

4. Microsoft office Access - 2003, Application Development Using VBA, SQL Server, DAP and Infopath – Cary N.Prague – Wiley Dreamtech India (P) Ltd., 4435/7, Ansari Road, Daryagani, New Delhi – 110002

**BP 206 T. ENVIRONMENTAL SCIENCES (Theory)**

**30 hours**

**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.

**Course content:**

**Unit-I**

**10 hours**

The Multidisciplinary nature of environmental studies

Natural Resources

Renewable and non-renewable resources: Natural resources and associated problems

- a) 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.

**Unit-II**

**10 hours**

- 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)

**Unit- III**

**10 hours**

Environmental Pollution: Air pollution; Water pollution; Soil pollution

**Recommended Books (Latést edition):**

1. Y.K. Sing, Environmental Science, New Age International Pvt, Publishers, Bangalore
2. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
3. Bharucha Erach, The Biodiversity of India, Mapin Pu blishing Pvt. Ltd., Ahmedabad 013, India,
4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p

**Recommended Books: (Latest Editions)**

1. W.C.Evans, Trease and Evans Pharmacognosy, 16<sup>th</sup> edition, W.B. Saunders & Co., London, 2009.
2. Mohammad Ali. Pharmacognosy and Phytochemistry, CBS Publishers & Distribution, New Delhi.
3. Text book of Pharmacognosy by C.K. Kokate, Purohit, Gokhale (2007), 37<sup>th</sup> Edition, Nirali Prakashan, New Delhi.
4. Herbal drug industry by R.D. Choudhary (1996), 1<sup>st</sup> Edn, Eastern Publisher, New Delhi.
5. Essentials of Pharmacognosy, Dr.SH.Ansari, IInd edition, Birla publications, New Delhi, 2007
6. Herbal Cosmetics by H.Pande, Asia Pacific Business press, Inc, New Delhi.
7. A.N. Kalia, Textbook of Industrial Pharmacognosy, CBS Publishers, New Delhi, 2005.
8. R Endress, Plant cell Biotechnology, Springer-Verlag, Berlin, 1994.
9. Pharmacognosy & Pharmacobiotechnology. James Bobbers, Marilyn KS, VE Tylor.
10. Louis Appell, The formulation and preparation of cosmetic, fragrances and flavours, Micelle Press 1994.
11. Remington's Pharmaceutical sciences.
12. Text Book of Biotechnology by Vyas and Dixit.
13. Text Book of Biotechnology by R.C. Dubey.

**BP 505 T. PHARMACEUTICAL JURISPRUDENCE (Theory)****45 Hours**

**Scope:** This course is designed to impart basic knowledge on several 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
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

**Course Content:****UNIT-I****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.

**UNIT-II****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 Drugs

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

#### UNIT-III

10 Hours

**Pharmacy Act 1948:** Objectives, Definitions, Pharmacy Council of India; its constitution and functions, Education Regulations, State and Joint state pharmacy councils; its 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

#### UNIT-IV

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, 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)

#### UNIT-V

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

## BP 802T SOCIAL AND PREVENTIVE PHARMACY 45 Hours

**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 health care development.
3. Evaluate alternative ways of solving problems related to health and pharmaceutical issues

**Course content:**

**Unit I: 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

**Unit II: 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

**Unit III: 10 Hours**

**National health programs, its objectives, functioning and outcome of the following:** HIV AND AIDS control program, TB, Integrated disease surveillance program (IDSP), National leprosy control program, National mental health program, National program for prevention and control of deafness, Universal immunization program, National program for control of blindness, Pulse polio program.

**Unit IV: 08 Hours**

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

**Unit V: 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, 2nd Edition, 2010, ISBN: 9789380704104, JAYPEE Publications
2. Textbook of Preventive and Social Medicine (Mahajan and Gupta), Edited by Roy Rabindra Nath, Saha Indranil, 4th Edition, 2013, ISBN: 9789350901878, JAYPEE Publications
3. Review of Preventive and Social Medicine (Including Biostatistics), Jain Vivek, 6th Edition, 2014, ISBN: 9789351522331, JAYPEE Publications
4. Essentials of Community Medicine—A Practical Approach, Hiremath Lalita D, Hiremath Dhananjaya A, 2nd Edition, 2012, ISBN: 9789350250440, JAYPEE Publications
5. Park Textbook of Preventive and Social Medicine, K Park, 21st Edition, 2011, 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

- 5 Name and signature of the student.
- 6 Time allocated for presentation may be 8+2 Min.

**Scheme of Practical Examination :**

	Sessionals	Annual
Synopsis	05	15
Major Experiment	10	25
Minor Experiment	03	15
Viva	02	15
<b>Max Marks</b>	<b>20</b>	<b>70</b>
<b>Duration</b>	<b>03hrs</b>	<b>04hrs</b>

Note : Total sessional marks is 30 (20 for practical sessional plus 10 marks for regularity, promptness, viva-voce and record maintenance).

**3.4 - PHARMACEUTICAL JURISPRUDENCE (THEORY)**

**Theory : 2 Hrs. /Week**

**1. Scope of the Subject:** (4-6 lines): This course exposes the student to several important legislations related to the profession of pharmacy in India. The Drugs and Cosmetics Act, along with its amendments are the core of this course. Other acts, which are covered, include the Pharmacy Act, dangerous drugs, medicinal and toilet preparation Act etc. Besides this the new drug policy, professional ethics, DPCO, patent and design Act will be discussed.

**2. Objectives of the Subject:** Upon completion of the subject student shall be able to (Know, do, and appreciate) –

- a. practice the Professional ethics;
- b. understand the various concepts of the pharmaceutical legislation in India;
- c. know the various parameters in the Drug and Cosmetic Act and rules;
- d. know the Drug policy, DPCO, Patent and design act;



- e. understand the labeling requirements and packaging guidelines for drugs and cosmetics;
- f. be able to understand the concepts of Dangerous Drugs Act, Pharmacy Act and Excise duties Act; and
- g. other laws as prescribed by the Pharmacy Council of India from time to time including International Laws.

**Text books (Theory)**

Mithal , B M. Textbook of Forensic Pharmacy. Calcutta :National; 1988.

**Reference books (Theory)**

- a. Singh, KK, editor. Beotra's the Laws of Drugs, Medicines & cosmetics. Allahabad: Law Book House; 1984.
- b. Jain, NK. A Textbook of forensic pharmacy. Delhi: Vallabh prakashan ; 1995.
- c. Reports of the Pharmaceutical enquiry Committee
- d. I.D.M.A., Mumbai. DPCO 1995
- e. Various reports of Amendments.
- f. Deshapande, S.W. The drugs and magic remedies act 1954 and rules 1955. Mumbai: Susmit Publications; 1998.
- g. Eastern Book Company .The narcotic and psychotropic substances act 1985, Lucknow: Eastern; 1987.

**3. Detailed syllabus and lecture wise schedule:**

**Title of the topic**

- 1 Pharmaceutical Legislations – A brief review.**
- 2 Principle and Significance of professional ethics. Critical study of the code of pharmaceutical ethics drafted by PCI.**
- 3 Drugs and Cosmetics Act, 1940, and its rules 1945.**  
 Objectives, Legal definition, Study of Schedule's with reference to Schedule B, C&C1, D, E1, F&F1, F2, F3, FF, G, H, J, K, M, N, P, R, V, W, X, Y.  
 Sales, Import, labeling and packaging of Drugs And Cosmetics Provisions Relating to Indigenous Systems.  
 Constitution and Functions of DTAB, DCC, CDL.  
 Qualification and duties –Govt. analyst and Drugs Inspector.

**4 Pharmacy Act –1948.**

Objectives Legal Definitions, General Study, Constitution and Functions of State & Central Council, Registration & Procedure, ER.

**5 Medicinal and Toilet Preparation Act –1955.**

Objectives, Legal Definitions, Licensing, Bonded and Non Bonded Laboratory, Ware Housing, Manufacture of Ayurvedic, Homeopathic, Patent & Proprietary Preparations.

**6 Narcotic Drugs and Psychotropic substances Act-1985 and Rules.** Objectives, Legal Definitions, General Study, Constitution and Functions of narcotic & Psychotropic Consultative Committee, National Fund for Controlling the Drug Abuse, Prohibition, Control and regulations, Schedules to the Act.

**7 Study of Salient Features of Drugs and magic remedies Act and its rules.**

**8 Study of essential Commodities Act Relevant to drugs price control Order.**

**9 Drug Price control Order & National Drug Policy (Current).**

**10 Prevention Of Cruelty to animals Act-1960.**

**11 Patents & design Act-1970.**

**12 Brief study of prescription and Non-prescription Products.**

**4. Assignments:**

**Format of the assignment**

1. Minimum & Maximum number of pages
2. It shall be a computer draft copy
3. Reference(s) shall be included at the end.
4. Name and signature of the student
5. Assignment can be a combined presentation at the end of the academic year.
6. Time allocated for presentation may be 8+2 Min

**Case studies relating to**

- 1 Drugs and Cosmetics Act and rules along with its amendments, Dangerous Drugs Act, Medicinal and Toilet preparation Act, New Drug Policy, Professional Ethics, Drugs (Price control) Order, Patent and Design Act.
- 2 Various prescription and non-prescription products.

