishing House Pvt. Ltd.