

**PERIYAR  
MANIAMMAI**

INSTITUTE OF SCIENCE & TECHNOLOGY

(Deemed to be University)

Established Under Sec. 3 of UGC Act, 1956 • NAAC Accredited

think • innovate • transform

## Criterion 1 – Curricular Aspects

<b>Key Indicator</b>	1.2	<b>Academic Flexibility</b>
<b>Metric</b>	1.2.2	Percentage of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented (Data for the latest completed academic year)

### DEPARTMENT OF CHEMISTRY STRUCTURE OF THE PROGRAM CLEARLY INDICATING COURSES, CREDITS/ELECTIVES

#### Programmes

1. B Sc
2. M.Sc
3. M.Phil

## B.Sc Chemistry Curriculum

SEMESTER III								
Type	Course Code	Course Title	L	T	P	SS	H	C
SEC 1	XCY301	Water Quality Analysis	1	0	2	1	4	2
CC7	XPG302	Fundamental Physics	3	1	0	0	4	4
CC 8 (DSC 2C)	XCY303	Inorganic Chemistry II	3	1	0	0	4	4
CC 9 (DSC 3C)	XCY304	Organic Chemistry II	3	1	0	0	4	4
GE 1		*Open Elective - To be chosen by student	3	0	0	0	3	3
CC7 lab	XPG 305	Fundamental Physics Practical	0	0	4	0	4	2
UMAN 2	XUM306	Disaster Management	0	0	0	3	3	0
CC 8 Lab	XCY307	Semi Micro Inorganic Qualitative Analysis Practical III	0	0	4	0	4	2
Minor course 1 *Extra credit		Office Automation (15 Hours)						1*
<b>Total</b>			<b>13</b>	<b>3</b>	<b>10</b>	<b>4</b>	<b>30</b>	<b>21+1*</b>

SEMESTER IV								
Type	Course Code	Course Title	L	T	P	SS	H	C
SEC 2	XCY401	Pharmaceutical Chemistry	1	0	2	1	4	2
CC10	XPG402	Modern Physics	3	1	0	0	4	4
CC 11 (DSC 2D)	XCY403	Physical Chemistry II	3	1	0	0	4	4
CC 12 (DSC 3D)	XCY404	Inorganic Chemistry III	3	1	0	0	4	4
GE 2		*Open Elective - To be chosen by student	3	0	0	0	3	3
CC10 lab	XPG405	Modern Physics Practical	0	0	4	0	4	2
CC11 Lab	XCY406	Inorganic Quantitative Analysis Practical IV	0	0	4	0	4	2
Minor course 2 *Extra credit		Animation Software I (15 Hours)						1*
<b>Total</b>			<b>13</b>	<b>3</b>	<b>10</b>	<b>1</b>	<b>27</b>	<b>21+1*</b>

SEMESTER V								
Type	Course Code	Course Title	L	T	P	SS	H	C
SEC 3	XCY501	Clinical Chemistry	1	0	2	1	4	2
DSE 1A	XCY502A	Phyto Chemistry	3	1	0	0	4	4
	XCY502B	Forensic Science						
DSE 2A	XCY503A	Analytical Methods in Chemistry	3	1	0	0	4	4
	XCY503B	Agricultural Chemistry						
DSE 3A	XCY504A	Computer Applications in Chemistry	3	1	0	0	4	4
	XCY504B	Programming in C						
GE 3		*Open Elective - To be chosen by student	3	0	0	0	3	3
DSE 1A Lab	XCY505	Organic Qualitative Analysis Practical VA	0	0	4	0	4	2
CC lab	XCY506	Physical Chemistry Practical VB	0	0	4	0	4	2
Minor course 3 *Extra credit		Animation Software II (15 Hours)						1*
* Extra credit	–	IPT (21 days)						2*
<b>Total</b>			<b>13</b>	<b>3</b>	<b>10</b>	<b>1</b>	<b>27</b>	<b>21+3*</b>
SEMESTER VI								
Type	Course Code	Course Title	L	T	P	SS	H	C
SEC 4	XCY601	Renewable Energy	1	0	2	1	4	2
DSE 1B	XCY602A	Industrial Chemistry	3	1	0	0	4	4
	XCY602B	Material Chemistry						
DSE 2B	XCY603A	Food Chemistry	3	1	0	0	4	4
	XCY603B	Polymer Chemistry						
DSE2B lab	XCY604	Organic Qualitative Analysis Practical VI	0	0	4	0	4	2
CC lab	XCY605	Physical Chemistry Practical VIA	0	0	4	0	4	2
DSE 3B	XCY606	Project	0	0	0	0	8	6
	–	NSS/NCC/RRC....						
<b>Total</b>			<b>7</b>	<b>2</b>	<b>10</b>	<b>1</b>	<b>28</b>	<b>20</b>

**M.Sc Chemistry – Curriculum (2019-2020)**

SEMESTER I								
Type	Course Code	Course Title	L	T	SS	P	H	C
CCI	YCY101	Organic Chemistry I	4	1	1	0	6	5
CCII	YCY102	Inorganic Chemistry I	4	1	1	0	6	5
CCIII	YCY103	Physical Chemistry I	4	1	1	0	6	5
CPI	YCY104	Inorganic Practical I	0	0	0	6	6	3
CPII	YCY105	Physical Chemistry Practical I	0	0	0	6	6	3
<b>Total</b>			<b>12</b>	<b>6</b>	<b>3</b>	<b>12</b>	<b>30</b>	<b>21</b>
SEMESTER II								
Type	Course Code	Course Title	L	T	S S	P	H	C
CCIV	YCY201	Inorganic Chemistry II	4	1	1	0	6	5
CCV	YCY202	Physical Chemistry II	4	1	1	0	6	5
CPIII	YCY203	Inorganic Practical II	0	0	0	6	6	3
CPIV	YCY204	Physical Chemistry Practical II	0	0	0	6	6	3
ECIA ECIB	YEC205A/ YEC205B	(A) Solid State Chemistry/ (B) Supramolecular Chemistry	4	1	1	0	6	5
<b>Total</b>			<b>12</b>	<b>6</b>	<b>3</b>	<b>12</b>	<b>30</b>	<b>21</b>
SEMESTER III								
Type	Course Code	Course Title	L	T	SS	P	H	C
CCVI	YCY301	Organic Chemistry II	4	1	1	0	6	5
CCVII	YCY302	Physical Methods in Chemistry-I	4	1	1	0	6	5
CPV	YCY303	Organic Chemistry Practical -I	0	0	0	6	6	3
ECIIA ECIIB	YEC304A/ YEC304B	(A) Pharmaceutical Chemistry/ (B) Bio-Organic Chemistry	4	1	1	0	6	5
ECIC	YEC305	Analytical Chemistry	4	1	1	0	6	5
<b>Total</b>			<b>16</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>30</b>	<b>23</b>
SEMESTER IV								
Type	Course Code	Course Title	L	T	SS	P	H	C
CCVIII	YCY401	Physical Methods in Chemistry-II	4	1	1	0	6	5
CCVI	YCY402	Organic Chemistry Practical -II	0	0	0	6	6	3
ECIIIA ECIIIB	YEC403A/ YEC403B	(A) Green Chemistry/ (B) Industrial Chemistry	4	1	1	0	6	5
ECIVA ECIVB	YEC404A/ YEC404B	(A) Selected topics in Chemistry/ (B) Chemistry of nanoscience and nanotechnology	4	1	1	0	6	5
Project	YCY405	Dissertation –Project work	0	0	0	12	12	6

<b>Total</b>	<b>12</b>	<b>3</b>	<b>3</b>	<b>18</b>	<b>36</b>	<b>24</b>
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**M.Phil – CHEMISTRY**

**SEMESTER I**

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
ZCY101	Research Methodology and Laboratory Techniques	4	4	0	6
ZCY102	Physical Methods in Chemistry	4	4	0	6
ZCY103	Nano chemistry and Green Chemistry	4	4	0	6

**SEMESTER II**

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
ZCY 201	Guide Paper	4	0	0	4
ZSW202	Teaching Learning Skills	1	2	0	2
ZCY 203	Thesis/Dissertation/Project work	0	0	32	16

**Total Credits: 40**

## DEPARTMENT OF CHEMISTRY

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### BOARD OF STUDIES -MEETING

(Regulations 2018)

Venue : Marie Curie Hall

Date: 26.5.2018

Time: 10.00 AM

The eighth Board of Studies meeting was conducted on 26.05.2018 at 10.am in the Marie Curie Hall at PMIST. Curriculum for B.Sc Chemistry (III to VI semesters) - Regulation 2017 (Revision I), Curriculum and Syllabus for B.Sc Chemistry (Semester I-VI) & M.Sc., Chemistry (Semester I-IV)-Regulation 2018. Syllabus for Environmental Sciences and Chemistry I (Theory & Lab) [Chemistry - I -Concepts in Chemistry for Engineering and Chemistry Laboratory]- Regulation 2018 for all branches of B.Tech degree programme and Environmental Studies for B.Com/B.Sc/BCA/BBA/BA degree programmes were revised and fine tuned towards Outcome Based Education to meet the teaching learning process as per the Regulations 2018 for the academic year 2018-2019.

The following members of the Board of Studies were present.

#### Members present

S.No	Name	Designation	Representing
1.	Dr. A. Sirjunnisa	Associate Professor & Head Department of Chemistry PMIST	Chair person
2.	Dr. K. Balakrishnan	Associate Professor Department of Chemistry A.V.V.M Sri Pushpan College Poondi-613503, Thanjavur.	Member (Academic)
3.	Mr. Mohan Janakiraman	Founder- Polfri Solutions, 71, Highways Colony, Subramanysburam Tiruchirappalli - 620 020	Member (Industry )
4.	Dr. S. Gomathi	Assistant Professor Department of Chemistry PMIST	Member
5.	Ms. S. Krishna	Assistant Professor Department of Chemistry PMIST	Member



### Minutes of the Meeting:

Ms. S. Sundaranayagi, Assistant Professor, Department of Chemistry, PMIST welcomed the members of the Board of Studies and the faculty members of the Department of Chemistry.

Then the agenda of the BOS meeting to revise the curriculum and syllabus for B.Sc Chemistry (III to VI semesters) - Regulation 2017 (Revision I), to frame the Curriculum and Syllabus for B.Sc Chemistry (Semester I-VI)-Regulation 2018 & M.Sc., Chemistry (Semester I-IV)-Regulation 2018, Syllabus for Chemistry I (Theory & Lab) [Chemistry - I - Concepts in Chemistry for Engineering and Chemistry Laboratory]- Regulation 2018 and Environmental Sciences Regulation 2018 for all branches of B.Tech degree programme and Environmental Studies for B.Com/B.Sc/BCA/BBA/BA degree programme was taken up for discussion.

Both the expert members have approved the curriculum for B.Sc Chemistry Regulation 2018 & Regulation 2017 (Revision I) and M.Sc Chemistry Regulation 2018.

Dr. K. Balakrishnan, Expert Member, Board of Studies has suggested to reduce five units (theory) in to three units and practical experiments as two units in the syllabus of Skill Enhancement Courses-B.Sc Chemistry

He also suggested to reshuffle the order of five units and to include basic concepts and applications of electronic spectroscopy, principle of NMR, chemical shift in the syllabus of Concepts in Chemistry for Engineering theory (B.Tech).

He further asked to exclude case studies in the fifth unit of environmental sciences (B.Tech). He also suggested to split up the unit V in to two units in the syllabus of physical chemistry I - M. Sc., chemistry.

He also suggested In plant training for M.Sc Chemistry in final semester.

Mr. Mohan Janakiraman, Expert member, Board of Studies has suggested to include disaster management (Unit III) and case studies of iron mining (Goa), bauxite mining (Goa) (Unit I) in the syllabus of environmental sciences (B.Tech) and he recommended a website ([www.downtoearth.org.in](http://www.downtoearth.org.in)) for environmental related case studies.

He also asked to include principle, selection rules, types of vibration and application of IR spectroscopy in the syllabus of Concepts in Chemistry for Engineering theory (B.Tech). He also suggested to exchange (Group theory-unit I) of physical chemistry I and (electrochemistry I-unit D) in the syllabus of M. Sc chemistry.

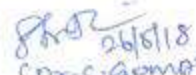

He asked to change the order of five units in Organic Chemistry I (second semester) and he suggested to include the topic role of hydrogen production through hydrogenase in unit IV in Inorganic chemistry III (third semester) -B.Sc chemistry.

Both the expert members have suggested to exclude six experiments in organic qualitative analysis practical VA in semester V -B.Sc Chemistry.


The meeting came to an end by the formal vote of thanks by Dr. Mohammad Danish, Assistant Professor, Department of Chemistry, PMIST.

  
Dr. A. Sirajunnisa  
BOS/Chairman

#### Internal Members

1.   
(Dr. S. Gomathi)
2.   
(S. Krishna)

#### Expert Members

1.   
(K. BALAKRISHNAN)
2. Mohan P.J.  
(MOHAN.P.J.)