

DESCRIPTION

1.3.1 INSTITUTION INTEGRATES CROSS CUTTING ISSUES RELEVANT TO PROFESSIONAL ETHICS, GENDER, HUMAN VALUES, ENVIRONMENT AND SUSTAINABILITY INTO THE CURRICULUM

The institution integrates the cross cutting issues relevant to professional ethics, human values, environment and sustainability into the curriculum. The subjects mentioned in the syllabus of University includes subjects related to professional ethics [Eg: Pharmaceutical Jurisprudence and ethics (BPHM-602)], Human values [Eg: Human values and Professional Ethics (HVPE-101)], Environmental Sciences [Eg: Environmental Sciences (BP-206)]. Besides this, the college has also organized 15 days certificate course on Yoga at regular time intervals. Events like plantation activity, seminar on women hygiene have also been conducted by the institution.


Dr R. K. Dhawan
Director-Principal



1.3.1 Institution integrates cross cutting issues relevant to professional ethics, gender, human values, environment and sustainability into the curriculum

A. Institution integrates cross cutting issues relevant to Professional Ethics

S.No.	Course Code	Name of Course	Programme Name
1.	BP505T	Pharmaceutical Jurisprudence	B.Pharmacy (2017)
2.	BP703T	Pharmacy practice	B pharmacy (2017)

B. Institution integrates cross cutting issues relevant to Gender

S.No.	Course Code	Name of Course	Programme Name
1	BP802T	Social and Preventive Pharmacy	B.Pharmacy (2017)
2	BP207P	Human Anatomy and Physiology- Practical	B.Pharmacy (2017)
3	BP204T	Pathophysiology	

C. Institution integrates cross cutting issues relevant to Human Values

S.No.	Course Code	Name of Course	Programme Name
1	BP802T	Social and Preventive Pharmacy	B.Pharmacy (2017)

D. Institution integrates cross cutting issues relevant to Environment

S.No.	Course Code	Name of Course	Programme Name
1.	BP206T	Environmental Sciences	B.Pharmacy (2017)

E. Institution integrates cross cutting issues relevant to Sustainability

S.No.	Course Code	Name of Course	Programme Name
1.	BP802T	Social and Preventive Pharmacy	B.Pharmacy (2017)

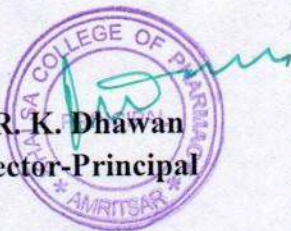


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Dr R. K. Dhawan
Director-Principal



I.K. Gujral Punjab Technical University
B. Pharmacy/Batch 2017

Course Code	Course Title	Teaching Load			Marks		Exam (hrs)		Credits
		L	T	P	Int.	Ext.	Int.	Ext.	
BP204T	Pathophysiology	3	1	-	25	75	1	3	4

Scope: Pathophysiology is the study of causes of diseases and reactions of the body to such disease producing causes. This course is designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions with reference to its pharmacological applications, and understanding of basic pathophysiological mechanisms. Hence it will not only help to study the syllabus of pathology, but also to get baseline knowledge required to practice medicine safely, confidently, rationally and effectively.

Objectives: Upon completion of the subject, student shall be able to

1. Describe the etiology and pathogenesis of the selected disease states.
2. Name the signs and symptoms of the diseases.
3. Mention the complications of the diseases.

Module 01

10 Hours

Basic Principles of Cell Injury and Adaptation

- Introduction, definitions, Homeostasis, Components and Types of Feedback systems, Causes of cellular injury, Pathogenesis (Cell membrane damage, Mitochondrial damage, Ribosome damage, Nuclear damage), Morphology of cell injury – Adaptive changes (Atrophy, Hypertrophy, hyperplasia, Metaplasia, Dysplasia), Cell swelling, Intra cellular accumulation, Calcification, Enzyme leakage and Cell Death Acidosis and Alkalosis, Electrolyte imbalance.

Basic Mechanism Involved In The Process of Inflammation and Repair

- Introduction, Clinical signs of inflammation, Different types of Inflammation, Mechanism of Inflammation –Alteration in vascular permeability and blood flow, migration of WBC's, Mediators of inflammation, Basic principles of wound healing in the skin, Pathophysiology of Atherosclerosis.

Module 02

10 Hours

Cardiovascular System

- Hypertension, congestive heart failure, ischemic heart disease (angina, myocardial infarction, atherosclerosis and arteriosclerosis).

Respiratory System

- Asthma, Chronic obstructive airways diseases.

Renal System

- Acute and chronic renal failure.



Module 03

10 Hours

Haematological Diseases

- Iron deficiency, megaloblastic anemia (Vit B12 and folic acid), sickle cell anemia, thalassemia, hereditary acquired anemia, haemophilia.

Endocrine System

- Diabetes, thyroid diseases, disorders of sex hormones

Nervous System

- Epilepsy, Parkinson's disease, stroke, psychiatric disorders: depression, schizophrenia and Alzheimer's disease.

Gastrointestinal System

- Peptic Ulcer.

Module 04

08 hours

Gastrointestinal System

- Inflammatory bowel diseases, jaundice, hepatitis (A, B, C, D, E, F) alcoholic liver disease.

Disease of Bones and Joints

- Rheumatoid arthritis, osteoporosis and gout.

Principles of Cancer

- Classification, etiology and pathogenesis of cancer.

Module 05

07 Hours

Infectious diseases

- Meningitis, Typhoid, Leprosy, Tuberculosis

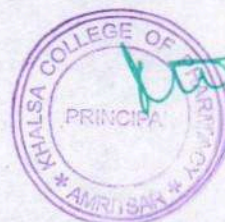
Urinary Tract Infections

Sexually Transmitted Diseases

- AIDS, Syphilis, Gonorrhea

Recommended Books (Latest Editions)

1. Vinay Kumar, Abul K. Abas, Jon C. Aster; Robbins and Cotran Pathologic Basis of Disease; South Asia edition; India; Elsevier.
2. Harsh Mohan; Text book of Pathology; India; Jaypee Publications.
3. Laurence B, Bruce C, Bjorn K.; Goodman Gilman's The Pharmacological Basis of Therapeutics; New York; McGraw-Hill.
4. Best, Charles Herbert 1899-1978; Taylor, Norman Burke 1885-1972; West, John B (John Burnard); Best and Taylor's Physiological basis of medical practice; United States. William and Wilkins, Baltimore.
5. Nicki R. Colledge, Brian R. Walker, Stuart H. Ralston; Davidson's Principles and Practice of Medicine; London; ELBS/Churchill Livingstone.
6. Guyton A, John .E Hall; Textbook of Medical Physiology; WB Saunders Company.



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B. Pharmacy/Batch 2017

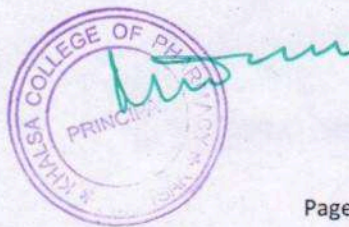
Course Code	Course Title	Teaching Load			Marks		Exam (hrs)		Credits
		L	T	P	Int.	Ext.	Int.	Ext.	
BP207P	Human Anatomy and Physiology-II	-	-	4	15	35	4	4	2

Practical physiology is complimentary to the theoretical discussions in physiology. Practicals allow the verification of physiological processes discussed in theory classes through experiments on living tissue, intact animals or normal human beings. This is helpful for developing an insight on the subject.

1. To study the integumentary and special senses using specimen, models, etc.
2. To study the nervous system using specimen, models, etc.
3. To study the endocrine system using specimen, models, etc.
4. To demonstrate the general neurological examination.
5. To demonstrate the function of olfactory nerve.
6. To examine the different types of taste.
7. To demonstrate the visual acuity.
8. To demonstrate the reflex activity.
9. Recording of body temperature.
10. To demonstrate positive and negative feedback mechanism.
11. Determination of tidal volume and vital capacity.
12. Study of digestive, respiratory, cardiovascular systems, urinary and reproductive systems with the help of models, charts and specimens.
13. Recording of basal mass index.
14. Study of family planning devices and pregnancy diagnosis test.
15. Demonstration of total blood count by cell analyser.
16. Permanent slides of vital organs and gonads.

Recommended Books (Latest Editions)

1. Practical workbook of Human Physiology by K. Srinageswari and Rajeev Sharma, Jaypee Brothers medical publishers, New Delhi.



Course Code	Course Title	Teaching Load			Marks		Exam (hrs)		Credits
		L	T	P	Int.	Ext.	Int.	Ext.	
BP703T	Pharmacy Practice	3	1	-	25	75	1	3	4

Scope: In the changing scenario of pharmacy practice in India, for successful practice of Hospital Pharmacy, the students are required to learn various skills like drug distribution, drug information, and therapeutic drug monitoring for improved patient care. In community pharmacy, students will be learning various skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counselling for improved patient care in the community set up.

Objectives: Upon completion of the course, the student shall be able to

1. Know various drug distribution methods in a hospital.
2. Appreciate the pharmacy stores management and inventory control.
3. Monitor drug therapy of patient through medication chart review and clinical review.
4. Obtain medication history interview and counsel the patients.
5. Identify drug related problems.
6. Detect and assess adverse drug reactions.
7. Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states.
8. Know pharmaceutical care services.
9. Do patient counselling in community pharmacy.
10. Appreciate the concept of rational drug therapy.

Module 01

10 Hours

Hospital and Its Organization

- Definition, Classification of hospital.
- Primary, Secondary and Tertiary hospitals.
- Classification based on clinical and non- clinical basis.
- Organization Structure of a Hospital, and Medical staffs involved in the hospital and their functions.

Hospital Pharmacy and Its Organization

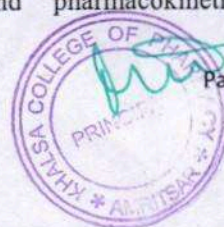
- Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists.

Adverse Drug Reaction

- Classifications –Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, and toxicity following sudden withdrawal of drugs.

Drug Interaction

- Beneficial interactions, adverse interactions, and pharmacokinetic drug



interactions.

- Methods for detecting drug interactions.
- Spontaneous case reports and record linkage studies.
- Adverse drug reaction reporting and management.

Community Pharmacy

- Organization and structure of retail and wholesale drug store, types and design.
- Legal requirements for establishment and maintenance of a drug store.
- Dispensing of proprietary products, maintenance of records of retail and wholesale drug store.

Module 02

10Hours

Drug Distribution System in A Hospital

- Dispensing of drugs to inpatients, types of drug distribution systems, charging policy and labelling, Dispensing of drugs to ambulatory patients, and Dispensing of controlled drugs.

Hospital formulary

- Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital formulary.
- **Therapeutic Drug Monitoring**
- Need for Therapeutic Drug Monitoring, Factors to be considered during the Therapeutic Drug Monitoring, and Indian scenario for Therapeutic Drug Monitoring.

Medication Adherence

- Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence.

Patient Medication History Interview

- Need for the patient medication history interview, medication interview forms.

Community Pharmacy Management

- Financial, materials, staff, and infrastructure requirements.

Module 03

10 Hours

Pharmacy and therapeutic committee

- Organization, functions, Policies of the pharmacy and therapeutic committee in including drugs into formulary, inpatient and outpatient prescription, automatic stop order, and emergency drug list preparation.

Drug information services

- Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information.

Patient Counselling

- Definition of patient counselling; steps involved in patient counselling, and Special cases that require the pharmacist.

Course Code	Course Title	Teaching Load			Marks		Exam (hrs)		Credits
		L	T	P	Int.	Ext.	Int.	Ext.	
BP206T	Environmental Sciences	3	-	-	25	50	1	2	3

Scope: Environmental Sciences is the scientific study of the environmental system and the status of its inherent or induced changes on organisms. It includes not only the study of physical and biological characters of the environment but also the social and cultural factors and the impact of man on environment.

Objectives: Upon completion of the course, the student shall be able to:

1. Create the awareness about environmental problems among learners.
2. Impart basic knowledge about the environment and its allied problems.
3. Develop an attitude of concern for the environment.
4. Motivate learner to participate in environment protection and environment improvement.
5. Acquire skills to help the concerned individuals in identifying and solving environmental problems.
6. Strive to attain harmony with Nature.

Module 01

10 Hours

The Multidisciplinary nature of environmental studies

Natural Resources

- Renewable and non-renewable resources: Natural resources and associated problems
Forest resources; b) Water resources; c) Mineral resources; d) Food resources; e) Energy resources; f) Land resources: Role of an individual in conservation of natural resources.

Module 02

10Hours

Ecosystems

- Concept of an ecosystem.
- Structure and function of an ecosystem.
- Introduction, types, characteristic features, structure and function of the ecosystems: Forest ecosystem; Grassland ecosystem; Desert ecosystem; Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

Module 03

10 Hours

- **Environmental Pollution: Air pollution; Water pollution; Soil pollution**

Recommended Books (Latest edition):

1. Y.K. Singh, Environmental Science, New Age International Pvt, Publishers, Bangalore.



2. Agarwal, K.C. Environmental Biology, Nidi Publ. Ltd. Bikaner.
3. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad – 380 013, India.
4. Brunner R.C., Hazardous Waste Incineration, McGraw Hill Inc. 480p.
5. Clark R.S., Marine Pollution, Clanderson Press Oxford.
6. Cunningham, W.P. Cooper, T.H. Gorhani, E and Hepworth, M.T., Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p.
7. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
8. Down of Earth, Centre for Science and Environment.



Course Code	Course Title	Teaching Load			Marks		Exam (hrs)		Credits
		L	T	P	Int.	Ext.	Int.	Ext.	
BP505T	Pharmaceutical Jurisprudence	3	1	-	25	75	1	3	4

Scope: This course is designed to impart basic knowledge on important legislations related to the profession of pharmacy in India.

Objectives: Upon completion of the course, the student shall be able to understand:

1. The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals.
2. Various Indian pharmaceutical Acts and Laws.
3. The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals.
4. The code of ethics during the pharmaceutical practice.

Module 01

10 Hours

Drugs and Cosmetics Act, 1940 and Its Rules 1945

- Objectives, Definitions, Legal definitions of schedules to the Act and Rules
- Import of drugs – Classes of drugs and cosmetics prohibited from import, Import under license or permit. Offences and penalties.
- Manufacture of drugs – Prohibition of manufacture and sale of certain drugs,
- Conditions for grant of license and conditions of license for manufacture of drugs, Manufacture of drugs for test, examination and analysis, manufacture of new drug, loan license and repacking license.

Module 02

10 Hours

Drugs and Cosmetics Act, 1940 and Its rules 1945.

- Detailed study of Schedule G, H, M, N, P, T, U, V, X, Y, Part XII B, Sch F & DMR (OA) Sale of Drug– Wholesale, Retail sale and restricted license. Offences and penalties
- Labeling & Packing of drugs- General labeling requirements and specimen labels for drugs and cosmetics, List of permitted colors. Offences and penalties.
- Administration of the Act and Rules – Drugs Technical Advisory Board, Central drugs Laboratory, Drugs Consultative Committee, Government drug analysts, licensing authorities, controlling authorities, Drugs Inspectors.

Module 03

10 Hour

Pharmacy Act –1948

- Objectives, Definitions, Pharmacy Council of India; its constitution and functions, Education Regulations, State and Joint state pharmacy councils; constitution and functions, Registration of Pharmacists, Offences and Penalties.

Medicinal and Toilet Preparation Act –1955

- Objectives, Definitions, Licensing, Manufacture In bond and Outside bond, Export of



alcoholic preparations, Manufacture of Ayurvedic, Homeopathic, Patent & Proprietary Preparations. Offences and Penalties.

Narcotic Drugs and Psychotropic Substances Act-1985 and Rules

- Objectives, Definitions, Authorities and Officers, Constitution and Functions of narcotic & Psychotropic Consultative Committee, National Fund for Controlling the Drug Abuse, Prohibition, Control and Regulation, opium poppy cultivation and production of poppy straw, manufacture, sale and export of opium, Offences and Penalties.

Module 04

08 Hours

Study of Salient Features of Drugs and Magic Remedies Act and its rules

- Objectives, Definitions, Prohibition of certain advertisements, Classes of Exempted advertisements, Offences and Penalties.

Prevention of Cruelty to animals Act-1960

- Objectives, Definitions, Institutional Animal Ethics Committee, CPCSEA guidelines for Breeding and Stocking of Animals, Performance of Experiments, Transfer and acquisition of animals for experiment, Records, Power to suspend or revoke registration, Offences and Penalties.

National Pharmaceutical Pricing Authority

- Drugs Price Control Order (DPCO)- 2013. Objectives, Definitions, Sale prices of bulk drugs, Retail price of formulations, Retail price and ceiling price of scheduled formulations, National List of Essential Medicines (NLEM).

Module 05

07 Hours

Pharmaceutical Legislations

- A brief review, Introduction, Study of drugs enquiry committee, Health survey and development committee, Hathi committee and Mudaliar committee

Code of Pharmaceutical ethics

- Definition, Pharmacist in relation to his job, trade, medical profession and his profession, Pharmacist's oath

Medical Termination of Pregnancy Act

Right to Information Act

Introduction to Intellectual Property Rights (IPR)

Recommended books: (Latest Edition)

1. Forensic Pharmacy by B. Suresh.
2. Text book of Forensic Pharmacy by B.M. Mithal.
3. Hand book of drug law-by M.L. Mehra.
4. A text book of Forensic Pharmacy by N.K. Jain.
5. Drugs and Cosmetics Act/Rules by Govt. of India publications.
6. Medicinal and Toilet preparations act 1955 by Govt. of India publications.
7. Narcotic drugs and psychotropic substances act by Govt. of India publications.
8. Drugs and Magic Remedies act by Govt. of India publication.
9. Bare Acts of the said laws published by Government. Reference books (Theory).



Course Code	Course Title	Teaching Load			Marks		Exam (hrs)		Credits
		L	T	P	Int.	Ext.	Int.	Ext.	
BP802T	Social & Preventive Pharmacy	3	1	-	25	75	1	3	4

Scope: The purpose of this course is to introduce to students a number of health issues and their challenges. This course also introduced a number of national health programmes. The roles of the pharmacist in these contexts are also discussed.

Objectives: After the successful completion of this course, the student shall be able to

1. Acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.
2. Have a critical way of thinking based on current healthcare development.
3. Evaluate alternative ways of solving problems related to health and pharmaceutical issues.

Module 01

10 Hours

Concept of Health and Disease

- Definition, concepts and evaluation of public health.
- Understanding the concept of prevention and control of disease, social causes of diseases and social problems of the sick.

Social and Health Education

- Food in relation to nutrition and health, Balanced diet, Nutritional deficiencies, Vitamin deficiencies, Malnutrition and its prevention.

Sociology and Health

- Socio cultural factors related to health and disease, Impact of urbanization on health and disease, Poverty and health.

Hygiene and Health

- Personal hygiene and health care; avoidable habits.

Module 02

10 Hours

Preventive Medicine

- General principles of prevention and control of diseases such as cholera, SARS, Ebola virus, influenza, acute respiratory infections, malaria, chicken guinea, dengue, lymphatic filariasis, pneumonia, hypertension, diabetes mellitus, cancer, drug addiction-drug substance abuse.

Module 03

10 Hours

National Health Programs, Its Objectives, Functioning and Outcome of The Following

- HIV and AIDS control programme, TB, Integrated disease surveillance program (IDSP), National leprosy control programme, National mental health program, National programme for prevention and control of deafness, Universal immunization programme, National programme for control of blindness, Pulse polio programme.



Module 04

08 Hours

- National health intervention programme for mother and child, National family welfare programme.
- National tobacco control programme.
- National Malaria Prevention Program.
- National programme for the health care for the elderly.
- Social health programme; role of WHO in Indian national program.

Module 05

07 Hours

- Community services in rural, urban and school health.
- Functions of PHC.
- Improvement in rural sanitation.
- National urban health mission.
- Health promotion and education in school.

Recommended Books (Latest edition)

1. Short Textbook of Preventive and Social Medicine, Prabhakara GN, ISBN: 9789380704104, JAYPEE Publications.
2. Textbook of Preventive and Social Medicine (Mahajan and Gupta), Edited by Roy Rabindra Nath, Saha Indranil, ISBN: 9789350901878, JAYPEE Publications,
3. Review of Preventive and Social Medicine (Including Biostatistics), Jain Vivek, ISBN: 9789351522331, JAYPEE Publications.
4. Essentials of Community Medicine—A Practical Approach, Hiremath Lalita D, Hiremath Dhananjaya A, ISBN: 9789350250440, JAYPEE Publications.
5. Park Textbook of Preventive and Social Medicine, K Park, ISBN-14: 9788190128285, BANARSIDAS BHANOT PUBLISHERS.
6. Community Pharmacy Practice, Ramesh Adepu, BSP Publishers, Hyderabad

Recommended Journals

1. Research in Social and Administrative Pharmacy, Elsevier, Ireland.

