


1.3.2.1 Number of courses that include experiential learning through project work/field work/internship year-wise during last five years.

University of Mumbai




No. AAMS(UG)/104 of 2021-22

CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology.

They are hereby informed that the recommendations made by the Board of Studies in Chemistry at its online meeting held on 8th June, 2021 vide Item No. 1 and subsequently passed by the Board of Deans at its online meeting held on 11th June, 2021 vide item No. 6.34 (R) have been accepted by the Academic Council at its meeting held on 29th June, 2021 vide item No. 6.34 (R) and that in accordance therewith, Approval for revised syllabi of T.Y.B.Sc. (Sem – V & VI) in order to include Case study component at T.Y.B.Sc. in Sem – VI in place of applied component practicals of 2 credits in Chemistry, has been brought into force with effect from the academic year 2021-22 accordingly. (The same is available on the University's website www.mu.ac.in).

MUMBAI – 400 032
8th October, 2021


(Dr. B.N. Gaikwad)
I/c REGISTRAR

To

The Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology.

A.C/6.34 (R) 29/06/2021


No. AAMS(UG)/104 -A of 2021-22

MUMBAI-400 032

8th October, 2021

Copy forwarded with Compliments for information to:-

- 1) The Dean, Faculty of Science & Technology,
- 2) The Chairman, Board of Studies in Chemistry,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Co-ordinator, University Computerization Centre,


(Dr. B.N. Gaikwad)
I/c REGISTRAR

**University of Mumbai
T. Y. B. Sc. Chemistry**

**The Regional Case-Study Project
COURSE CODE: USACDD6P2/ USACPET6P2/ USACHFC6P2
CREDITS: 02
SEMESTER VI**

Introduction:

As per the guidelines from UGC, HEIs are expected to introduce a compulsory course to provide community engagement to all undergraduate students so that their appreciation of social realities is holistic, respectful and inspiring. Such course will enable students to learn about rural/urban challenges and develop understanding of social wisdom and life-style in a respectful manner.

Objectives:

- To develop an appreciation of rural/urban culture, life style and wisdom amongst students.
- To understand a real life situation about a problem.
- To apply classroom knowledge of Chemistry courses to field realities and thereby improve quality of learning.
- To interact with key stakeholders such as government officials, people representatives, common people etc.
- To communicate key findings of the study to stakeholders.

Learning Outcomes:

After completing course, students will be able to

- Gain an understanding of rural/urban life, culture and social realities
- Gain an understanding real-life problems
- Develop a sense of empathy and bonds of mutuality with local community
- Learn to value the local knowledge and wisdom of the community
- Identify opportunities for contributing to community's socio-economic improvement

Credits: 2 credits, 30 hours

Course Contents:

Part-I Theory of case study:

- Introduction to case study
- What is a case study?
- Types of case studies
- Planning a Case Study
- Researching a Case Study
- Strengths and Weaknesses of Case Studies
- Writing a Case Study
- References

Part II Case study Project (Field work)

Typical Key Areas for field-based project activities:

- **Environmental Problems:** For example estimation of PAH from soil/sewage samples, estimation of water pollution in nearby locality, estimation of the micro plastics in Soil in the nearby locality, study of solid and liquid waste generation in a ward/city/village etc.
- **Analysis of food Material:** For example identification and estimation of food adulterants, estimation of selenium content in bread available in the local market etc.
- **Soil, Water, material analysis:** For example, examination and analysis water quality in nearby locality, study of materials and dyes used in a local industry, conduct soil health test (for analysis of Pb, N, P, K, S, C, moisture content, pH and micronutrient contents such as Cu, Zn, Mn, Fe) etc.
- **Study of government development programs:** For example effects of Swachh Bharat Abhiyan on the quality of soil and water, to prepare a village sanitation plan, Energy use and fuel efficiency surveys etc.
- **Agriculture:** For example, Organise orientation programmes for farmers regarding organic cultivation, rational use of irrigation and fertilizers and promotion of traditional species of crops and plants etc.

(Above activities represent some of the possible activities that can be undertaken by students. However, depending upon local needs students can select and undertake relevant case-study projects. It is recommended that a practical batch of 20 students can undertake minimum 5-6 case-study projects i.e. one case-study project can be undertaken by group of maximum four students)

Case-Study Project Evaluation:**Project Report:**

After successful completion of a case-study project, the student group will prepare a consolidated report covering title, Rational and gap analysis, objectives, hypothesis, project design and methodology, preliminary work/survey, expected out-come, benefits to society (Project outcome), SWOC analysis and important references etc.

Project presentation (by students Group):

The students group will present the case study project at the time of practical examination.

Evaluation scheme:

Evaluation of student based on Part I	20 Marks
Identification of problem, Rational, Problem statement and expected benefits	10 Marks
Case-study design and methodology, Data management and interpretation, , clarity, coherence and appropriateness of case study design, Organisation and logical flow of ideas and materials	30 Marks
Presentation skills, role, responsibilities involvement of group members, learning mechanism in group, clear, concise and thoughtful responses to questions, team work	30 Marks
Major findings and outcome reported, Stakeholders feedback	10 Marks

Suggested Readings:

1. Abramson, P.R. (1992). A Case for Case Studies: An Immigrant's Journal. Newbury Park: Sage.
 2. Basseby, M. (1999). Case Study Research in Educational Settings. Buckingham: Open University.
 3. Campbell, D.T. & Stanley, J.C. (1966) Experimental and Quasi-experimental Designs for Research. Chicago: Rand McNally.
 4. Kazdin, A. E. (1982). Single-case Research Designs: Methods for Clinical and Applied Settings. New York: Oxford Press.
 5. Zaidah Zainal, Case study as a research method, *JurnalKemanusiaan bil.9, (2007)*
 6. WALTER ISARD, Methods of Regional Analysis: An Introduction to Regional Science, THE M. I. T. PRESS, Cambridge, Massachusetts, (1960).
-

EXPERIMENT :

No.

PAGE No.

1

DATE

DRUGS AND DYES

PROJECT

Name : SAHIL SUNIL SNEHA KASARE

Dept : Chemistry

Std : P.Y.B.Sc

Seat no : PS22027

Topic : WOCKHARDT PHARMACEUTICALS LTD.

Given by : Sharad Aacute Sir.

Clg : S.P.C.E.S College, Ambarnath.

WOCKHARDT LIMITED.

Teacher's Sign.:

EXPERIMENT :

No. Page No. Date

INDEX

8
10

SR. No.	Topics	Pg. no.
1	About Company	3
2	Market Value / Popularity	4
3	Company Owner	5-6
4	COVID-19	7-8
5	Motive and Workers	9-10
6	Acquisitions	11
7	Oxycodone - Important drug.	12
8	Products	13
9	Foundation → Mobile 1000	14
10	Foundation → E-learning.	15
11	Hospitals	16-19
12	Associations and Awards	20-21
13	Stocks	22-23
14	Conclusion And Reference.	24-25

Teacher's Sign. : _____

Teacher's Sign. : _____

EXPERIMENT :

No.

About Company

PAGE No.

3

DATE

WOCKHARDT is a global pharmaceutical and biotechnology company headquartered in Mumbai, India.

It produces formulations, nutrition products, biopharmaceuticals, vaccines and active pharmaceutical ingredients (APIs).

The company has manufacturing plants in India, United Kingdom, Ireland, France and United States of America and subsidiaries in US, UK, Ireland and France.

EXPERIMENT :

No.

Valuation / Popularity

PAGE No.

4

DATE

WOCKHARDT is known for producing cough syrup with sedative PROMETHAZINE and the OPIATE CODEINE, used in the recreational street drug lean, which is sometimes referred to as "WOCK" short for WOCKHARDT.

It is referenced by rapper "Lil YACHTY" on his song Poland, where he says, "I took the WOCK to Poland".

And this indirectly advertises the brand "WOCKHARDT" as WOCK in aerial markets, and growth in market share can be observed.

Drugs sold by WOCKHARDT .Ltd is referred as A⁺ grade quality. As people also trust the brand.

Teacher's Sign.: _____

EXPERIMENT :

No.

Company Owner

Page No.

5

Date

DR.
HABIL
KHORAKIWALA



Teacher's Sign. : _____

EXPERIMENT :

No.

PAGE No.

6

DATE

WOCKHARDT was founded by Dr. HABIL KHORAKIWALA in the 1960s. His father Mr. FAKHRUDDIN T. KHORAKIWALA had acquired Wockli Chemical Works in 1939.

Then this was incorporated as WOCKHARDT Pvt. Ltd in 1973.

But then it was incorporated as WOCKHARDT Ltd on 8th July 1999.

In the 1990s, WOCKHARDT gained market share with its:

Painkiller - Proxylon (Opiod tramadol + paracetamol);

Blood Pressure Drugs - Lisinopril.

In 1995, it expanded into biotechnology and subsequently started Producing Intravenous Fluids.

WOCKHARDT is the first company outside the US and Europe to manufacture RECOMBINANT HUMAN INSULIN.

Teacher's Sign.: _____

EXPERIMENT :

No.

COVID - 19

PAGE No.

7

DATE

In 2011,

WOCKHARDT sold its nutrition business to Danone for \$ 356 million.

During the COVID - 19 pandemic, WOCKHARDT signed a contract with Government of the United Kingdom to fill-finish the OXFORD - ASTRAZENECA COVID - 19 Vaccine at the company's facility in Wrexham, Wales.

The contract was extended until August 2022.



EXPERIMENT :

No.

PAGE No.

8

DATE

In August 2021,
WOCKHARDT announced that it signed
an agreement with Dubai - based ENSO
HEALTHCARE and Russian firm HUMAN
VACCINE LLC to contract manufacture
the SPUTNIK V and SPUTNIK LIGHT
vaccines in India.

Teacher's Sign.: _____

EXPERIMENT :

No.

Motive

PAGE No.

9

DATE

And Worker

- WOCKHARDT'S Core business is innovation.
- It uses science and technology to develop medicines products improving the quality of millions people's lives.
- It has proved its technical excellence by developing patented modified release formulations and recombinant biotechnology products.
- It has a multi-disciplinary R and D programme with more than 607 scientists, including over 80 doctorates.
- It is India's leading researcher of Pharmaceutical, Bio-technology and chain of advanced Super specialty Hospitals.
- It has workforce of 8600 WOCKHARDT Associates from 21 different nationalities globally.
- WOCKHARDT is in the forefront of Intellectual Property Geation.

Teacher's Sign: _____

EXPERIMENT :

No.

PAGE No.

10

DATE

→ Have 1,733 patents filed till date of which 228 patents have been granted.

→ Awarded for the maximum number of 'Patent filings and Grants from India'.

→ WOCKHARDT is determined to create benchmarks for a promising future.

Teacher's Sign.: _____

EXPERIMENT :

No.

Acquisition

PAGE No

11

DATE

WOCKHARDT'S acquisitions include Wallis Laboratory, United Kingdom in 1998. Merind, India in 1998; CP Pharmaceuticals, United Kingdom in 2003; Espharma GmbH, Germany in 2004; Dumex, India (2006). Morton Grove Pharmaceuticals, United States (2007) and Negma, Pune (2007).

WOCKHARDT'S debt following the acquisitions was close to ₹ 38 billion. And HABIL KHORAKIWALA quit as managing director.

The board of directors, on 31st March 2009 approved the appointments of HABIL KHORAKIWALA'S sons MURTAZA KHORAKIWALA and HUZAIRA KORBHAKIWALA as Managing Director and Executive Director respectively.

Teacher's Sign.:

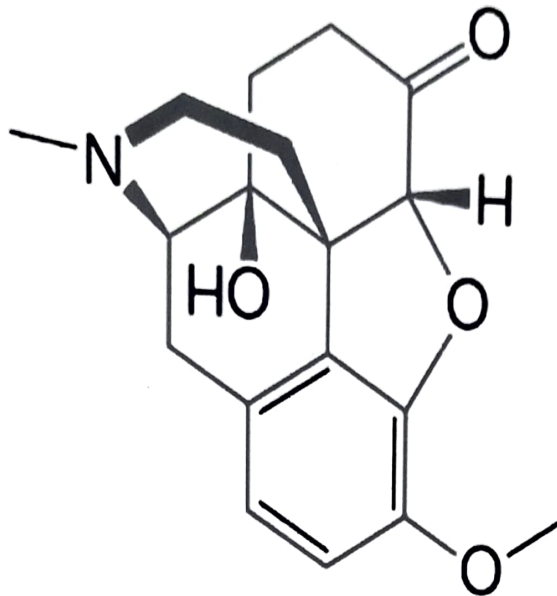
EXPERIMENT :

No.

Oxycodone

Page No. 12

Date



"OXYCODONE"

It is used to relieve pain, severe enough to require opioid treatment and when other pain medicines did not work well enough or cannot be tolerated.

Oxycodone acts on Central Nervous System (CNS) to relieve pain.

It belongs to group of medicines called Narcotic Analgesics.

WOCKHARTS mostly uses oxycodone in medicine and also for R & D.

Teacher's Sign. : _____

EXPERIMENT :

No.

Stocks

PAGE No.

22

DATE

WOCKHARDT LTD. STOCKS :-

[WOCKPHARMA | 532300 | INE049B01025]

→ Previous Close : 174.55

→ Open : 175.05

→ High : 177.85

→ Low : 170.10

→ VWAP : 173.45

→ 52 Wk High : 33.435

→ 52 Wk Low : 170.10

→ Upper Price Band : 205.20 (20%)

→ Lower Price Band : 136.80 (20%)

→ 2W Avg Qty (Lakh) : 0.81

→ TTQ (Lakh) : 1.05

→ Turnover (Cr.) : 1.81

→ Mcap Full (Cr.) : 2,469.80

Teacher's Sign.: _____

EXPERIMENT :

No.

PAGE No.

25

DATE

→ Mcap FF (Cr.) : 960.88

→ Face Value : 5.00

→ EPS (TTM) : -8.82

→ CEPS (TTM) : 3.96

→ PE : -19.40

→ ~~PB~~ : 1.17

→ ROE : -6.04

Category → Listed

Group / Settlement Type → A / T+1

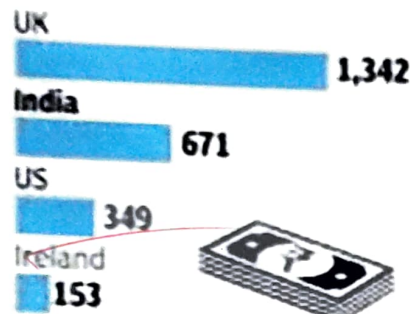
Index → S & P BPE / BSE 500

~~Industry~~ → Pharmaceuticals.

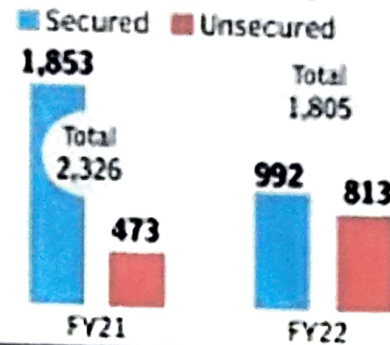
Teacher's Sign.:

INDIA BIZ CLOCKED ₹671CR REVENUE

Top biz regions (in ₹cr)



Debt position (in ₹cr)



FY22 FISCAL SNAPSHOT

₹3,230cr | Total sales 80% | Share of int'l biz
 ₹298cr | Operating profit (ebitda) 0.4 | Net debt to equity ratio
 Ebitda: Earnings before interest, taxes, depreciation & amortization (Source: Wockhardt)

Conclusion:-

- WOCKHARDT Ltd. is global pharmaceutical and biotechnology company.
- But for India, it is also a great foundation which does great charity works for welfare of poor people's society.
- But still, as they do charity the company is in debt.
- Quality of WOCKHART product is class 'a'.
- They do well work.