



D.B.F. Dayanand College of Arts and Science, Solapur.

Mahatma Anand Swami Skill Development Centre

Department of Chemistry

Name of Course: Certificate course in “Business Skills for Chemists”

Duration of the Course: 6 Months

Total Credits: 2

SYLLABUS FOR
Certificate course in “Business Skills for Chemists”

Structure of the Course:

- Skill Development Course in Business Skills for Chemists will be implemented for **M. Sc.-I Chemistry**
- There will be one theory paper of **50 marks**

Class	Paper	Total Lectures	Examination Marks	Total Credits
M. Sc.-I Chemistry	Theory	20	30	1
	Project	05	10	0.5
	Oral	05	10	0.5
Total		30	50	2

- Theory paper has **40 marks** for examination.
- The Project may be on laboratory works/Field work/Industrial visit for 20 marks.
- The course is College Affiliated; the certificate of completion of course will be issued by college and submitted to university for fulfilment of curriculum.

Objective of Course:

- To impart enhance the business and entrepreneurial skills of postgraduate chemistry students and improve their employment prospects.
- To enable orient the students to understand the industry linkage with chemistry, challenges and business opportunities.
- To provide students expose the students to the concepts of intellectual property rights, patents and commercialization of innovations.

Course outcome:

Upon the completion of this course

- Learn basics skills of business and project management.
- Understand the process of product development and business planning that includes environmental compliancy.
- Learn the process by which technical innovations are conceived and converted into successful business ventures.
- Understand the intellectual property rights and patents which drive business viability and commercialization of innovation.
- Relate to the importance of chemistry in daily life, along with the employment and business opportunities. They will effectively use the skills to contribute towards the well-being of the society and derive commercial value.

Syllabus for Theory Paper

(Total Credits: 02 and Contact Hrs. 30)

Chemistry in industry

Current challenges and opportunities for the chemistry-based industries.

Role of chemistry in India and global economies. Chemistry based products in the market.

(Lectures: 02)

Business Basics

Key business concepts, Business plans, Market need, Project management, Routes to market, Concept of entrepreneurship.

(Lectures: 03)

Commercial Realization and Case Studies

- Commercialization
- Case study of Successful business ideas in chemistry
- Case study of Innovations in chemistry
- Financial aspects of business with case studies

(Lectures: 10)

Intellectual Property Rights

Introduction to IPR & Patents

(Lectures: 05)

Environmental Hazards

Industries involving hazardous chemicals. Importance of development of cost-effective alternative technology. Environmental ethics.

(Lectures:10)

Reference Books:

1. www.rsc.org
2. Nweke, L.I.(2002),Business Concepts and Perspectives, Springfield Publishers.
3. Silva, T. D. (2013), Essential Management Skills for Pharmacy and Business Managers, CRC Press.

Teaching Learning Process:

- Classroom teaching board method or power point presentations
- Classroom interactions and group discussions
- Through videos and online sources
- Visit to chemical industries for real understanding of whole process.

Assessment Methods:

- Written examination and class tests
- Oral presentation of project proposal along with written assignment.

Question Paper Nature
Certificate course in Hardware and Networking

Time: 1 hr

Total Marks: 30

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- Q. 1. Choose the **most correct** alternative for the following and rewrite the sentence. 06
- 1)
a) b) c) d)
- 2)
3)
4)
5)
6)
- Q. 2. Answer **any three** of the followings. 06
- i)
ii)
iii)
iv)
- Q. 3. Answer **any two** of the followings. 06
- i)
ii)
iii)
- Q. 4. Write note on **any two** of the following. 06
- i)
ii)
iii)
- Q. 5. Answer **any one** of the followings. 06
- i)
ii)