

History of Pharmacy Profession in India

1 Explain the “History of Pharmacy Profession in India”. (S.23, 24)

History of Pharmacy Profession in India

- The first time in India, a chemist shop was opened in about 1811 by Mr Bathgate, who came to India with East India Company in Calcutta. After one hundred years (i.e. in 1910), this firm started manufacture of tinctures and spirits.
- Bengal Chemical and Pharmaceutical Works, a small factory was started in Calcutta in 1901, by Acharya Prafulla Chandra Ray.
- In 1903, under the leadership of Prof. TK Gajjar, a small factory at Parel was started, which led to the development of other pharmaceutical units, the Alembic Chemical Works Ltd, at Baroda.
- India has a long history of pharmacy when the sources of drugs were vegetables, animals and minerals origin before 19th century.
- Initially most of the medicines were being imported from abroad mainly from UK, France, and Germany.
- There was no control on the drugs and therefore, anything under the name of drug could be made, sold or imported.
- As there was no restriction on the import of drugs and also quality of drugs, many adulterated and spurious drugs have got entry in India.
- As a result, the Indian market got flooded with inferior, standard and even harmful drugs.
- To that effect sir Haroon Zaffer moved a resolution on 9th March 1927 in the Council of State, recommending the Governor-General to take immediate steps to control the quality and standard of drugs.
- To have a comprehensive legislation, the Indian Government appointed a “Drug Enquiry Committee” under the chairmanship of Lt. Col. RN Chopra, in 1931 (DEC or Chopra Committee).

- The DEC was asked to make enquiries in the said matter and then to make recommendations for smooth control of manufacture, import, distribution, and sale of drugs in the interest of public health.
- The “Import of Drugs Bill” was introduced in 1937 in legislative assembly, to control import of drugs.
- This bill did not contain any provision about the manufacture, sale and distribution of drugs.
- Thus, “The Drug Bill” was introduced in 1940, in the legislative assembly and Drugs and Cosmetics Act, 1940, came into force.
- Presently, Drugs and Cosmetics Act, 1940, covers the provisions relating to Drugs and Cosmetics, Ayurvedic, Siddha and Unani drugs.
- The central government has made a number of rules for the manufacture, distribution and sale of drugs and cosmetics in India entitled “The Drugs and Cosmetics Rules, 1945”.
- With the achievement of independence in 1947, the following acts were passed in respect with the recommendations of DEC.
 - (a) The Pharmacy Act, 1948 was passed with the object to regulate the profession of pharmacy in India.
 - (b) The Drugs and Magic Remedies Act, 1954 was passed to control certain types of advertisements related to drugs and to prohibit certain kinds of advertisements related to magic remedies.
 - (c) The Medicinal and Toilet Preparations (excise duties) Act, 1955 was passed providing for the levy and collection of duties of excise on medicinal and toilet preparations containing alcohol, opium, Indian hemp or other narcotic drugs and narcotics.
- There are also some other Act, which directly or indirectly related to manufacture, distribution and sale of drugs and pharmaceuticals in India.
 1. Essential Commodity Act, 1955.
 2. Drugs Price Control Order, 1987, 1995
 3. NDPS Act, 1985
 4. Prevention of Food Adulteration Act, 1954 and Rules.
 5. The Industry (Development and Regulation) Act, 1951.

2 Write a note on “pharmacy as a career”/job opportunities in pharmacy. (S.24, W.22)

Pharmacy as a career

- Pharmacy is an ancient profession dedicated to development and dispensing of drugs to provide healthcare in every aspect.
- Several developed and developing countries have given recognition to pharmacy as a major component in providing total healthcare to the society.
- Today pharmacy is regarded as a prestigious profession in India.
- Prof. Mahadeva Lal Schroff (Prof. ML Schroff) is known as “Father of Indian Pharmacy Education” as he has given right direction to pharmacy education in India.
- A pharmacist plays an important role in the healthcare team to dispense the medications to the patients and ensures that these drugs are used in the safest and most effective way.
- Pharmacist mainly has the following career opportunities in the areas given below:
 - (a) Pharmaceutical industry.
 - (b) Pharmacy practice area.
 - (c) Academics.
 - (d) Regulatory (government service)
 - (e) Clinical research.
- (a) Pharmacist in the pharmaceutical industry:
 - In India, pharmaceutical industry is one of the most developed, advanced and largest industries.
 - It provides million of job opportunities and assists in the healthcare service of the country by providing drugs to the patients.
 - Pharmacists have a promising career in different sectors of the pharmaceutical industries like production, packaging, quality control, quality assurance, sales and marketing, regulatory affairs and research and development.
- (b) Pharmacy in practice area:
 - Pharmacist is the link between doctor, nurse and the patients and hence, considered as vital component of healthcare system in order to provide patient welfare.
 - The best career for the pharmacists right from diploma pharmacist to the postgraduate pharmacist is the retail and wholesale pharmacy.

- Pharmacists are responsible for the hospital activities related to health care system including medicine selection, inventory control and storage of medicine, dispensing of medicines, patient counseling, health promotion, and participating in the national health programmes.
- Hence, hospital pharmacist is very bright career for the pharmacists.
- Clinical pharmacy is also another area where pharmacists play a significant role in patient care.

(c) Pharmacy in academics:

- Pharmacists also have very bright career in the academics.
- They can start their career in educational institutes as assistant professor, associate professor, and professor.
- They may involve in research work individually or as a collaborative work.
- Nowadays as number of education institutes are increasing, there is a good demand of pharmacists in the education institutes of pharmacy.

(d) Pharmacy in regulatory area:

- Drug industry is growing with high pace which requires the controlling and regulating the quality of products as per the regulatory requirements of India as well as foreign countries.
- This created job opportunities for a pharmacist in the regulatory department of the company.
- Government posts like Drug Inspector, Assistant Drug Commissioner and Drug Commissioner at state level and drug controller at national level are open for regulating production, quality, marketing, import and export of the drugs.

(e) Pharmacy in clinical research:

- Clinical research is a very promising area for many job opportunities for pharmacists.
- Contract research organizations offer various opportunities for pharmacists in clinical research which undertake the following services:
 - (i) Clinical studies from phase I to phase II.
 - (ii) Development of protocol.
 - (iii) Case report from review to designing.

- (iv) Report writing.
- (v) Monitoring.
- (vi) Quality assurance and data management.
- (vii) Conduction of bioavailability studies.
- (viii) Data management of global clinical trials.

3 Describe/write a note on “pharmacy education in India”.

Pharmacy Education in India

- In India, pharmacy education has traditionally been focused on industry and product development.
- The various courses framed under pharmacy education involves DPharm, BPharm, MPharm, Pharm D, PhD, etc.
- The first college in India was Madras Medical College established in 1835 where professional training was given to students for treating patients with drugs.
- The first pharmacy college in Asia was started in Goa in 1842 by the Portuguese.
- The first two years professional course “Chemist and Druggist Diploma” was started in Madras Medical College in 1874.
- Mahadeva Lal Schroff “The Father of Pharmacy Education” in India has started 3 years industry-oriented BPharm course at Banaras Hindu University, Varanasi in 1932.
- The first MPharm Program was introduced in 1940 at BHU.
- In 1945, ‘Doctor of philosophy’ (PhD in pharmacy) program was introduced at BHU.
- The Pharmacy Act, 1948 provided a minimum standard of educational qualification for pharmacy practice to regulate the practice education and profession of pharmacy.
- Under PCI regulation 2014 the BPharm and MPharm curriculum was made uniform throughout the nation.
- To train the graduate pharmacist to provide clinical-oriented services, the MPharm Program in pharmacy practice was introduced at JSS College of Pharmacy at Mysore (1996) and at Ooty (1997).
- The present education regulation for DPharm is ER 2020.
- Pharmacy education in India has been developing fast because of rapid industrialization of pharmaceutical sector, privatization and economic growth.
- The pharmacy education in India is regulated by the ‘Pharmacy Council of India’ under the ‘Pharmacy Act, 1948’.

- The pharmacists registration is decentralized and the respective state pharmacy councils are responsible for registration of pharmacists in the states.

4 Write a note on “pharmacy practice in India”.

The Pharmacy Practice In India

- The healthcare system in India is going through dramatic changes due to growth in the demand for healthcare and patient needs.
- The educational and professional responsibilities of pharmacists are being constantly changing.
- The pharmacy practice is the discipline of pharmacy, which involves developing the professional role of pharmacists.
- Good pharmacy practice requires pharmacy activities like compounding and dispensing of medications and modern services related to healthcare, including clinical services, medication monitoring, drug safety, and efficacy and drug information services.
- Pharmacy practice course provides instructions in the technical procedures for preparing and dispensing drugs in the hospitals and retail settings under the supervision of registered pharmacists.
- The pharmacy practice in India was marked by the ‘Chemist and Druggist’ Program in 1870 to train students to gain skills in pharmacy practice.
- The profession of pharmacy practice has evolved through the following stages:
 - (a) **Traditional era:** It was the period from early 20th century, where the pharmacists were involved in the formulation, dispensing and study of medicinal properties of natural products of animal, plant and mineral origins.
 - (b) **Scientific era:** It began after World War II. In this period, pharmaceutical industries were emerged and drugs were made by pharmacists in factories.
 - (c) **Clinical era:** This era began in second half of the 20th century. During this period pharmacists were educated in the area of clinical pharmacy to establish study of ADME of the drugs within the body.
 - (d) **Industrialization era:** In India, the development of manufacturing pharmacy began in the 20th century, which was followed by mass production of medicines.

- (e) **Pharmaceutical care era:** It involves expanded role of pharmacist that is from supply of medications to achieve positive outcomes with the prescribed drugs.

5 State/enlist different Professional Associations of Pharmacy in India (Pharmaceutical Associations in India).

Pharmaceutical Associations in India

The various pharmaceutical associations are working with the aims and objectives:

1. To promote Drug Research in all its branches including the manufacture of Drugs in India.
2. To promote Research and Development of New Drugs in the country.
3. To enhance the better understanding of Indian products amongst the medical profession.
4. To work for the welfare of every citizen in India.

The number of Pharmaceutical Associations In India are:

- Bengal Chemists and Druggists Association.
- Pharmaceutical Society of India.
- Banaras Hindu University “(BHU) Pharmaceutical Society”.
- Indian Pharmaceutical Association (IPA) in 1936.
- Allied Manufacturers and Distributors Association Ltd, Mumbai.
- Indian Pharmaceutical Congress Association (IPCA).
- Indian Pharmacy Graduates Association (IPGA).
- Indian Hospitals Pharmacists Association (IHPA).
- Association of Pharmaceutical Teachers of India (APTI).
- Organization of Pharmaceutical Producers of India (OPPI).
- Common wealth Pharmaceutical Association (CPA)
- All India Organization of Chemist and Druggist (AIOCD).
- Indian Drug Manufacturers Association (IDMA).
- All India Cosmetics Manufacturers Association.
- Bulk Drugs Manufacturers Association.
- Association of Community Pharmacists of India.
- Indian Association of Colleges of Pharmacy (IACP).

6 Define the terms. (a) Pharmacy, (b) Pharmacists.**☞ (a) Pharmacy**

Pharmacy is an art and science of compounding, and dispensing of medications.

(b) Pharmacists

Pharmacists are the healthcare professionals who practice in pharmacy, the field of health sciences focusing on safe and effective use of medication.

OBJECTIVE QUESTIONS WITH ANSWERS IN BOLD LETTERS

1. DEC stands for **Drug Enquiry Committee**.
2. **Indian Pharmaceutical Congress Association** organizes the Indian Pharmaceutical Congress every year.
3. Earliest pharmacies were known as **Apothecary Shops**.
4. The architect of Indian Pharmaceutical Industry is **Acharya PC Ray**.
5. At least **Diploma in Pharmacy** is required to practice as a pharmacist in India.
6. Pharmacy education in India as a university level programme started in 1937 at **Banaras Hindu University**.
7. According to the reference, the commonly worshipped Hindu God of medicine, "**Dhanvantari**" is the original exponent of the Indian medicine.
8. The **Pharmacy Act, 1948** was enacted as the nation's first minimum standard of educational qualification for pharmacy practice.
9. Pharmacy Practice in India is governed by **Drugs and Cosmetics Act, 1940**.
10. The present education regulations 2020 framed has replaced **ER 1991**.
11. **Indian Pharmaceutical Association** is the premier professional association of pharmacists in India.
12. **India** has the highest number of USFDA approved drug manufacturing units (outside USA) today.
13. Pharmacy education in India at the certificate level was started in 1842 in Goa by **Portuguese**.
14. **Bengal Chemicals and Pharmaceutical Works Ltd.** was the first pharmaceutical manufacturing facility establishment in India.

15. **Hippocrates** is the Father of Medicine.
16. The first chemist shop in India was opened by **Scotch Bathgate** in 1811 in Kolkata.
17. The First Pharmacy Council of India (PCI) was constituted by Central Government in **1949**.
18. Drug Enquiry Committee is known as **Chopra Committee**.
19. The first 2 years of professional course “Chemist and Druggist Diploma” was started in **Madras Medical College**.
20. The Indian Government appointed a ‘Drug Inquiry Committee’ under the Chairmanship of **Lt. Col. RN Chopra**.