Syllabus for Bachelor of Pharmacy (B. Pharm.) Course

SEMESTER VIII

COMPULSORY SUBJECTS

Two papers will be compulsory for Eighth semester

Paper No.	Subject
BP801T	Research Methodology
BP802T	Scientific Paper Writing

ELECTIVE SUBJECTS

Every student is required to select any ONE elective subject for Eighth semester

Subject code	Elective subject
810-814	Drug Regulatory Affairs
820-824	Clinical Pharmacy
830-834	Pharmacovigilance
840-844	Pharmacoeconomics

1. Drug Regulatory Affairs

Course code	Name of the course	No. of hours	Tutorial	Credit points	Evaluation Scheme		
					Internal	External	Total
BP801T	Research Methodology	3	1	4	20	80	100
BP802T	Scientific Paper writing	2	-	2	10	40	50
BP810ET	Drug Regulatory Affair-I	3	1	4	20	80	100
BP811ET	Drug Regulatory Affair-II	3	1	4	20	80	100
BP812EP	Drug Regulatory Affair Practical	4	-	2	10	40	50
BP813ES	Seminar (on topic assigned)	4	-	2	10	40	50
BP814ED	Dissertation Submission (on topic assigned) and Evaluation with *Viva-voce* Examination	-	-	8	100	100	200
	Total	**19**	**3**	**26**	**190**	**460**	**650**

2. Clinical Research

Course code	Name of the course	No. of hours	Tutorial	Credit points	Evaluation Scheme		
					Internal	External	Total
BP801T	Research Methodology	3	1	4	20	80	100
BP802T	Scientific Paper writing	2	-	2	10	40	50
BP820ET	Clinical Research-I	3	1	4	20	80	100
BP821ET	Clinical Research-II	3	1	4	20	80	100
BP822EP	Clinical Research Practical	4	-	2	10	40	50
BP823ES	Seminar (on topic assigned)	4	-	2	10	40	50
BP824ED	Dissertation Submission (on topic assigned) and Evaluation with *Viva-voce* Examination	-	-	8	100	100	200
	Total	**19**	**3**	**26**	**190**	**460**	**650**

3. Pharmacovigilance

Course code	Name of the course	No. of hours	Tutorial	Credit points	Evaluation Scheme		
					Internal	External	Total
BP801T	Research Methodology	3	1	4	20	80	100
BP802T	Scientific Paper writing	2	-	2	10	40	50
BP830ET	Pharmacovigilance -I	3	1	4	20	80	100
BP831ET	Pharmacovigilance -II	3	1	4	20	80	100
BP832EP	Pharmacovigilance Practical	4	-	2	10	40	50
BP833ES	Seminar (on topic assigned)	4	-	2	10	40	50
BP834ED	Dissertation Submission (on topic assigned) and Evaluation with *Viva-voce* Examination	-	-	8	100	100	200
	Total	**19**	**3**	**26**	**190**	**460**	**650**

4. Pharmacoeconomics

Course code	Name of the course	No. of hours	Tutorial	Credit points	Evaluation Scheme		
					Internal	External	Total
BP801T	Research Methodology	3	1	4	20	80	100
BP802T	Scientific Paper writing	2	-	2	10	40	50
BP840ET	Pharmacoeconomics -I	3	1	4	20	80	100
BP841ET	Pharmacoeconomics -II	3	1	4	20	80	100
BP842EP	Pharmacoeconomics Practical	4	-	2	10	40	50
BP843ES	Seminar (on topic assigned)	4	-	2	10	40	50
BP844ED	Dissertation Submission (on topic assigned) and Evaluation with *Viva-voce* Examination	-	-	8	100	100	200
	Total	**19**	**3**	**26**	**190**	**460**	**650**

BP801T: RESEARCH METHODOLOGY (Theory)

[This paper is common to ALL disciplines of B. Pharm. Semester VIII]

45 Hours

Scope: This subject deals with the application of various methodological and experimental techniques used in pharmaceutical research.

Objectives: Upon completion of this course the student should be able to:

1. Understand the research methodologies and its applications
2. Understand the Qualitative and Quantitative Research.
3. Perform quantitative & qualitative analysis of observation (data).

Course Content

UNIT I **10 Hours**

Introduction: Meaning, Objectives, Motivation, Utility. Concept of theory,. Characteristics of scientific method – Understanding the language of research – Concept, Construct, Definition, Variable. Research Process, Uses of research, formulation of research problems, developing hypothesis, writing research questions.

UNIT II **10 Hours**

Problem Identification : Research Question – Investigation Question ; Hypothesis Qualities of a good Hypothesis –Null Hypothesis & Alternative Hypothesis. Hypothesis Testing

Research Design: Importance in Research; concept, types and uses; Experimental Design.

Qualitative and Quantitative Research: Qualitative research; Quantitative research

Measurement: Concept of measurement:what is measured? Problems in measurement in research – Validity and Reliability. Levels of measurement – Nominal, Ordinal, Interval, Ratio.

UNIT III **10 Hours**

Sampling: Sample; Sampling Frame, Sampling Error, Sample Size, Non Response. Characteristics of a good sample. Probability Sample – Simple Random Sample, Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the sample – Practical considerations in sampling and sample size.

UNIT IV **08 Hours**

Data Analysis: Data Preparation; Univariate analysis (frequency tables, bar charts, pie charts, percentages), Bivariate analysis, Cross tabulations and Chi-square test including testing hypothesis of association.

UNIT V **07 Hours**

Research ethics, confidentiality and privacy, informed consent, vulnerable subjects and special treatments, standards of care-principles, review processes etc.

Recommended Books (Latest Editions)

1. Business Research Methods – Donald Cooper & Pamela Schindler, TMGH, 9th edition
2. Business Research Methods – Alan Bryman & Emma Bell, Oxford University Press.
3. Research Methodology – C.R. Kothari
4. Gummersson, E. Qualitative methods in Management Research, Sage publications
5. Select references from the Internet

BP802T: SCIENTIFIC PAPER WRITING (Theory)

This paper is common to ALL disciplines of B. Pharm. Semester VIII

45 Hours

Scope: This subject deals with the Scientific Paper writing methods.

Objectives: Upon completion of this course the student should be able to:

1. Understand the Scientific Paper writing methods
2. Understand the application of Software for detection of Plagiarism.
3. Perform the techniques used in Reference Management Software

Course Content

UNIT I **10 Hours**

Interpretation of Data and Paper Writing – Layout of a Research Paper, Journals in Pharmaceutical Science, Impact factor of Journals, When and where to publish ? Ethical issues related to publishing, Plagiarism and Self-Plagiarism.

UNIT II **10 Hours**

Forms of Writing: The essay, the précis, the report, the proposal, the CV and job application letter, presentation.

UNIT III **10 Hours**

Grammar: Subject verb agreement, tense, voice, improvement of sentences, rearrangement of sentences, vocabulary: usage, synonyms, antonyms, comprehension.

UNIT IV **08 Hours**

Use of Encyclopedias, Pharmacopoeias, Research Guides, Handbooks, etc., Academic Databases for Pharmaceutical Science Discipline.

UNIT V **07 Hours**

Use of tools / techniques for Research: methods to search required information effectively, Reference Management Software like Zotero/ Mendeley, Software for paper formatting like LaTeX/MS Office, Software for detection of Plagiarism.

Recommended Books (Latest Editions)

1. Word Power Made Easy Paperback (English) 2011, Norman Lewis; Simon & Schuster
2. Interpersonal Skills For Entrepreneurs 2013, Melissa Contreras
3. A Companion to Communication Skills in English: A Practical Approach to Improving Pronunciation (English) 2012, Jitendra Kumar Mishra; PHI Learning

BP810ET: DRUG REGULATORY AFFAIRS - I (Theory)

45 Hours

Scope: This subject deals with the Drug Regulatory Affairs.

Objectives: Upon completion of this course the student should be able to:

1. understand the History and Need of Regulatory Authorities
2. understand the Introduction and functioning of various Regulatory Affairs bodies.
3. eligible to understand regulatory provisions for Manufacture and Import of drugs.

Course Content

UNIT I **10 Hours**

History and Need of Regulatory Authorities; Drugs and Cosmetic ACT 1940 and Overview of Regulation in India. CDSCO and State /UT drug control departments, organizational structure and functions. Introduction to Drug Regulatory Bodies World Wide.

UNIT II **10 Hours**

Brief Introduction and functioning of USFDA (United States Food and Drug Administration), TGA (Therapeutic Goods Administration), UK MCA (The Medicines Control Agency), MHRA (Medicine and Health Care Regulatory Agency), ICH (International Conference on Harmonization) and WHO World Health Organization.

UNIT III **10 Hours**

Overview of Drug Development. Good Regulatory Practices. Introduction to IND, NDA, Generic Drug, Biosimilars and its approval process in India.

UNIT IV **08 Hours**

Regulations related to Stability testing of Drugs. Overview of regulations related to labelling Regulatory provisions for import, Manufacture and Export of Drugs in India. Regulatory considerations for Preclinical and Clinical Trials in India.

UNIT V **07 Hours**

Regulatory provisions for Manufacture and Import of Medical Devices in India. Regulatory provisions for Manufacture and Import of Cosmetics in India. Regulatory guidelines for Packaging Materials., Overview of Drug Price Control Order.

BP811ET: DRUG REGULATORY AFFAIRS – II (Theory)

45 Hours

Scope: This subject deals with the Drug Regulatory Affairs.

Objectives: Upon completion of this course the student should be able to:

1. understand the Intellectual Property Rights
2. understand the Drug Approval procedure.
3. eligible to understand Bioethics and Issues related to development, promotion, sales, prescription and use of drugs in India.

Course Content

UNIT I **10 Hours**

Intellectual Property Rights. Copy Right, Trademarks and Patents. Hatch Waxman Act, PCT (Patent Cooperative Treaty).

UNIT II **10 Hours**

Drug Master File (DMF) Common Technical Document (CTD) and Electronic Common Technical Document (e-CTD). Abbreviated new drug Approval (ANDA). Exclusive Marketing Rights (EMR), Orange Book.

UNIT III **10 Hours**

Broad overview of Drug Approval procedure in Europe, European Medicines Agency (EMEA) and European Directorate of Quality Medicines (EDQM).

UNIT IV **08 Hours**

Broad overview of Drug Approval process in Japan. Broad overview of Drug Approval Process in ASEAN.

UNIT V **07 Hours**

Bioethics and Issues related to development, promotion, sales, prescription and use of drugs in India. Biosafety Guidelines (Govt of India); Pharmacovigilence and Adverse Drug Reporting (ADR)

BP812EP: DRUG REGULATORY AFFAIRS (Practical)

45 Hours

The practical will include case studies on topics covered in the theory above.

Recommended Books: (Latest Editions)

1. Willing S.W. Soter, Good manufacturing practices for pharmaceutics, Marcel Dekker, New York.
2. Guarino R.A., New drug approval process, Marcel Dekker, New York
3. Drug and Cosmetics Act
4. Patents Act
5. Federal Food, Drug & Cosmetics Act
6. Bansal, IPR guidelines for Pharma students and researchers
7. Pisano-FDA regulatory affairs

BP813ES: SEMINAR

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation and Viva voce on the Submitted synopsis

Note: Evaluation will be conducted jointly by Internal and External Examiner

BP814ED: PROJECT WORK

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation of the Submitted Dissertation Submission (on topic assigned) and Evaluation by Viva voce examination

[To be submitted in duplicate with soft copy on CD]

Note: Evaluation of dissertation and viva voce will be conducted jointly by Internal and External Examiner. In case of any dispute, the average of the two will be taken as final.

BP820ET: CLINICAL RESEARCH-I (Theory)

45 Hours

Scope: This subject deals with the Clinical Research and Development.

Objectives: Upon completion of this course the student should be able to:

1. understand the fundamentals of the design and analysis of clinical trials
2. understand the processes for Inventing New Drugs; Patents; Approval of New Drugs.
3. eligible to understand Finding and Evaluating Databases of Scientific Literature.

Course Content

UNIT I **10 Hours**

Definition of Clinical Research and Development. History of Randomized Trial, Clinical Trials.

UNIT II **10 Hours**

Introduction to the fundamentals of the design and analysis of clinical trials.

UNIT III **10 Hours**

Introduction to pharmaceutical Industry; Inventing New Drugs; Patents; Approval of New Drugs.

UNIT IV **08 Hours**

Finding and Evaluating Databases of Scientific Literature. Time Management and resource; Sampling techniques.

UNIT V **07 Hours**

Questionnaire Design, Primary variables, Types of data binary categorical continuous. Sampling size.

BP821ET: CLINICAL RESEARCH - II (Theory)

45 Hours

Scope: This subject deals with the Clinical Research and Development.

Objectives: Upon completion of this course the student should be able to:

1. understand the Principles of sampling techniques in Clinical Research
2. understand the Clinical trial project outsourcing.
3. eligible to understand various guidelines for clinical research.

Course Content

UNIT I **10 Hours**

Principles of sampling and exclusion, methods of allocation and techniques of randomization, parallel versus cross over designs. Clinical trial process, different phases.

UNIT II **10 Hours**

Clinical trials, reviews and approval of a clinical study. GCP, ICMR, ICH, and WHO guidelines.

UNIT III **10 Hours**

Clinical trial project outsourcing. Geographical attractions for outsourcing.; Choosing the optional CRO Evaluating tulle and cost involved.

UNIT IV **08 Hours**

ICH and GCP Guidelines; Protocol Designing, Statistical Designing, Report Writing

UNIT V **07 Hours**

Adverse effects, Schedule – Y, DCGI and FDA guidelines. Regulatory system in India.

BP822EP: CLINICAL RESEARCH (Practical)

4 Hours/week

1. Ethical and regulatory issues
2. Design and evaluation of site
3. Detection, assessment and documentation of ADRs
4. Detection and assessment of adverse drug reactions and their documentation (Any three)
5. Identification and assessment of medication errors (Any three)

Recommended Books: (Latest Editions)

1. New Drug Approval Process, Third Edition by Richard A. Guarino, Volume 100, Marcel Decker Inc.
2. IND and NDA Guidelines of Various Regulatory Authorities
3. New Drug Approval Process, Third Edition by Richard A. Guarino, Volume 100, Marcel Decker Inc.
4. IND and NDA Guidelines of Various Regulatory Authorities
5. Practice Standards and Definitions - The Society of Hospital Pharmacists of Australia (latest edition) Journa
6. CDSCO. GCP- guidelines for Clinical trials on pharmaceutical products in India. New Delhi: Ministry of Health;2001
7. ICH of technical requirements for registration of pharmaceuticals for human use. ICH Harmonized Tripartite Guideline. Guideline for GCP.E6
8. Ethical Guidelines for Biomedical Research on Human Subjects 2000. ICMR, New Delhi.

BP823ES: SEMINAR

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation and Viva voce on the Submitted synopsis

Note: Evaluation will be conducted jointly by Internal and External Examiner

BP824ED: PROJECT WORK

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation of the Submitted Dissertation Submission (on topic assigned) and Evaluation by Viva voce examination

[To be submitted in duplicate with soft copy on CD]

Note: Evaluation of dissertation and viva voce will be conducted jointly by Internal and External Examiner. In case of any dispute, the average of the two will be taken as final.

BP831ET: PHARMACOVIGILANCE – I (Theory)

45 Hours

Scope: This paper will provide an opportunity for the student to learn about development of pharmacovigilance as a science, basic terminologies used in pharmacovigilance, global scenario of Pharmacovigilance, train students on establishing pharmacovigilance programme in an organization, various methods that can be used to generate safety data and signal detection. This paper also develops the skills of classifying drugs, diseases and adverse drug reactions.

Objectives: Upon completion of this course the student should be able to:

1. understand the Adverse Drug Reactions
2. understand the Reporting Database.
3. eligible to understand the role of clinical pharmacist in Pharmacovigilance.

Course Content

UNIT I **10 Hours**

Overview of Pharmacovigilance. Brief History of Pharmacovigilance. Thalidomide's Impact on Regulations. Scope, definition and aims of Pharmacovigilance.

UNIT II **10 Hours**

Adverse Drug Reactions (ADRs) - Classification, mechanism, predisposing factors, causality assessment for ADRs. ICH Definition of Adverse Drug Reaction. Medical Evaluation of Adverse Events in Pharmacovigilance. Diagnosis and Managements of ADRs.

UNIT III **10 Hours**

Reporting Database, Role of clinical pharmacist in Pharmacovigilance. Pharmacovigilance indicators. Rationale and objectives and Classification of pharmacovigilance indicators.

UNIT IV **08 Hours**

Signal Detection, Managements and Risk Assessments & Evaluation in Pharmacovigilance. Regulator Guideline & laws in Pharmacovigilance. Regulatory Aspects in Pharmacovigilance.

UNIT V **07 Hours**

Standard Terms and Terminology used in Pharmacovigilance. Medical Dictionary for Drug Regulatory Activities MedDRA.

BP832ET: PHARMACOVIGILANCE - II (Theory)

45 Hours

Scope: This paper will provide an opportunity for the student to learn about development of pharmacovigilance as a science, basic terminologies used in pharmacovigilance, global scenario of Pharmacovigilance, train students on establishing pharmacovigilance programme in an organization, various methods that can be used to generate safety data and signal detection. This paper also develops the skills of classifying drugs, diseases and adverse drug reactions.

Objectives: Upon completion of this course the student should be able to:

1. understand the Safety monitoring in Clinical Trials
2. understand the Reporting Requirements in Pharmacovigilance.
3. eligible to understand the Quality System in Pharmacovigilance & SOPs in Pharmacovigilance.

Course Content

UNIT I **10 Hours**

Safety monitoring in Clinical Trials. Good Pharmacovigilance Process (GPVP). Periodic Safety Update Reports (PSURs) For Marketed Drugs (ICH E2C).

UNIT II **10 Hours**

Reporting Requirements in Pharmacovigilance- Expedited Reporting, Key Data Elements for Inclusion in Expedited Reports.

UNIT III **10 Hours**

Pharmacovigilance Database. International collaboration on pharmacovigilance- WHO, ICH, CIOMS and ISoP. Case Processing- Global Perspective of Pharmacovigilance. Case Narrative Writing.

UNIT IV **08 Hours**

Pharmacovigilance- Auditing and Inspection. Quality System in Pharmacovigilance. SOPs in Pharmacovigilance.

UNIT V **07 Hours**

Pharmacovigilance communications and Pharmacoepidemiology. An overview and applications of Pharmacovigilance Software.

BP832EP: PHARMACOVIGILANCE (Practical)

4 Hours/week

The practical will include case studies on topics covered in the theory above.

Recommended Books: (Latest Editions)

1. Textbook of Pharmacovigilance by SK Gupta. Publisher: Jaypee Brothers, Medical Publishers Pvt. Limited.
2. Practical Manual of Experimental and Clinical Pharmacology by Bikash Medhi, Ajay Prakash. Publisher: Jaypee Brothers, Medical Publishers Pvt. Limited.
3. Stephens' Detection of New Adverse Drug Reactions by John Talbot, Patrick Waller. Publisher: John Wiley & Sons.
4. Cobert's Manual of Drug Safety and Pharmacovigilance by Barton Cobert. ISBN-13: 9780763791599.
5. Mann's Pharmacovigilance, 3rd Edition by Elizabeth B. Andrews and Nicholas Moore. ISBN-13: 9780470671047.
6. Pharmacovigilance Medical Writing: A Good Practice Guide by Justina Orleans-Lindsay. Publisher: John Wiley & Sons.
7. An Introduction Pharmacovigilance by Patrick Waller. Publisher: Wiley-Blackwell
8. ICH of technical requirements for registration of pharmaceuticals for human use. ICH Harmonized Tripartite Guideline. Guideline for GCP.E6
9. Ethical Guidelines for Biomedical Research on Human Subjects 2000. ICMR, New Delhi

BP833ES: SEMINAR

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation and Viva voce on the Submitted synopsis

Note: Evaluation will be conducted jointly by Internal and External Examiner

BP834ED: PROJECT WORK

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation of the Submitted Dissertation Submission (on topic assigned) and Evaluation by Viva voce examination

[To be submitted in duplicate with soft copy on CD]

Note: Evaluation of dissertation and viva voce will be conducted jointly by Internal and External Examiner. In case of any dispute, the average of the two will be taken as final.

BP840ET: PHARMACOECONOMICS - I (Theory)

45 Hours

Scope: This paper will provide an opportunity for the student to learn about basic concepts in pharmacoeconomics, applied pharmacoeconomics and humanistic outcomes.

Objectives: Upon completion of this course the student should be able to:

1. understand the Pharmacoeconomic analyses
2. understand the Economic, Clinical, and Humanistic Outcomes
3. eligible to understand the formulary management, drug use policies, efficient use of available technologies.

Course Content

UNIT I **10 Hours**

Basic concepts in pharmacoeconomics (determination of costs, consequences, perspectives, and terminology). Cost of illness.

UNIT II **10 Hours**

Pharmacoeconomic analyses (cost-minimization analysis (CMA), cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), and cost-utility analysis (CUA).

UNIT III **10 Hours**

Analysis techniques (discounting, sensitivity analysis, decision analysis, incremental cost analysis).

UNIT IV **08 Hours**

Applied pharmacoeconomics (formulary management, drug use policies, efficient use of available technologies).

UNIT V **07 Hours**

Humanistic Outcomes including the Economic, Clinical, and Humanistic Outcomes (ECHO) model and the Donabedian model. General and disease-specific quality of life

BP841ET: PHARMACOECONOMICS - II (Theory)

45 Hours

Scope: This paper will provide an opportunity for the student to learn about basic concepts in pharmacoeconomics and role and importance of pharmacoeconomic analyses in drug management.

Objectives: Upon completion of this course the student should be able to:

1. understand the Pharmacoeconomic analyses
2. understand the Cost-effectiveness analysis
3. eligible to understand the evaluation of the patient's quality of life

Course Content

UNIT I **10 Hours**

Definition of pharmacoeconomics, pharmacology as an interdisciplinary science.

UNIT II **10 Hours**

Role and importance of pharmacoeconomic analyses in drug management.

UNIT III **10 Hours**

Basic types of pharmacoeconomic analyses Cost-effectiveness analysis on the example of therapy for benign prostatic hyperplasia using selected preparations.

UNIT IV **08 Hours**

Definition and methods for evaluation of the patient's quality of life.

UNIT V **07 Hours**

The concept and contents of the hospital formulary. Budget impact analysis. Drawing up the hospital formulary

BP842EP: PHARMACOECONOMICS (Practical)

4 Hours/week

The practical will include case studies on topics covered in the theory above.

Recommended Books: (Latest Editions)

1. Pharmacoeconomic – ed. by Nowakowska – University of Medical Sciences, Poznan – 2009.
2. Health Economics. Fundamentals and Flow of Founds. Thomas E. Getzen. Copyright 1997, 2003, by John Wiley & Sons – second edition.
3. Decision Modelling for Health Economic Evaluation Andrew Briggs, Karl Claxton, Mark Sculpher, Published by the Oxford University Press 2006.
4. Methods for the Economic Evaluation of Health Care Programmes Michael Drummond, Mark Sculpher, George Torrence, Bernie O'Brien and Greg Stoddart. Oxford University Press (Third Edition) – 2005.
5. *Essentials of Pharmacoeconomics,* Rascati, KL. *Second Edition* Wolters-Kluwer - Lippincott, Williams & Wilkins, 2013.
6. Rascati KL. *Essentials of Pharmacoeconomics,* 2nd ed. Philadelphia: Wolters Kluwer-Lippincott Williams & Wilkins, 2013.
7. Drummond MF, Sculpher MJ, Torrance GW, O'Brien J. Methods for the Economic Evaluation of Health Care Programmes, 3nd Ed. Oxford University Press, 2005.
8. Gold MR, Siegel JE, Russell LB, Weinstein MC. Cost Effectiveness in Health and Medicine. Oxford University Press, 1996.
9. Briggs AH, Claxton K, Sculpher M. Decision Modelling for Health Economic Evaluation. Oxford: Oxford University Press, 2006.

BP843ES: SEMINAR

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation and Viva voce on the Submitted synopsis

Note: Evaluation will be conducted jointly by Internal and External Examiner

BP844ED: PROJECT WORK

(On Assigned Topic)

1. Allotment of research topic
2. Literature survey of the allotted research topic
3. Preparation and submission of synopsis based on literature survey, objective and preliminary Research work, etc.
4. Presentation of the Submitted Dissertation Submission (on topic assigned) and Evaluation by Viva voce examination

[To be submitted in duplicate with soft copy on CD]

Note: Evaluation of dissertation and viva voce will be conducted jointly by Internal and External Examiner. In case of any dispute, the average of the two will be taken as final.