

# **ST. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

(Deemed to be University U/S 3 of the UGC Act. 1956)  
Avadi, Chennai - 600 054.



## **Academic Council**

**17<sup>th</sup> meeting on 23.03.2018**

## **AGENDA**



**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

(Deemed to be University U/S 3 of the UGC Act. 1956)

**Avadi, Chennai – 600 054. Tamil Nadu.**

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Website: [www.stpetersuniversity.org](http://www.stpetersuniversity.org)

**Dr. L. Mahesh Kumar**  
**Registrar**

SPIHER /REG/F009/AC-17/2018

19.02.2018

To

All the Members of the Academic Council,  
St. Peter's Institute of Higher Education and Research.

Sir/Madam,

Sub: Academic Council – 17<sup>th</sup> meeting on 23.03.2018 –  
Meeting notice - Reg.

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The 17<sup>th</sup> meeting of the Academic Council is scheduled to be held on  
23.03.2018 at 11.00 a.m. at the Conference Hall in the University Campus.  
All the members are requested to attend the meeting.

The Agenda is enclosed.

Yours faithfully,

*L. Mahesh Kumar*  
Registrar

Copy to:

1. All the Deans/HODs
2. The Secretary, UGC
3. The Finance Officer
4. Estate Officer
5. Office File/Guard File

For information:

1. The Chancellor
2. The Vice Chancellor

# **St. Peter's Institute of Higher Education and Research**

(Deemed to be University U/S 3 of the UGC Act. 1956)

Avadi, Chennai – 600 054.

## **17<sup>th</sup> Meeting of the Academic Council**

**Date: 23.03.2018 at 11.00 a.m.**

### **Revised Agenda**

- 17.1** To confirm the minutes of the 16<sup>th</sup> meeting of the Academic Council held on 06.09.2017. **(Appendix-I)**
- 17.2** To report on the action taken on the minutes of the 16<sup>th</sup> meeting of the academic council. **(Appendix-II)**
- 17.3 (a)** To consider the minutes of the 17<sup>th</sup> meeting of the following Boards of Studies held on the dates mentioned: **(Appendix-III)**
- 1.** Biomedical Engineering (13.03.2018)
  - 2.** Civil Engineering (15.03.2018)
  - 3.** Computer Science and Engineering (13.03.2018)
  - 4.** Electronics and Communication Engineering (13.03.2018)
  - 5.** Electrical and Electronics Engineering (13.03.2018)
  - 6.** Information Technology (13.03.2018)
  - 7.** Mechanical Engineering (12.03.2018)
  - 8.** Computer Science and Applications (14.03.2018)
  - 9.** Science and Humanities (16.03.2018)
- (b)** To consider the new Regulations 2018 with syllabi for the I and II semesters of B.E. / B.Tech in Civil Engineering / Mechanical Engineering / Biomedical Engineering / Computer Science and Engineering / Information Technology / Electronics and Communication Engineering / Electrical and Electronics Engineering on the pattern of AICTE Model Curriculum as per the minutes of the concerned Boards of Studies. **(Appendix-IV)**
- (c)** To consider the minutes of the 17<sup>th</sup> meeting of the Board of Studies in Research held on 15.03.2018. **(Appendix-V)**
- 17.4** To consider the minutes of the 11<sup>th</sup> meeting of the Board of Studies in Architecture held on 14.03.2018. **(Appendix-VI)**
- 17.5** Any other

**Date: 21.03.2018**

**Sd.**  
**Registrar**

# ST. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

## ST. PETER'S UNIVERSITY

(Declared under Section 3 of the UGC Act 1956)

Avadi, Chennai - 600 054.

Minutes of the 16<sup>th</sup> Meeting of the Academic Council

Date: 06.09.2017 at 11.00 a.m.

### Members Present

1. Dr. Francis C Peter, Vice Chancellor
2. Dr. D.S. Ramachandra Murthy, Dean
3. Prof. K. Rajamanickam, Dean
4. Dr. Kasthuri Kantharaj, Dean
5. Dr. K. Balagurunathan, Dean
6. Dr. L. Mahesh Kumar, Dean
7. Dr. S. Gunasekaran, Dean
8. Dr. P. Asha, HoD-Civil Engg
9. Dr. S. Pushpa, HoD-CSE
10. Mr. K. Balamurugan, HoD-IT
11. Mr. Laspha Paul Raj, HoD/ B.Arch
12. Dr. R. Latha, HoD-MCA
13. Dr. R. Gayatri, HoD-MBA
14. Dr. N. Srinivasan, HoD-Mathematics
15. Dr. S. Stella Mary, HoD-Physics
16. Dr. Sayeeda Sultana, HoD-Chemistry
17. Dr. P. Periyasamy, HoD- Mechanical Engg
18. Dr. S. Uma Maheshwari, HoD- English
19. Dr. A. K. Polson, (English)
20. A. Bharathi, HoD- Aero
21. P. Subhashini, (CSE)
22. Dr. Kasthuri Kantharaj, HoD-Bio-medical
23. Ms. A. Kasthuribai, HoD- Bio Technology
24. Mrs. A. Annamahesh, HoD-Automobile Engg
25. Prof. R. Jayaraman, HoD-EEE
26. Dr.G.P. Ramesh, HoD- ECE
27. Mr. K. Balaji, HoD-EIE
28. Ms. J. Cynthia Sheba, HoD-Chemical Engg

- 16.1 Considered the minutes of the 15<sup>th</sup> meeting of the Academic Council held on 22.03.2017.

**RESOLVED** the minutes of the 15<sup>th</sup> meeting of the Academic Council held on 22.03.2017 be confirmed. **(Appendix-I)**

**16.4** Considered the minutes of the 9<sup>th</sup> meeting of the Board of Studies in Architecture held on 22.08.2017.

**RESOLVED** that the minutes of the 9<sup>th</sup> meeting of the Board of Studies in Architecture held on 22.08.2017 be approved. **(Appendix-IV)**

**16.5** Considered the minutes of the meeting of the ad-hoc Board of Studies in Medicine held on 03.07.2017.

**RESOLVED** that the minutes of the meeting of the ad-hoc Board of Studies in Medicine held on 03.07.2017 be approved. **(Appendix-V)**

**16.6 (i)** The Chairman of Board of Studies in Management Studies is requested to revise the syllabi of M.B.A. programme in the light of the developments, to be implemented from the batch of students admitted in 2017-18 and place the proposed Syllabi under the Regulations 2017 at the next meeting of the Board of Studies to be convened soon.

**(ii)** All other chairmen of the Boards of Studies are requested to initiate the exercise of revising the syllabus of B.E./ B.Tech./ M.E./ M.Tech./ M.C.A. programmes for implementation from the batch of students admitted in 2018-19.

  
Vice Chancellor

Date: 06.09.2017

  
Registrar i/c



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**17<sup>th</sup> Meeting of the Academic Council**

**Date: 23.03.2018**

**Action Taken on the Minutes of the 16<sup>th</sup> meeting of Academic Council  
held on 06.09.2017**

<b>Item</b>	<b>Action taken</b>
16.1	Noted
16.2	Noted
16.3	Informed the HoDs concerned for further action, wherever required.
16.4	Informed the HoD / Architecture to take necessary action.
16.5	Noted
16.6	Informed all the HoDs for further action.

**Date: 20.03.2018**

**Sd.  
Registrar**

<b>S.NO</b>	<b>DEPARTMENT NAME</b>
1.	Architecture
2.	Biomedical Engineering
3.	Civil Engineering
4.	Computer Science and Engineering
5.	Electronics and Communication Engineering
6.	Electrical and Electronics Engineering
7.	Mechanical Engineering
8.	Information Technology
9.	Biochemistry
10.	Biotechnology
11.	Business Administration
12.	Chemistry
13.	Computer Science and Application
14.	Commerce
15.	English
16.	Economics
17.	Mathematics
18.	Microbiology
19.	Physics
20.	Tamil
21.	Visual Communication

# St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

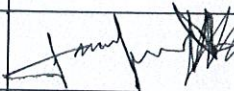
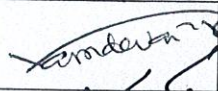
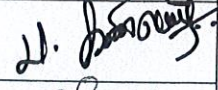
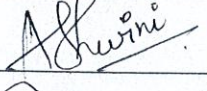

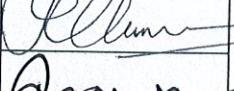
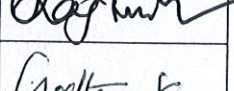
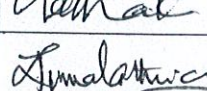
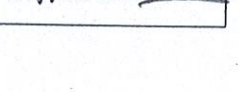
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MINUTES OF THE 11<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN

## B.ARCH

Held on 14.03.2018

### Members Present

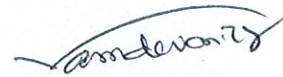
S.No	Name	Designation	Member	Signature
1.	Ar Lashba Paulraj	Design Chair and HOD	Chairman	
2.	Ar Vasudevan T J	Senior Professor	Member	
3.	Ar P.Kanimozhi	Associate Professor	Member	
4.	Ar Ashwini Hebsur	Assistant Professor	Member	
5.	Ar Mushtaq Ahmed	Practicing Architect	External Member	
6.	Ar Sethu	Practicing Architect.	External Member	
7.	Ar M.Rajkumar	Academician	External Member	
8.	K.Geetha	Alumni	Member	
9.	R.Vimaladhithan	Alumni	Member	





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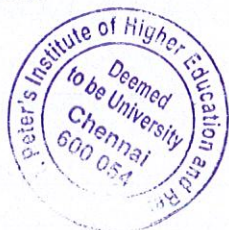
Chairman



11.1	<p><b>Considered</b> the minutes of the 10th meeting of Board of studies in Architecture held on 26.09.2017.</p> <p><b>RESOLVED</b> that the minutes of the 10th meeting of Board of studies in Architecture held on 26.09.2017 ne confirmed.</p>
11.2	<p><b>Reviewed</b> the syllabi of B.Arch. Programme under the Regulations 2015 with Choice Based Credit System (CBCS)</p> <p><b>RESOLVED</b> that the syllabi of B.Arch. Programme under the Regulations 2015 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include the new elective course (Appendix - I).</p> <p>1. Sustainable urban habitat -915ART11</p>
11.3	<p><b>Reviewed</b> the syllabi of B.Arch. Programme under the Regulations 2017 with Choice Based Credit System (CBCS ) be continued.</p> <p><b>RESOLVED</b> that the syllabi of B.Arch. Programme under the Regulations 2017 with Choice Based Credit System (CBCS) be continued.</p>
11.4	<p><b>Reviewed</b> and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.</p> <p><b>Resolved</b> that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix - II).</p>

Following are the amendments proposed in Regulation 2017.

- In the syllabus of 117ARP02- Basic Design, exercises involving the basic elements of Architecture and the guiding principles of Architecture to be included along with basic shapes and colour theory.
- In the syllabus of 217ART04 – Building Materials and Construction – I, Industrial visits to manufacturing Industries and Construction sites to be included.
- In the examination pattern for all Architectural Design courses of Regulation 2017, one time problem for a shorter duration to be included.
- Signing of MoU's with Architects, Contractors and Builders were discussed and resolved that MoU's may be signed for subjects like Building Construction, Architectural Detailing to do a detailed study for a time period of minimum one week.
- Swayam courses, if the content matches the syllabus of the course prescribed in the regulation and syllabi of B.Arch. degree programme, then it shall be considered for credit transfer with the approval of BOS. If other relevant courses from allied fields are taken by the student, then it shall be mentioned in the mark sheet as extra credits earned and shall not be considered for CGPA calculation.



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- Additional training in the upcoming concepts of infrastructure development is recommended.
- Exposure of students to sustainable development and control tools through Green rating bodies such as GRIHA and IGBC through workshops and short term training is recommended

**Date: 21.08.2018**

*Lambert*  
**Chairman**



*Lakshmi*

**Registrar**

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**Appendix - I**

<b>Programme</b>	<b>Stakeholder</b>	<b>Feedback</b>	<b>Recommendation</b>	<b>Action taken</b>
B.Arch	Student	Students suggested the need for job oriented courses They also requested to provide career guidance and expert talks by practicing architects	To offer multilingual program for advancing architecture field	Carrier guidance programs were given and counseling cell supported the development of soft skills and communication ability.
	Teacher	Teaching methods and teaching aids must be improved	Suggested for advance learning	ICT methods and smart boards were used for effective teaching. Computer centre promoted (FOSS)  Free OpenSource Software to all services will provided in the campus to run web, mail,LDAP and MODLE
	Alumni	More emphasis should be on the applications of the opted field of study.  Focus more on inter-disciplinary activities of many courses.	Suggested for Inter-disciplinary projects.	Inter departmental research initiatives between civil department was encouraged.



*[Handwritten Signature]*

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# St. PETER'S UNIVERSITY

## St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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### MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN BIOMEDICAL ENGINEERING

Held on 13.03.2018

#### Members Present

S.No	Name	Designation	Member	Signature
1.	Dr. K. Kantharaj	Professor & Head	Chairman	
2.	Mrs. V. Subharamya	Associate Professor	Internal Member	
3.	Ms. A. Vanitha	Assistant Professor	Internal Member	
4.	Ms. M. Fazilath	Assistant Professor	Internal Member	
5.	Dr. R. Vasuki	Head (BME) Bharath Institute of Higher Education and Research Tambaram	External Member	
6.	Dr. Rani Hemamalini	Professor ECE -SPCET	External Member	
7.	Mr. Sridhar Subramanian	Senior Manager, Endosys technology	Industrial expert	

  
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Chairman

- 17.1 Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Biomedical Engineering held on 21.08.2017.

**RESOLVED** that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Biomedical Engineering held on 21.08.2017 be confirmed

- 17.2 Reviewed the Regulation & Syllabi of B.E. Biomedical Engineering programme under the Regulations 2013.

**RESOLVED** that the Regulation & Syllabi of B.E. Biomedical Engineering programme under the Regulations 2013 with Choice Based Credit System (CBCS) be continued.

- 17.3 Reviewed the Regulation & Syllabi of B.E (Biomedical Engineering) programmes under the Regulations 2017 and 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new regulations and syllabi of B.E.(Biomedical Engineering) on the pattern of AICTE model curriculum for the I and II semester from the batch of students to be admitted from 2018-19 under the regulations 2018 be approved.

- 17.4 Reviewed the new regulations and syllabi of M.E.(Biomedical Engineering) from the batch of students to be admitted from 2018-19 under the regulations 2018.

**RESOLVED** that the the new regulations and syllabi of M.E.(Biomedical Engineering) from the batch of students to be admitted from 2018-19 under the regulations 2018 be approved.

- 17.5 Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.

**RESOLVED** that the syllabi of B.E (Biomedical Engineering) programme under the Regulations 2013, 2017 & 2018 and M.E. (Biomedical Engineering) under the Regulations 2013 and 2018 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.

- 17.6 Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.E (BME) under

  
Registrar

the Regulations 2013, 2017 & 2018 and M.E. (Biomedical Engineering) under the Regulations 2013 & 2018.

**RESOLVED** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.E (BME) under the Regulations 2013, 2017 & 2018 and M.E. (BME) under the Regulations 2013 & 2018 to be approved.

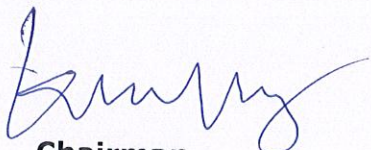
- 17.7** Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.E (Biomedical Engineering) and M.E. (Biomedical Engineering).

**RESOLVED** that the value added courses imparting transferable and life skills offered to be approved for the upcoming semester (2018-19 Even semester).

- 17.8** Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.

**Resolved** that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix - III)

**Date: 13.03.2018**



**Chairman**



**Registrar**

St. Peter's Institute of Higher Education and Research  
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# St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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MINUTES OF 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES OF CIVIL ENGINEERING

HELD ON 15.03.2018

## Members Present

S No	Name	Designation	Role in Board
1	Dr. V.B.M. Sayana	Prof. & Head Dept. of Civil Engineering SPIHER	Chair Person
2	Dr.P.Asha	Professor Dept. of Civil Engineering SPIHER	Internal Member
3	Mr.K.Ķarthik	Associate Professor Dept. of Civil Engineering SPIHER	Internal Member
4	Mr.P.Sampath	Assistant Professor Dept. of Civil Engineering SPIHER	Internal Member
5	Dr. P.Partheeban	Dean Academics St Peter's College of Engineering and Technology	External Member Academics
6	Dr.E.Arun Babu	Assistant Professor Dept. of Civil Engineering Anna University	External Member Academics
7	Dr.S.Justin	Chief Engineering Manager (L&T ECC)	External Member Industry
8	Mr.Babu Kamaraj.P	Assistant Professor Dept. of Civil Engineering SPCET	External Member (Alumni)

15.03.2018



Registrar  
St. Peter's Institute of Higher Education and Research  
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Chairman

Dr. V.B.M. SAYANA, M.E., Ph.D.,  
Professor & Head  
Department of Civil Engg.

St. Peter's Institute of Higher Education and Research  
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17.1 Considered the minutes of 16<sup>th</sup> Board of Studies in Civil Engineering held on 18.08.2017.

Resolved that the 16<sup>th</sup> Board of Studies in Civil Engineering held on 18.08.2017 be confirmed.

17.2 Reviewed the syllabus of B.E. Civil Engineering under regulation 2013.

**RESOLVED** that the Regulation and Syllabi of B.E (Civil Engineering) programme under the Regulations 2013 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include the following New Elective courses (Appendix - I).

1	613CET08	REMOTE SENSING TECHNIQUES AND GIS
2	713CET06	GROUNDWATER ENGINEERING
3	713CET09	ENVIRONMENTAL IMPACTASSESSMENT
4	813CET04	TALL BUILDINGS
5	813CET10	FINITE ELEMENTTECHNIQUES

17.3 Considered the new regulation and syllabi of B.E. Civil Engineering on the pattern of AICTE curriculum from the batch of students to be admitted from 2018-19 under regulation 2018.

**RESOLVED** that the new Regulation and Syllabi of B.E (Civil Engineering) on the pattern of AICTE curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) for I and II semester be approved. (Appendix - II).

17.4 Considered the new regulation and syllabi of M.E. Structural Engineering from the batch of students to be admitted from 2018-19 under regulation 2018.

**RESOLVED** that the new Regulation and Syllabi of M.E. Structural Engineering from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) for I and II semester be approved. (Appendix - III).



  
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17.5 Reviewed the syllabus of M.E. Structural Engineering under regulation 2013.

**RESOLVED** that the Regulation and Syllabi of M.E. Structural Engineering programme under the Regulations 2013 with Choice Based Credit System (CBCS) be continued.

17.6 Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.E (CIVIL) under the Regulations 2018 and M.E (STRUCTURAL ENGINEERING) under the Regulations 2018.

**Resolved** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.E (CIVIL) under the Regulations 2018 and M.E (STRUCTURAL ENGINEERING) under the Regulations 2018 to be approved.

17.7 Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.

**RESOLVED** that the syllabi of B.E (CIVIL) programme under the Regulations 2018 and M.E (STRUCTURAL ENGINEERING) under the Regulations 2018 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.

17.8 Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.E (CIVIL) under the Regulations 2018 and M.E (STRUCTURAL ENGINEERING) under the Regulations 2018.

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum.



  
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17.9 Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.

**Resolved** that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix – II)

15.03.2018

**Chairman**

**Dr. V.B.M. SAYANA, M.E., Ph.D.**  
Professor & Head  
Department of Civil Engg.  
St. Peter's Institute of Higher Education and Research  
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## APPENDIX - I

### 613CET08 - REMOTE SENSING TECHNIQUES AND GIS

#### OBJECTIVES:

- To introduce the students to the basic concepts and principles of various components of remote sensing.
- To provide an exposure to GIS and its practical applications in civil engineering.

#### UNIT I EMR AND ITS INTERACTION WITH ATMOSPHERE & EARTH MATERIAL

Definition of remote sensing and its components – Electromagnetic spectrum – wavelength regions important to remote sensing – Wave theory, Particle theory, Stefan-Boltzman and Wein's Displacement Law – Atmospheric scattering, absorption – Atmospheric windows – spectral signature concepts – typical spectral reflective characteristics of water, vegetation and soil.

#### UNIT II PLATFORMS AND SENSORS

Types of platforms – orbit types, Sun-synchronous and Geosynchronous – Passive and Active sensors – resolution concept – Payload description of important Earth Resources and Meteorological satellites – Airborne and spaceborne TIR and microwave sensors.

#### UNIT III IMAGE INTERPRETATION AND ANALYSIS

Types of Data Products – types of image interpretation – basic elements of image interpretation - visual interpretation keys – Digital Image Processing – Pre-processing – image enhancement techniques – multispectral image classification – Supervised and unsupervised.

#### UNIT IV GEOGRAPHIC INFORMATION SYSTEM

Introduction – Maps – Definitions – Map projections – types of map projections – map analysis – GIS definition – basic components of GIS – standard GIS softwares – Data type – Spatial and non-spatial (attribute) data – measurement scales – Data Base Management Systems (DBMS).

#### UNIT V DATA ENTRY, STORAGE AND ANALYSIS

Data models – vector and raster data – data compression – data input by digitization and scanning – attribute data analysis – integrated data analysis – Modeling in GIS Highway alignment studies – Land Information System.

#### OUTCOMES:

On completion of the course the students will have knowledge on

- Principles of Remote Sensing and GIS
- Analysis of RS and GIS data and interpreting the data for modeling applications

#### TEXT BOOKS:

1. Lillesand, T.M., Kiefer, R.W. and J.W. Chipman. "Remote Sensing and Image Interpretation" 5th Edition., John Wiley and Sons Asia Pvt. Ltd., New Delhi, 2004.
2. Anji Reddy, M. "Textbook of Remote Sensing and Geographical Information System" 2nd edition. BS Publications, Hyderabad, 2001.

#### REFERENCES:

1. Lo. C.P. and A.K.W. Yeung, "Concepts and Techniques of Geographic Information Systems", Prentice Hall of India Pvt. Ltd., New Delhi, 2002
2. Peter A. Burrough, Rachael A. McDonnell, "Principles of GIS", Oxford University Press, 2000
3. Ian Heywood "An Introduction to GIS", Pearson Education Asia, 2000



  
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## 713CET06 - GROUNDWATER ENGINEERING

### OBJECTIVES:

- To introduce the student to the principles of Groundwater governing Equations and Characteristics of different aquifers,
- To understand the techniques of development and management of groundwater.

### UNIT I HYDROGEOLOGICAL PARAMETERS

Introduction – Water bearing Properties of Rock – Type of aquifers - Aquifer properties – permeability, specific yield, transmissivity and storage coefficient – Methods of Estimation–Ground water table fluctuation and its interpretations – Groundwater development and Potential in India – GEC norms.

### UNIT II WELL HYDRAULICS

Objectives of Groundwater hydraulics – Darcy's Law - Groundwater equation – steady state flow - Dupuit Forchheimer assumption - Unsteady state flow - Theis method - Jacob method - Slug tests - Image well theory – Partial penetrations of wells.

### UNIT III GROUNDWATER MANAGEMENT

Need for Management Model – Database for groundwater management –groundwater balance study – Introduction to Mathematical model – Conjunctive use – Collector well and Infiltration gallery.

### UNIT IV GROUNDWATER QUALITY

Ground water chemistry - Origin, movement and quality - Water quality standards – Health and aesthetic aspects of water quality - Saline intrusion – Environmental concern and Regulatory requirements

### UNIT V GROUNDWATER CONSERVATION

Artificial recharge techniques – Remediation of Saline intrusion– Ground water management studies – Protection zone delineation, Contamination source inventory, remediation schemes -Ground water Pollution and legislation.

### OUTCOMES:

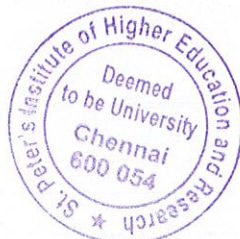
- Students will be able to understand aquifer properties and its dynamics after the completion of the course. It gives an exposure towards well design and practical problems of groundwater aquifers.
- Students will be able to understand the importance of artificial recharge and groundwater quality concepts.

### TEXT BOOKS:

1. Raghunath H.M., "Ground Water Hydrology", New Age International (P) Limited, New Delhi, 2010.
2. Todd D.K., "Ground Water Hydrology", John Wiley and Sons, New York, 2000.

### REFERENCES:

1. Fitts R Charles, "Groundwater Science". Elsevier, Academic Press, 2002.
4. Ramakrishnan, S, Ground Water, K.J. Graph arts, Chennai, 1998.



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## 713CET09 - ENVIRONMENTAL IMPACT ASSESSMENT

### OBJECTIVES:

- To impart knowledge on Environmental management and Environmental Impact Assessment.

### UNIT I INTRODUCTION

Impact of development projects – Sustainable development- Need for Environmental Impact Assessment (EIA) - Environmental Impact Statement (EIS) – EIA capability and limitations –Legal provisions on EIA-Stages of EIA, Types of EIA

### UNIT II METHODOLOGIES

Methods of EIA – Check lists – Matrices – Networks – Cost-benefit analysis – Analysis of alternatives

### UNIT III PREDICTION AND ASSESSMENT

Assessment of Impact on land, water, air, social & cultural activities and on flora & fauna- Mathematical models- Public participation

### UNIT IV ENVIRONMENTAL MANAGEMENT PLAN

Plan for mitigation of adverse impact on environment – Options for mitigation of impact on water, air, land and on flora & fauna - Addressing the issues related to the Project Affected People. Post project monitoring

### UNIT V CASE STUDIES

EIA for infrastructure projects – Dams – Highways – Multi-storey Buildings – Water Supply and Drainage Projects – Waste water treatment plants, STP.

### OUTCOMES:

The students completing the course will have ability to

- carry out scoping and screening of developmental projects for environmental and social assessments
- explain different methodologies for environmental impact prediction and assessment
- plan environmental impact assessments and environmental management plans
- evaluate environmental impact assessment reports

### TEXT BOOKS:

1. Canter, R.L., "Environmental Impact Assessment", McGraw Hill Inc., New Delhi, 1996.
2. Shukla, S.K. and Srivastava, P.R., "Concepts in Environmental Impact Analysis", Common Wealth Publishers, New Delhi, 1992.

### REFERENCES:

1. John G. Rau and David C Hooten "Environmental Impact Analysis Handbook", McGrawHill Book Company, 1990.
2. "Environmental Assessment Source book", Vol. I, II & III. The World Bank, Washington, D.C., 1991.
3. Judith Petts, "Handbook of Environmental Impact Assessment Vol. I & II", Blackwell Science, 1999.



  
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## 813CET04 - TALL BUILDINGS

### OBJECTIVES:

- The design aspects and analysis methodologies of tall buildings will be introduced. The stability analysis of tall buildings is another important objective of this course.

### UNIT I DESIGN CRITERIA AND MATERIALS

Development of High Rise Structures - General Planning Considerations - Design philosophies - Materials used for Construction - High Strength Concrete - High Performance Concrete - Self Compacting Concrete - Glass - High Strength Steel

### UNIT II LOADING

Gravity Loading - Dead Load - Live Load - Live load reduction technique - Impact Load - Construction Load - Sequential Loading. Lateral Loading - Wind load - Earthquake Load. Combination of Loads.

### UNIT III BEHAVIOUR OF VARIOUS STRUCTURAL SYSTEMS

Factors affecting growth, Height and Structural form. High rise behaviour of Various structural systems - Rigid frames, braced frames, Infilled frames, shear walls, coupled shear walls, wall-frames, tubular structures, cores, outrigger - braced and hybrid mega systems.

### UNIT IV ANALYSIS AND DESIGN

Modeling for approximate analysis, Accurate analysis and reduction techniques, Analysis of buildings as total structural system considering overall integrity and major subsystem interaction, Analysis for member forces, drift and twist, computerised general three dimensional analysis.

### UNIT V STABILITY OF TALL BUILDINGS

Overall buckling analysis of frames, wall-frames, Approximate methods, second order effects of gravity of loading, P-Delta analysis, simultaneous first-order and P-Delta analysis, Translational, Torsional instability, out of plumb effects, stiffness of member in stability, effect of foundation rotation.

### OUTCOMES:

- At the end of this course the student should have an understanding on the behaviour of tall buildings subjected to lateral building. The students should have knowledge about the rudimentary principles of designing tall buildings as per the existing codes.


### TEXT BOOKS:

- Bryan Stafford Smith, Alex coull, "Tall Building Structures, Analysis and Design", John Wiley and Sons, Inc., 1991.
- Taranath B.S., "Structural Analysis and Design of Tall Buildings", McGraw Hill, 2011.

### REFERENCES:

- Lin.T.Y, Stotes Burry.D, "Structural Concepts and systems for Architects and Engineers", John Wiley, 1988.
- Lynn S.Beedle, "Advances in Tall Buildings", CBS Publishers and Distributors, Delhi, 1986.  
Wolfgang Schueller "High Rise Building Structures", John Wiley and Sons, New York 1977.



  
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## 813CET10 - FINITE ELEMENT TECHNIQUES

### OBJECTIVES:

- To apprise the students about the basics of Finite Element theory, computer implementation of this theory and its practical applications.

### UNIT I INTRODUCTION TO FINITE ELEMENT ANALYSIS AND FINITE ELEMENT FORMULATION TECHNIQUES

Introduction - Basic Concepts of Finite Element Analysis - Introduction to Elasticity - Steps in Finite Element Analysis - Virtual Work and Variational Principle - Galerkin Method- Finite Element Method: Displacement Approach - Stiffness Matrix and Boundary Conditions.

### UNIT II ELEMENT PROPERTIES

Natural Coordinates - Triangular Elements - Rectangular Elements - Lagrange and Serendipity Elements - Solid Elements - Isoparametric Formulation - Stiffness Matrix of Isoparametric Elements Numerical Integration: One, Two and Three Dimensional

### UNIT III ANALYSIS OF FRAME STRUCTURES

Stiffness of Truss Members - Analysis of Truss - Stiffness of Beam Members - Finite Element Analysis of Continuous Beam - Plane Frame Analysis - Analysis of Grid and Space Frame.

### UNIT IV FEM FOR TWO AND THREE DIMENSIONAL SOLIDS

Constant Strain Triangle - Linear Strain Triangle - Rectangular Elements - Numerical Evaluation of Element Stiffness - Computation of Stresses, Geometric Nonlinearity and Static Condensation - Axisymmetric Element - Finite Element Formulation of Axisymmetric Element - Finite Element Formulation for 3 Dimensional Elements

### UNIT V APPLICATIONS OF FEM

Plate Bending Problems - Finite Elements for Elastic Stability - Finite Elements in Fluid Mechanics - Dynamic Analysis

### OUTCOMES:

- Students will be in a position to develop computer codes for any physical problems using FE techniques.

### TEXT BOOKS:

- Chandrupatla, T.R., and Belegundu, A.D., "Introduction to Finite Element in Engineering", Third Edition, Prentice Hall, India, 2003.
- Krishnamoorthy C. S., "Finite Element Analysis Theory and Programming", Tata McGraw Hill Education, 1994
- David V. Hutton, "Fundamentals of Finite Element Analysis", Tata McGraw Hill, 2004
- Daryl L. Logan, "A First Course in Finite Element Method", Cengage Learning, 2012.

### REFERENCES:

- Reddy J.N., "An Introduction to Finite Element Method", McGraw-Hill, Intl. Student Edition, 1985.
- Zienkiewics, "The finite element method, Basic formulation and linear problems", Vol.1, 4th Edition, McGraw-Hill, Book Co., 1987
- Rao S.S, "The Finite Element Method in Engineering", Pergaman Press, 2003.
- Desai C.S. and. Abel J.F, "Introduction to the Finite Element Method", Affiliated East West Press, 1972.
- Cook R. D., "Concepts and Applications of Finite Element Analysis", Wiley and Sons, 1989.



**APPENDIX – II**  
**B.E. (CIVIL ENGINEERING)**  
(Regulations 2018)  
**REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM**  
**(Effective from the Academic Year 2018-2019)**

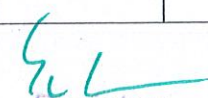
**I Semester**

Code No.	Course Title	Credit	Marks			Pre-requisites	Page no
			CA	EA	Total		
<b>Theory</b>							
118PHT01	Physics	4	25	75	100	Nil	1
118MAT02	Mathematics –I	4	25	75	100	Nil	1
118BET03	Basic Electrical Engineering	4	25	75	100	Nil	3
118EGT04	Engineering Graphics & Design	1	25	75	100	Nil	5
<b>Practical</b>							
118PHP01	Physics Laboratory	2	25	75	100	118PHT01	8
118BEP02	Basic Electrical Engineering	1	25	75	100	Nil	9
118EGP03	Engineering Graphics & Design	2	25	75	100	Nil	5
	<b>Total</b>	<b>18</b>	<b>175</b>	<b>525</b>	<b>700</b>		

**II Semester**

Code No.	Course Title	Credit	Marks			Pre-requisites	Page no
			CA	EA	Total		
<b>Theory</b>							
218CYT01	Chemistry	4	25	75	100	NIL	10
218MAT02	Mathematics –II	4	25	75	100	118MAT02	12
218PPT03	Programming for Problem Solving Using C and Python	3	25	75	100	NIL	14
218WMT04	Manufacturing Practices	1	25	75	100	NIL	16
218EHT05	English	3	25	75	100	NIL	17
218CET06	Engineering Mechanics	3	25	75	100	118PHT01	19
<b>Practical</b>							
218CYP01	Chemistry Laboratory	2	25	75	100	218CYT01	21
218PPP02	Programming for Problem Solving Using C and Python	2	25	75	100	218PPT03	22
218WMP03	Manufacturing Practices	2	25	75	100	NIL	23
	<b>Total</b>	<b>24</b>	<b>225</b>	<b>675</b>	<b>900</b>		



  
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**APPENDIX - III**  
**M.E (STRUCTURAL ENGINEERING) PROGRAMME**  
**Regulations and Syllabi**  
**(Effective from the Academic Year 2018-19)**

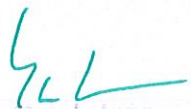
**SEMESTER - I**

Code No.	Course Title	L	T	P	Credit	Marks		
						CA	EA	Total
<b>Theory &amp; Practical</b>								
118SEPT01	Advanced Numerical Methods	4	1	0	5	25	75	100
118SEPT02	Concrete Structures	3	1	0	4	25	75	100
118SEPT03	Structural Dynamics	4	1	0	5	25	75	100
118SEPT04	Theory of Elasticity and Plasticity	4	1	0	5	25	75	100
118SEPT06	<b>Elective I</b> - Maintenance And Rehabilitation of Structures -	4	0	0	4	25	75	100
118SEPT10	<b>Elective II</b> - Advanced Concrete Technology	4	0	0	4	25	75	100
<b>Total</b>		<b>23</b>	<b>4</b>	<b>0</b>	<b>27</b>	<b>150</b>	<b>450</b>	<b>600</b>

**SEMESTER - II**

Code No.	Course Title	L	T	P	Credit	Marks		
						CA	EA	Total
<b>Theory</b>								
218SEPT01	Finite Element Analysis	2	2	0	4	25	75	100
218SEPT02	Experimental Techniques and Instrumentation	2	2	0	4	25	75	100
218SEPT03	Steel Structures	3	1	0	4	25	75	100
218SEPT04	Earthquake Analysis and Design of Structures	3	1	0	4	25	75	100
218SEPT05	Elective III - Design of Bridges -	3	1	0	4	25	75	100
218SEPT07	Elective IV - Prestressed Concrete	3	1	0	4	25	75	100
<b>Practical</b>								
218SEPP01	Advanced Structural Engineering Laboratory	0	0	3	3	25	75	100
<b>Total</b>		<b>16</b>	<b>8</b>	<b>3</b>	<b>27</b>	<b>175</b>	<b>525</b>	<b>700</b>



  
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# St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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AVADI, CHENNAI - 600 054.

## MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN COMPUTER SCIENCE AND ENGINEERING

Held on 13.03.2018

### Members Present

S.No	Name	Designation	Member	Signature
1.	Dr.S.Pushpa	Professor& Head	Chairperson	
2.	Ms. P. Subhashini	Assistant Professor	Internal Member	
3.	Mr. R. Mohanraj	Assistant Professor	Internal Member	
4.	Mr. K. Suresh Babu	Assistant Professor	Internal Member	
5.	Dr. Chitra Elangovan	Professor, Dept of IT, Prathyusha Engg College	External Member	
6.	Dr. T. Sakthivel	Director, Firstsoft Technologies	External Member	
7.	Mr. V. Shyamal Szhunmugam,	Senior Software Engineer, Capgemini India Pvt. Ltd., (Alumni)	External Member	



  
Chairperson

  
Registrar

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17.1 Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Computer Science and Engineering held on 21.08.2017.

**RESOLVED** that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Computer Science and Engineering held on 21.08.2017 be confirmed.

17.2 Reviewed the Regulation & Syllabi of VII & VIII semesters of B.E.(Computer Science and Engineering) programmes under the Regulations 2013 with Choice Based Credit System (CBCS).

**RESOLVED** that the Syllabi of VII & VIII semesters of B.E. (Computer Science and Engineering) under the Regulations 2013 with Choice Based Credit System (CBCS) be approved.(Appendix – I)

17.3 Considered the new Regulations and Syllabi of I & II semester of B.E. (Computer Science and Engineering) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of I & II semester of B.E. (Computer Science and Engineering) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) be approved. (Appendix - II)

17.4 Reviewed the Regulation & Syllabi of M.E. (Computer Science and Engineering) programmes under the Regulations 2013 with Choice Based Credit System (CBCS).

**RESOLVED** that the Regulation & Syllabi of M.E.(Computer Science and Engineering) programmes under the Regulations 2013 with Choice Based Credit System (CBCS) be continued.

17.5 Considered the new Regulations and Syllabi of I & II semesters M.E. (Computer Science and Engineering) from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of I & II semesters M.E. (Computer Science and Engineering) from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) be approved.(Appendix – III)

17.6 Reviewed the curricula developed having relevance to the



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local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.

**RESOLVED** that the syllabi of B.E(CSE) programme under the Regulations 2013 and M.E.(CSE) under the Regulations 2013 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.

- 17.7 Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.E(CSE) under the Regulations 2013 and M.E.(CSE) under the Regulations 2013.

**RESOLVED** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.E (CSE) under the Regulations 2013 and M.E. (CSE) under the Regulations 2013 to be approved.

- 17.8 Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.E (CSE) and M.E. (CSE).

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "Photoshop and Video Editing" be approved for the upcoming semester (2018-19 Odd semester).

Date: 13.03.2018

  
Chairman



  
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## Appendix – I

### B.E (Computer Science and Engineering) Regulation -2013 CHOICE BASED CREDIT SYSTEM

#### 218CHT05 – ENVIRONMENTAL SCIENCE

##### OBJECTIVES:

- To the study of nature and the facts about environment.
- To find and implement scientific, technological, economic and political solutions to environmental problems.
  - To study the interrelationship between living organism and environment.
  - To appreciate the importance of environment by assessing its impact on the human world; envision the surrounding environment, its functions and its value.
  - To study the dynamic processes and understand the features of the earth's interior and surface.
  - To study the integrated themes and biodiversity, natural resources, pollution control and waste management.

##### UNIT I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY

Definition, scope and importance of Risk and hazards; Chemical hazards, Physical hazards, Biological hazards in the environment – concept of an ecosystem – structure and function of an ecosystem – producers, consumers and decomposers-Oxygen cycle and Nitrogen cycle – energy flow in the ecosystem – ecological succession processes – Introduction, types, characteristic features, structure and function of the (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) – Introduction to biodiversity definition: genetic, species and ecosystem diversity – biogeographical classification of India – value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values – Biodiversity at global, national and local levels – India as a mega-diversity nation – hot-spots of biodiversity – threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – endangered and endemic species of India – conservation of biodiversity: In-situ and ex-situ conservation of biodiversity. Field study of common plants, insects, birds  
Field study of simple ecosystems – pond, river, hill slopes, etc.

##### UNIT II ENVIRONMENTAL POLLUTION

Definition – causes, effects and control measures of: (a) Air pollution (Atmospheric chemistry- Chemical composition of the atmosphere; Chemical and photochemical reactions in the atmosphere - formation of smog, PAN, acid rain, oxygen and ozone chemistry;- Mitigation procedures- Control of particulate and gaseous emission, Control of SO<sub>2</sub>, NO<sub>x</sub>, CO and HC) (b) Water pollution : Physical and chemical properties of terrestrial and marine water and their environmental significance; Water quality parameters – physical, chemical and biological; absorption of heavy metals - Water treatment processes. (c) Soil pollution - soil waste management: causes, effects and control measures of municipal solid wastes – (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards–role of an individual in prevention of pollution – pollution case studies – Field study of local polluted site – Urban / Rural / Industrial / Agricultural.

##### Actual Activities:

- Plantation
- Shutting down the fans and ACs of the campus for an hour or so
- Drive for segregation of waste

##### UNIT III NATURAL RESOURCES]



  
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Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests and tribal people – Water resources: Use and overutilization of surface and ground water, dams-benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies – Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Energy Conversion processes – Biogas – production and uses, anaerobic digestion; case studies – Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification – role of an individual in conservation of natural resources – Equitable use of resources for sustainable lifestyles. Introduction to Environmental Biochemistry: Proteins – Biochemical degradation of pollutants, Bioconversion of pollutants. Field study of local area to document environmental assets – river/forest/grassland/hill/mountain

#### **UNIT IV SOCIAL ISSUES AND THE ENVIRONMENT**

From unsustainable to sustainable development – urban problems related to energy – water conservation, rain water harvesting, watershed management – resettlement and rehabilitation of people; its problems and concerns, case studies – role of non-governmental organization- environmental ethics: Issues and possible solutions – 12 Principles of green chemistry- nuclear accidents and holocaust, case studies. – wasteland reclamation – consumerism and waste products – environment production act – Air act – Water act – Wildlife protection act – Forest conservation act – The Biomedical Waste (Management and Handling) Rules; 1998 and amendments- scheme of labeling of environmentally friendly products (Ecomark). enforcement machinery involved in environmental legislation- central and state pollution control boards- disaster management: floods, earthquake, cyclone and landslides. Public awareness.

##### **Awareness Activities:**

- i. Small group meetings about water management , promotion of recycle use, generation of less waste, avoiding electricity waste.
- ii. Lectures from experts

#### **UNIT V HUMAN POPULATION AND THE ENVIRONMENT]**

Population growth, variation among nations – population explosion – family welfare programme – environment and human health – human rights – value education – HIV / AIDS – women and child welfare –Environmental impact analysis (EIA)- -GIS-remote sensing-role of information technology in environment and human health – Case studies.

##### **OUTCOMES:**

Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.

- Public awareness of environment at infant stage.
- Ignorance and incomplete knowledge has lead to misconceptions.
- Development and improvement in standard of living has lead to serious environmental disasters.

##### **TEXT BOOKS:**

1. Gilbert M.Masters, "Introduction to Environmental Engineering and Science", 2nd Edition, Pearson Education, 2004.
2. Benny Joseph, „Environmental Science and Engineering“, Tata McGraw-Hill, New Delhi,2006.



*[Handwritten Signature]*  
Registrar

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2. Cunningham, W.P. Cooper, T.H. Gorhani, "Environmental Encyclopedia", Jaico Publ.,  
House, Mumbai, 2001.
3. Dharmendra S. Sengar, "Environmental law", Prentice Hall of India PVT LTD, New  
Delhi, 2007.
4. Rajagopalan, R, "Environmental Studies-From Crisis to Cure", Oxford University Press  
2005



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**Appendix – II**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**ACTION TAKEN REPORT ON STAKEHOLDERS FEEDBACK**  
**2017-2018**

Stakeholder	Feedback	Recommendation	Action taken
Student	Students suggested the need for job oriented courses, training for facing interviews during campus selection. They also requested to provide career guidance and expert talks by industrialists.	To offer multilingual program for advancing computer education.	Carrier guidance programs were given and counseling cell supported the development of soft skills and communication ability.
Teacher	Teaching methods and teaching aids must be improved	Suggested for advance learning	ICT methods and smart boards were used for effective teaching. Computer centre promoted (FOSS) Free Open Source Software to all services will be provided in the campus to run web, mail, LDAP and MODLE
Alumni	More emphasis should be on the applications of the opted field of study. Focus more on inter-disciplinary activities of many courses.	Suggested for Inter-disciplinary projects.	Inter departmental research initiatives was encouraged.
Parents	Practical Knowledge to be imparted which will help them to face real life situations.	Encouraged the students to participate in competition.	Mini-Project models and individual presentations by students in the institution were encouraged for participating in competitions organised by other institutions.
Employer	Recruiters suggested that the students are be strong in their aptitude skills, as it is the first level of the interview process	To focus on aptitude training.	Intensive training on aptitude training was planned for the next academic year.

Date: 21.08.2018

  
Chairperson



  
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## Appendix – I

### B.E (Computer Science and Engineering) Regulation -2013 CHOICE BASED CREDIT SYSTEM

#### 218CHT05 – ENVIRONMENTAL SCIENCE

##### OBJECTIVES:

To the study of nature and the facts about environment.

- To find and implement scientific, technological, economic and political solutions to environmental problems.
- To study the interrelationship between living organism and environment.
- To appreciate the importance of environment by assessing its impact on the human world; envision the surrounding environment, its functions and its value.
- To study the dynamic processes and understand the features of the earth's interior and surface.
- To study the integrated themes and biodiversity, natural resources, pollution control and waste management.

##### UNIT I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY

Definition, scope and importance of Risk and hazards; Chemical hazards, Physical hazards, Biological hazards in the environment – concept of an ecosystem – structure and function of an ecosystem – producers, consumers and decomposers-Oxygen cycle and Nitrogen cycle – energy flow in the ecosystem – ecological succession processes – Introduction, types, characteristic features, structure and function of the (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) – Introduction to biodiversity definition: genetic, species and ecosystem diversity – biogeographical classification of India – value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values – Biodiversity at global, national and local levels – India as a mega-diversity nation – hot-spots of biodiversity – threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – endangered and endemic species of India – conservation of biodiversity: In-situ and ex-situ conservation of biodiversity. Field study of common plants, insects, birds  
Field study of simple ecosystems – pond, river, hill slopes, etc.

##### UNIT II ENVIRONMENTAL POLLUTION

Definition – causes, effects and control measures of: (a) Air pollution (Atmospheric chemistry- Chemical composition of the atmosphere; Chemical and photochemical reactions in the atmosphere - formation of smog, PAN, acid rain, oxygen and ozone chemistry;- Mitigation procedures- Control of particulate and gaseous emission, Control of SO<sub>2</sub>, NO<sub>x</sub>, CO and HC) (b) Water pollution : Physical and chemical properties of terrestrial and marine water and their environmental significance; Water quality parameters – physical, chemical and biological; absorption of heavy metals - Water treatment processes. (c) Soil pollution - soil waste management: causes, effects and control measures of municipal solid wastes – (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards–role of an individual in prevention of pollution – pollution case studies – Field study of local polluted site – Urban / Rural / Industrial / Agricultural.

##### Actual Activities:

- Plantation
- Shutting down the fans and ACs of the campus for an hour or so
- Drive for segregation of waste

##### UNIT III NATURAL RESOURCES]



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Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests and tribal people – Water resources: Use and overutilization of surface and ground water, dams-benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies – Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Energy Conversion processes – Biogas – production and uses, anaerobic digestion; case studies – Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification – role of an individual in conservation of natural resources – Equitable use of resources for sustainable lifestyles. Introduction to Environmental Biochemistry: Proteins – Biochemical degradation of pollutants, Bioconversion of pollutants.  
Field study of local area to document environmental assets – river/forest/grassland/hill/mountain

#### **UNIT IV SOCIAL ISSUES AND THE ENVIRONMENT**

From unsustainable to sustainable development – urban problems related to energy – water conservation, rain water harvesting, watershed management – resettlement and rehabilitation of people; its problems and concerns, case studies – role of non-governmental organization- environmental ethics: Issues and possible solutions – 12 Principles of green chemistry- nuclear accidents and holocaust, case studies. – wasteland reclamation – consumerism and waste products – environment production act – Air act – Water act – Wildlife protection act – Forest conservation act – The Biomedical Waste (Management and Handling) Rules; 1998 and amendments- scheme of labeling of environmentally friendly products (Ecomark). enforcement machinery involved in environmental legislation- central and state pollution control boards- disaster management: floods, earthquake, cyclone and landslides. Public awareness.

#### **Awareness Activities:**

- i. Small group meetings about water management , promotion of recycle use, generation of less waste, avoiding electricity waste.
- ii. Lectures from experts

#### **UNIT V HUMAN POPULATION AND THE ENVIRONMENT**

Population growth, variation among nations – population explosion – family welfare programme – environment and human health – human rights – value education – HIV / AIDS – women and child welfare –Environmental impact analysis (EIA)- -GIS-remote sensing-role of information technology in environment and human health – Case studies.

#### **OUTCOMES:**

Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.

- Public awareness of environment at infant stage.
- Ignorance and incomplete knowledge has lead to misconceptions.
- Development and improvement in standard of living has lead to serious environmental disasters.

#### **TEXT BOOKS:**

1. Gilbert M.Masters, "Introduction to Environmental Engineering and Science", 2nd Edition, Pearson Education, 2004.
2. Benny Joseph, „Environmental Science and Engineering“, Tata McGraw-Hill, New Delhi,2006.



*[Signature]*  
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**REFERENCES:**

1. R.K. Trivedi, "Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standard", Vol.I and II, Enviro Media.
2. Cunningham, W.P. Cooper, T.H. Gorhani, "Environmental Encyclopedia", Jaico Publ., House, Mumbai, 2001.
3. Dharmendra S. Sengar, "Environmental law", Prentice Hall of India PVT LTD, New Delhi, 2007.
4. Rajagopalan, R, "Environmental Studies-From Crisis to Cure", Oxford University Press 2005



  
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**Appendix – II**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**ACTION TAKEN REPORT ON STAKEHOLDERS FEEDBACK**  
**2017-2018**

Stakeholder	Feedback	Recommendation	Action taken
Student	Students suggested the need for job oriented courses, training for facing interviews during campus selection. They also requested to provide career guidance and expert talks by industrialists.	To offer multilingual program for advancing computer education.	Carrier guidance programs were given and counseling cell supported the development of soft skills and communication ability.
Teacher	Teaching methods and teaching aids must be improved	Suggested for advance learning	ICT methods and smart boards were used for effective teaching. Computer centre promoted (FOSS) Free Open Source Software to all services will be provided in the campus to run web, mail, LDAP and MODLE
Alumni	More emphasis should be on the applications of the opted field of study. Focus more on interdisciplinary activities of many courses.	Suggested for Inter-disciplinary projects.	Inter departmental research initiatives was encouraged.
Parents	Practical Knowledge to be imparted which will help them to face real life situations.	Encouraged the students to participate in competition.	Mini-Project models and individual presentations by students in the institution were encouraged for participating in competitions organised by other institutions.
Employer	Recruiters suggested that the students are be strong in their aptitude skills, as it is the first level of the interview process	To focus on aptitude training.	Intensive training on aptitude training was planned for the next academic year.

Date: 21.08.2018

  
Chairperson



  
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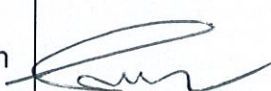

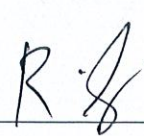




## St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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### MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN ELECTRONICS AND COMMUNICATION ENGINEERING

Held on 13.03.2018

#### Members Present

S.No	Name	Designation	Member	Signature
1.	Dr.G.P.Ramesh	Professor& Head	Chairman	
2.	Mrs.T.Anne Ramya	Assistant Professor	Internal Member	
3.	Mrs.R.Gomathi	Assistant Professor	Internal Member	
4.	Mrs.R.Ranjudha	Assistant Professor	Internal Member	
5.	Dr.E.Logashanmugam	Professor, Head, Dept of ECE, Sathyabama University	External Member	
6.	Rtn.Er.C.Selvakumar asamy	Director, Labtech Electronics Pvt. Ltd. (Industry)	External Member	
7.	Dr.P.Nirmal Kumar,	Professor, Dept. of ECE, Anna University (Alumni)	External Member	



  
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Chairman  
HEAD

Department of ECE

St. Peter's Institute of Higher Education and Research  
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- 17.1** Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Electronics and Communication Engineering held on 21.08.2017.

**RESOLVED** that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Electronics and Communication Engineering held on 21.08.2017 be confirmed.

- 17.2** Reviewed the Regulation & Syllabi of VII & VIII semesters of B.E.(Electronics and Communication Engineering) programmes under the Regulations 2015 with Choice Based Credit System (CBCS).

**RESOLVED** that the Syllabi of VII & VIII semesters of B.E. (Electronics and Communication Engineering) under the Regulations 2015 with Choice Based Credit System (CBCS) be approved.(Appendix – I)

- 17.3** Considered the new Regulations and Syllabi of I & II semester of B.E. (Electronics and Communication Engineering) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of I & II semester of B.E. (Electronics and Communication Engineering) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) be approved. (Appendix - II)

- 17.4** Reviewed the Regulation & Syllabi of M.E. (Communication Systems) programmes under the Regulations 2013 with Choice Based Credit System (CBCS)..

**RESOLVED** that the Regulation & Syllabi of M.E.(Communication Systems) programmes under the Regulations 2013 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include the new Elective course 313CEPT06 - Ultra Wide Band Communication (Appendix - III).

- 17.5** Considered the new Regulations and Syllabi of I & II semesters M.E. (Communication Systems) from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of I & II semesters M.E. (Communication Systems) from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) be approved.(Appendix – IV)



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- 17.6** Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.

**RESOLVED** that the syllabi of B.E (ECE) programme under the Regulations 2013 & 2015 and M.E. (Communication Systems) under the Regulations 2013 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.

- 17.7** Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.E (ECE) under the Regulations 2013 & 2015 and M.E. (Communication Systems) under the Regulations 2013.

**RESOLVED** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.E (ECE) under the Regulations 2013 & 2015 and M.E. (Communication Systems) under the Regulations 2013 to be approved.

- 17.8** Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.E (Electronics and Communication Engineering) and M.E. (Communication Systems).

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "Wireless Physical Layer Design" be approved for the upcoming semester (2018-19 Odd semester).

**Date: 13.03.2018**



**Chairman**

**HEAD**

**Department of ECE**

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**Appendix – I**

**B.E (Electronics and Communication Engineering)  
Regulation -2015  
CHOICE BASED CREDIT SYSTEM**

**VII SEMESTER**

Code No.	Course Title	L	T	P	C
<b>Theory</b>					
715ECT01	RF and Microwave Engineering	3	0	0	3
715ECT02	Optical Communication and Networks	3	0	0	3
715ECT03	Wireless Communication	3	0	0	3
	<b>Elective II :</b>	3	0	0	3
	<b>Elective III :</b>	3	0	0	3
	<b>Elective IV:</b>	3	0	0	3
<b>Practical</b>					
715ECP01	Embedded Laboratory	0	0	3	2
715ECP02	Optical and Microwave Laboratory	0	0	3	2
<b>715ECP03</b>	<b>Communication and soft skills Lab</b>	0	0	3	2
	<b>Total</b>	<b>18</b>	<b>0</b>	<b>9</b>	<b>24</b>

**VIII SEMESTER**

Code No.	Course Title	L	T	P	C
<b>Theory</b>					
815ECT01	Wireless Networks	3	0	0	3
	<b>Elective V :</b>	3	0	0	4
	<b>Elective VI:</b>	3	0	0	4
<b>Project</b>					
815ECP01	Project Work	0	0	12	6
	Viva Voce				
	<b>Total</b>	<b>9</b>	<b>0</b>	<b>12</b>	<b>17</b>



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Appendix - II

**B.E (Electronics and Communication Engineering)  
Regulation -2018  
CHOICE BASED CREDIT SYSTEM**

**I SEMESTER**

CodeNo.	CourseTitle	L	T	P	C	Marks		
						CA	EA	Total
118CYT01	Chemistry	3	1	0	4	25	75	100
118MAT02	Mathematics-I	3	1	0	4	25	75	100
118BET03	Basic Electrical Engineering	3	1	0	4	25	75	100
118EGT04	Engineering Graphics & Design	1	3	0	4	25	75	100
118EHT05	English	3	0	0	3	25	75	100
118CYP01	Chemistry Lab	0	0	4	2	25	75	100
118BEP02	Basic Electrical Engineering Lab	0	0	2	1	25	75	100
118EGP03	Engineering Graphics & Design Lab	0	0	4	2	25	75	100
<b>Total</b>		<b>13</b>	<b>6</b>	<b>10</b>	<b>21</b>	<b>200</b>	<b>600</b>	<b>800</b>

**II SEMESTER**

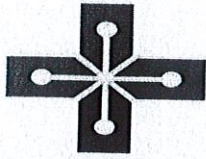
CodeNo.	CourseTitle	L	T	P	C	Marks		
						CA	EA	Total
218PHT01	Physics	3	1	0	4	25	75	100
218MAT02	Mathematics-II	3	1	0	4	25	75	100
218PPT03	Programming for Problem Solving Using C and Python	3	0	0	3	25	75	100
218WMT04	Manufacturing Process	1	0	0	1	25	75	100
218PHP01	Physics Lab	0	0	4	2	25	75	100
218PPP02	Programming for Problem Solving Using C and Python Lab	0	0	4	2	25	75	100
218WMP03	Manufacturing Process Lab	0	0	2	2	25	75	100
<b>Total</b>		<b>10</b>	<b>2</b>	<b>10</b>	<b>18</b>	<b>175</b>	<b>525</b>	<b>700</b>

Overall percentage change for B.E (Electronics and Communication Engineering):46.77 %



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**NEW COURSES FOR THE ACADEMIC YEAR 2018-2019**

**B.E. – ELECTRONICS AND COMMUNICATION ENGINEERING**

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	ECU	B.E. - Electronics and Communication Engineering	615ECT10	DIGITAL IMAGE PROCESSING
2	ECU	B.E. - Electronics and Communication Engineering	715ECT01	RF AND MICROWAVE ENGINEERING
3	ECU	B.E. - Electronics and Communication Engineering	715ECT02	OPTICAL COMMUNICATION AND NETWORKS
4	ECU	B.E. - Electronics and Communication Engineering	715ECT03	WIRELESS COMMUNICATION
5	ECU	B.E. - Electronics and Communication Engineering	715ECT05	ELECTRONIC TESTING
6	ECU	B.E. - Electronics and Communication Engineering	715ECT11	ELECTRONICS PACKAGING
7	ECU	B.E. - Electronics and Communication Engineering	715ECT18	HIGH SPEED NETWORKS
8	ECU	B.E. - Electronics and Communication Engineering	715ECP01	EMBEDDED LABORATORY
9	ECU	B.E. - Electronics and Communication Engineering	715ECP02	OPTICAL AND MICROWAVE LABORATORY
10	ECU	B.E. - Electronics and Communication Engineering	715ECP03	COMMUNICATION AND SOFT SKILLS LAB
11	ECU	B.E. - Electronics and Communication Engineering	815ECT01	WIRELESS NETWORKS
12	ECU	B.E. - Electronics and Communication Engineering	815ECT04	DATA CONVERTERS
13	ECU	B.E. - Electronics and Communication Engineering	815ECT08	CRYPTOGRAPHY AND NETWORK SECURITY
14	ECU	B.E. - Electronics and Communication Engineering	815ECP01	PROJECT WORK

  
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## Appendix – III

### M.E (COMMUNICATION SYSTEMS) Regulation -2013 CHOICE BASED CREDIT SYSTEM

#### 313CEPT06 - ULTRAWIDE BAND COMMUNICATION

##### UNIT I INTRODUCTION TO UWB

History, Definition, FCC Mask, UWB features, UWB Interference: IEEE 802.11.a Interference, Signal to Interference ratio calculation, Interference with other wireless services.

##### UNIT II UWB TECHNOLOGIES AND CHANNEL MODELS

Impulse Radio , Pulsed Multiband, Multiband OFDM, features : Complexity, Power Consumption, Security and achievable data rate. MIMO Multiband OFDM, Differential multiband ofdm, Performace characterization Ultra Wide Band Wireless Channels, Channel model: Impulse Response Modeling of UWB Wireless Channels, IEEE UWB channel model, Path loss, Delay profiles, Time and frequency modeling.

##### UNIT III UWB SIGNAL PROCESSING

Data Modulation schemes, UWB Multiple Access Modulation, BER, Rake Receiver, Transmit-Reference (T-R) Technique, UWB Range- Data Rate Performance, UWB Channel Capacity UWB Wireless Locationing: Position Locationing Methods, Time of Arrival Estimation, NLOS Location Error , Locationing with OFDM

##### UNIT IV UWB ANTENNAS

Antenna Requirements, Radiation Mechanism of the UWB Antennas, Types of Broad band antennas, Parameters, Analysis of UWB Antennas, Link Budget for UWB System. Design examples of broad band UWB antennas.

##### UNIT V UWB APPLICATIONS AND REGULATIONS

Wireless Ad hoc Networking, UWB Wireless Sensor, RFID , Consumer Electronics and Personal, Asset Location, Medical applications UWB Regulation and standards in various countries , UWB Regulation in ITU, IEEE Standardization

##### REFERENCES:

1. Homayoun Nikookar and Ramjee Prasad, "Introduction to Ultra Wideband for Wireless Communications" 1st Edition, Springer Science & Business Media B.V. 2009.
2. Thomas Kaiser, Feng Zheng "Ultra Wideband Systems with MIMO", 1st Edition, John Wiley & Sons Ltd, Newyork, 2010.
3. W. Pam Siriwongpairat and K. J. Ray Liu, "Ultra-Wideband Communications Systems: Multiband OFDM approach" John Wiley and IEEE press, Newyork 2008.



  
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**Appendix – IV**

**M.E (COMMUNICATION SYSTEMS)  
Regulation -2018  
CHOICE BASED CREDIT SYSTEM**

**SEMESTER I**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>THEORY</b>					
118CEPT01	Advanced Applied Mathematics	3	1	0	4
118CEPT02	Signal Processing and Baseband Techniques	3	1	0	4
118CEPT03	Advanced Radiation Systems	3	1	0	4
118CEPT04	Advanced Modulation and Coding Techniques	3	1	0	4
118CEPT05	Wireless Communication Engineering	3	1	0	4
	<b>ELECTIVE I</b>	3	1	0	4
<b>PRACTICAL</b>					
118CEPP01	Signal Processing and Wireless Communication Laboratory	0	0	3	3
<b>TOTAL</b>		<b>18</b>	<b>6</b>	<b>3</b>	<b>27</b>

**SEMESTER II**

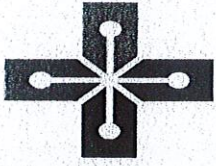
<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>THEORY</b>					
218CEPT01	Advanced Wireless network	3	1	0	4
218CEPT02	Microwave Integrated Circuits	3	1	0	4
218CEPT03	Wireless Transceiver Design	3	1	0	4
218CEPT04	Optical Switching and Networking	3	1	0	4
	<b>ELECTIVE II</b>	3	1	0	4
	<b>ELECTIVE III</b>	3	1	0	4
<b>PRACTICALS</b>					
218CEPP01	RF. Optical and Networks Laboratory	0	0	3	3
218CEPP02	Technical Seminar and Report Writing	0	0	1	1
<b>TOTAL</b>		<b>18</b>	<b>5</b>	<b>5</b>	<b>28</b>

**Overall percentage change for M.E (Communication Systems): 76.47%**



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## NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

### M.E. – COMMUNICATION SYSTEM

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	COP	M.E. - Communication System	118CEPT01	ADVANCED APPLIED MATHEMATICS
2	COP	M.E. - Communication System	118CEPT02	SIGNAL PROCESSING AND BASEBAND TECHNIQUES
3	COP	M.E. - Communication System	118CEPT03	ADVANCED RADIATION SYSTEMS
4	COP	M.E. - Communication System	118CEPT04	ADVANCED MODULATION AND CODING TECHNIQUES
5	COP	M.E. - Communication System	118CEPT05	WIRELESS COMMUNICATION ENGINEERING
6	COP	M.E. - Communication System	118CEPP01	SIGNAL PROCESSING AND WIRELESS COMMUNICATION LABORATORY
7	COP	M.E. - Communication System	218CEPT01	ADVANCED WIRELESS NETWORK
8	COP	M.E. - Communication System	218CEPT02	MICROWAVE INTEGRATED CIRCUITS
9	COP	M.E. - Communication System	218CEPT03	WIRELESS TRANSCEIVER DESIGN
10	COP	M.E. - Communication System	218CEPT04	OPTICAL SWITCHING AND NETWORKING
11	COP	M.E. - Communication System	218CEPP01	RF. OPTICAL AND NETWORKS LABORATORY
12	COP	M.E. - Communication System	218CEPP02	TECHNICAL SEMINAR AND REPORT WRITING
13	COP	M.E. - Communication System	313CEPT06	ULTRA WIDE BAND COMMUNICATION

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# St. PETER'S UNIVERSITY

## St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

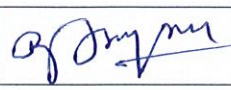



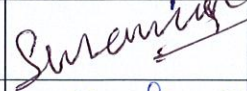
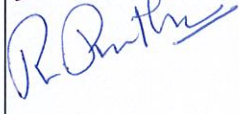



(Declared under Section 3 of the UGC Act, 1956)  
AVADI, CHENNAI - 600 054.

MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN

### ELECTRICAL AND ELECTRONICS ENGINEERING (EEE)

Held on 13.03.2018

#### Members Present

S.No	Name	Designation	Member	Signature
1.	R. Jayaraman	Professor & Head	Chairman	
2.	Dr. J. Jasper Gnana Chandran	Professor	Internal Member	
3.	Dr. G. Thiyagu	Professor	Internal Member	
4.	Dr. K. Balaji	Asso. Professor	Internal Member	
5.	Mr. S. Saravanan	Assistant Professor	Internal Member	
6.	Dr. Ranthnakannan Kailasam	Professor Department of EEE, Anna University- Chennai.	External Member	
7.	Dr. K. Mohana Sundaram	Dean Research, Vel tech Multitech. Dr. Rangarajan Dr. Sakunthala Engg. College.	External Member	
8.	Dr. C. Kamala Kannan	Managing Director, GK Products. (Industry)	External Member	
9.	Dr. Karthi Kumar	Professor, Builders Association College Thiruppur (Alumni)	External Member	



  
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17.1 Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Electrical and Electronics Engineering held on 21.08.2017.

**RESOLVED** that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Electrical and Electronics Engineering held on 21.08.2017 be confirmed

17.2 Reviewed the Regulation & Syllabi of B.E. Electrical and Electronics Engineering programme under the Regulations 2018.

**RESOLVED** that the Regulation & Syllabi of B.E. Electrical and Electronics Engineering programme under the Regulations 2018 to be continued

17.3 Reviewed the Regulation & Syllabi of M.E (Power Electronics and Drive) programme under the Regulations 2018.

**RESOLVED** that the Regulation & Syllabi of M.E (Power Electronics and Drive) programme under the Regulations 2018.

17.4 Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.E (EEE) under the Regulations 2018 and M.E. (Power Electronics and Drive) under the Regulations 2018.

**RESOLVED** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.E (EEE) under the Regulations 2018 and M.E. (Power Electronics and Drive) under the Regulations 2018 to be approved.

17.5 Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.E (Electrical and Electronics Engineering) and M.E. (Power Electronics and Drive).

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "VACEE040 – APPLICATION OF SENSORS IN INDUSTRY" be approved for the upcoming semester (2019-20).

17.6 Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.


**Resolved** that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix – III)

Date: 13.03.2018



  
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MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN  
**MECHANICAL ENGINEERING**

Held on 19/3/2018

**Members Present**

- |    |                      |                        |
|----|----------------------|------------------------|
| 1. | Dr. L. Mahesh Kumar  | Chairperson            |
| 2. | Dr. P. Periyasamy    | Member                 |
| 3. | Dr. K. Gurusami      | Member                 |
| 4. | Mr. R. Praveen Kumar | Member                 |
| 5. | Mr. S. Dinesh Kumar  | Member                 |
| 6. | Dr. S. Ranganathan   | Member                 |
| 7. | Dr. k. Purushothaman | Academic Expert Member |
| 8. | Mr. A. Sevakumar     | Industry Expert Member |

**17.1** Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Mechanical Engineering held on 18/8/2017.

**RESOLVED** that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Mechanical Engineering held on 18/8/2017 be confirmed.

**17.2** Reviewed the Regulation & Syllabi of B.E. Mechanical Engineering programme under the Regulations 2013 with Choice Based Credit System (CBCS).

**RESOLVED** that the Regulation & Syllabi of B.E. Mechanical Engineering programme under the Regulations 2013 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include the following new Elective courses. (Appendix - I)



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1. Quality Control And Reliability Engineering
2. Dynamics and Control
3. Creep and Fatigue Behavior of Materials

**17.3** Reviewed the Syllabi of B.E. (Mechanical Engineering) under the Regulations 2013 effected from the batch admitted in 2013 -14.

**RESOLVED** that the Syllabi of B.E. (Mechanical Engineering) under the Regulations 2013 effected from the batch admitted in 2013 -14 be continued with additions in Unit IV and V of Heat and Mass Transfer- 513MET02 in V semester, Unit II and IV of Design of Machine Elements- 513MET03 in V semester and Unit I of Computer Integrated Manufacturing Systems- 713MET03 in VII semester (Appendix II)

**17.3** Considered the new Regulations and Syllabi of I & II semester of B.E. (Mechanical Engineering) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of I & II semester of B.E. (Mechanical Engineering) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018-19 under the Regulations 2018 with Choice Based Credit System (CBCS) be approved. (Appendix - III)

**17.4** Considered the new Regulation and Syllabi of M.E. (Advanced Manufacturing Technology) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018 - 19 under the Regulation 2018 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulation and Syllabi of M.E. (Advanced Manufacturing Technology) on the pattern of AICTE Model Curriculum from the batch of students to be admitted from 2018 - 19 under the Regulation 2018 be approved (Appendix - IV)

**17.5** Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.

**RESOLVED** that the syllabi of B.E (Mechanical Engineering) programme under the Regulations 2013 and M.E. (Advanced Manufacturing Technology) under the Regulations 2013 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.



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**17.6** Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.E (Mechanical Engineering) under the Regulations 2013 and M.E. (Advanced Manufacturing Technology) under the Regulations 2013.

**RESOLVED** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.E (Mechanical Engineering) under the Regulations 2013 and M.E. (Advanced Manufacturing Technology) under the Regulations 2013 to be approved.

**17.7** Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.E (Mechanical Engineering) and M.E. (Advanced Manufacturing Technology).

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "Plant Layout and Materials Handling" and "Off-Road Utility Vehicle" be approved for the upcoming semester (2018-19 Odd semester).

**17.8** Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.

**RESOLVED** that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix - V)

**Date: 19/3/2017**

  
**Chairman**



  
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**Appendix – I**

**B.E. (MECHANICAL ENGINEERING)  
REGULATION 2013  
CHOICE BASED CREDIT SYSTEM**

**QUALITY CONTROL AND RELIABILITY ENGINEERING**

**OBJECTIVES:**

- To introduce the concept of SQC
- To understand process control and acceptance sampling procedure and their application.
- To learn the concept of reliability.

**UNIT I INTRODUCTION AND PROCESS CONTROL FOR VARIABLES** Introduction, definition of quality, basic concept of quality, definition of SQC, benefits and limitation of SQC, Quality assurance, Quality control: Quality cost-Variation in process causes of variation –Theory of control chart- uses of control chart – Control chart for variables – X chart, R chart and  $\bar{X}$  chart -process capability – process capability studies and simple problems. Six sigma concepts

**UNIT II PROCESS CONTROL FOR ATTRIBUTES** Control chart for attributes –control chart for non conformings– p chart and np chart – control chart for nonconformities– C and U charts, State of control and process out of control identification in charts, pattern study.

**UNIT III ACCEPTANCE SAMPLING** Lot by lot sampling – types – probability of acceptance in single, double, multiple sampling techniques – O.C. curves – producer’s Risk and consumer’s Risk. AQL, LTPD, AOQL concepts-standard sampling plans for AQL and LTPD- uses of standard sampling plans.

**UNIT IV LIFE TESTING – RELIABILITY** Life testing – Objective – failure data analysis, Mean failure rate, mean time to failure, mean time between failure, hazard rate – Weibull model, system reliability, series, parallel and mixed configuration – simple problems. Maintainability and availability – simple problems. Acceptance sampling based on reliability test – O.C Curves.

**UNIT V QUALITY AND RELIABILITY** Reliability improvements – techniques- use of Pareto analysis – design for reliability – redundancy unit and standby redundancy – Optimization in reliability – Product design – Product analysis – Product development – Product life cycles.

**Note:** Use of approved statistical table permitted in the examination.

**OUTCOMES:**

- Upon successful completion of this course, the students can able to apply the concept of SQC in process control for reliable component production

**TEXT BOOKS:**

1. Douglas.C. Montgomery, " Introduction to Statistical quality control", 4th edition, John Wiley 2001.
2. Srinath. L.S., "Reliability Engineering", Affiliated East west press, 1991.

**REFERENCES:**

1. John.S. Oakland. "Statistical process control", 5th edition, Elsevier, 2005
2. Connor, P.D.T.O., "Practical Reliability Engineering", John Wiley, 1993
3. Grant, Eugene .L "Statistical Quality Control", McGraw-Hill, 1996
4. Monohar Mahajan, "Statistical Quality Control", Dhanpat Rai & Sons, 2001.
5. Gupta. R.C, "Statistical Quality control", Khanna Publishers, 1997.
6. Besterfield D.H., "Quality Control", Prentice Hall, 1993.
7. Sharma S.C., "Inspection Quality Control and Reliability", Khanna Publishers, 1998.
8. Danny Samson, "Manufacturing & Operations Strategy", Prentice Hall, 1991



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## DYNAMICS AND CONTROL

### OBJECTIVES

- Learn Low order linear mathematical models of physical systems and their manipulation.
- Know effects of negative feedback dynamic response and its characterization by primary analysis and performance measures.
- Learn Fundamental mathematical tools used in system analysis and design.

### UNIT 1: LINEAR SYSTEMS THEORY

Review of time domain analysis of linear systems dynamics - stability, performance measures and design process - state space and process models - example control systems. System Representation in the s-domain: The Laplace transform and system transfer function - free/ forced behaviour and the characteristic equation - system poles and zeros, relative and absolute stability, root loci - steady-state error and the final value theorem.

### UNIT 2: FREQUENCY RESPONSE OF LINEAR SYSTEMS

Sinusoidal excitation and Fourier Series - forecasting gain and phase, the frequency response function - graphical representation of frequency response, Bode plots

### UNIT 3: CLOSED-LOOP CONTROL SYSTEMS

Open/closed loop transfer function definitions - performance measures in control system design control system design examples - PID control system definitions and characteristics.

### UNIT 4: CONTROL SYSTEM STABILITY ANALYSIS

Stability in the s-domain, the Root locus method - stability in the frequency domain, Nyquist criterion - performance measures in the frequency domain - gain and phase margins, closed loop frequency response.

### UNIT 5: DESIGN OF FEEDBACK CONTROL SYSTEMS

System compensation objectives and characteristics - lead-lag compensation, root locus and frequency response methods

### COURSE OUTCOMES

#### Upon the completion of this course the students will be able to

- Derive a model, making justifiable assumptions, from a description of a physical system and determine criteria for desired system performance and interpret trade-offs in different design configurations.
- Analyze time and frequency domain response characteristics from plots, determine stability and predict responses for modified plots.
- Apply standard design techniques to achieve satisfactory closed-loop performance.

### TEXT BOOK

1. N.S. Nise, Control System Engineering, 3rd edition, Wiley & Sons, ISBN 0-471-36601-3, 2000.
2. C. L. Phillips and R. D. Harbor, Feedback Control Systems, 4th Ed., Prentice Hall, 2000.

### REFERENCES

1. J. Van de Vegte, Feedback Control Systems, 3rd Ed., Prentice Hall, 1994.
2. K. Ogata, Modern Control Engineering, 4th Ed., Prentice Hall, 2002.



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## **CREEP AND FATIGUE BEHAVIOR OF MATERIALS**

### **OBJECTIVES:**

By studying this course the students will learn

- The structure of materials and their defects
- The behaviors of materials when subject to creep and fatigue loads leading to their failure in service
- The privative methods to be adopted to overcome their failures

### **UNIT 1: INTRODUCTION**

Strength of perfect crystal - Lattice resistance to dislocation movement – Elastic properties of dislocation – Dislocation multiplication – Slip and twinning in crystalline solid.

### **UNIT 2: HIGH – TEMPERATURE DEFORMATION RESPONSE**

Creep Of Solids – Temperature stress – Strain rate relation- Deformation mechanism – Super plasticity deformation mechanism maps – Extrapolation procedure for creep rupture data – materials for elevated temperature rules.

### **UNIT 3: CYCLIC STRES AND STRAIN FATIGUE**

Macrofractography fatigue failures - cyclic stress and strain controlled fatigue - Fatigue life estimation for notched components – Crack initiation mechanisms.

### **UNIT 4: FATIGUE CRACK PROPAGATION**

Stress and crack lengths correlations with FCP – Fracture modes in Fatigue – Microscopic fracture mechanisms – Crack growth behavior at  $\Delta k$  extremes – Influences – Micro structural aspects of FCP in metal alloys.

### **UNIT 5: ANALYSIS OF ENGINEERING FAILURES**

Typical defects – Microscopic surface examination – metallographic and fractographic examination – Component failure analysis – Fracture surface preservation – Cleaning and replication techniques and image interpretation.

### **CORSE OUTCOMES:**

**Upon the completion of this course the students will be able to:**

- Failure mechanisms due to creep and fatigue.
- The methods to be adopted in the design stage of the product to avoids their failure.

### **TEXTBOOKS:**

1. Richard. W. Hertzberg, " Deformation and Fracture Mechanism of Engineering Materials", John Willey and Sons, 4th edition, 1996.
2. Anderson, T. L., " Fracture Mechanics: Fundamentals and Applications", CRC Press, 2nd edition, 1995.

### **REFERENCES:**

1. Courtney, T. H., " Mechanical Behaviour of Materials", McGraw-Hill, 1990
2. Jones, D. R. H, " Engineering Materials 3, Materials Failure Analysis- Case Studies and Design Implications", Pergamon, 1993.
3. Hull & Bacon "Introduction to Dislocations", 3rd ed., Pergamon Press, 1984.
4. Frost & Ashby, "Deformation - Mechanism Maps", 1st ed., Pergamon Press, 1982.
5. Suresh, S., " Fatigue of Materials", Cambridge University Press, 2 nd edition, 1998.
6. Cadek, J., " Creep in Metallic Materials", Elsevier, 1988.
7. Ashok Saxena, " Nonlinear Fracture Mechanics for Engineers", CRC Press, 1998.



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**Appendix II**  
**B.E. (MECHANICAL ENGINEERING)**  
**REGULATION 2013**  
**CHOICE BASED CREDIT SYSTEM**

Following are the changes and amendments in syllabus content of B.E. Mechanical Engineering Regulation-2013.

1. Heat and Mass Transfer- 513MET02 in V semester the following change is made:
  - Heat Transfer Applications -Analysis of icing (frosting) of heat transfer surface- Comparison of different turbulence models for flow in a pipe- role of heat transfer (Unit IV)
  - Limitations of heat and mass transfer analogy are included (Unit V)
2. Design of Machine Elements- 513MET03 in V semester the following changes are made:
  - Stresses in a Thin Cylindrical Shell due to an Internal Pressure, Circumferential or Hoop Stress, Longitudinal Stress and thick Cylindrical Shell Subjected to an Internal Pressure are included under the pressure vessel topic. (Unit IV)
  - Design of a Lever is included. (Unit II)
  - Rubber spring topic is excluded (Unit IV)
3. Computer Integrated Manufacturing Systems- 713MET03 in VII semester the following changes are made:
  - Concurrent engineering, Agile and lean manufacturing are included (Unit I)



  
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**Appendix - III**  
**B.E. (MECHANICAL ENGINEERING)**  
**REGULATION 2018**  
**CHOICE BASED CREDIT SYSTEM**

**I Semester**

Code No.	Course Title		L	T	P	Credit	Total Credits	Marks				
								CA	EA	Total	Combined Total	
118PHT01	Physics	Theory	Sci.	3	1	0	4	6	25	75	100	100
118PHP01		Practical	Sci.	0	0	4	2		25	75	100	
118CST02/ (CSE/IT) 118MAT02 (Others)	Mathematics -I	Sci.	3	1	0	4	4	4	25	75	100	100
118BET03	Basic Electrical Engg.	Theory	Engg.	3	1	0	4	5	25	75	100	100
118BEP02		Practical	Engg.	0	0	2	1		25	75	100	
118EGT04	Engg. Graphics & Design	Theory	Engg.	1	0	0	1	3	25	75	100	100
118EGP03		Practical	Engg.	1	0	4	2		25	75	100	
<b>Total</b>			<b>11</b>	<b>3</b>	<b>10</b>	<b>18</b>	<b>18</b>	<b>18</b>	175	525	700	400

**II Semester**

Code No.	Course Title	cat.	L	T	P	Credit	Total Credit	Marks				
								CA	EA	Total	Combi ned Total	
Theory & Practical												
218CYT01	Chemistry	Theory	Sci.	3	1	0	4	6	25	75	100	100
218CYP01		Practical	Sci.	0	0	4	2		25	75	100	
218CST02(CSE/IT) 218MAT02(Others)	Mathematics -II	Sci.	3	1	0	4	4	4	25	75	100	100
218PPT03	Programming for Problem Solving Using C and Python	Theory	Engg.	3	0	0	3	5	25	75	100	100
218PPP02		Practical	Engg.	0	0	4	2		25	75	100	
218WMT04	Manufacturing Practices	Theory	Engg.	1	0	0	1	3	25	75	100	100
218WMP03		Practical	Engg.	0	0	4	2		25	75	100	
218EHT05	English	Hum.	2	0	2	3	3	3	25	75	100	100
218MET06	Engineering Mechanics	Engg.	3	1	0	4	4	4	25	75	100	100
<b>Total</b>			<b>15</b>	<b>3</b>	<b>14</b>	<b>25</b>	<b>25</b>	<b>25</b>	225	675	900	600



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## Appendix – IV

### **M.E. (ADVANCED MANUFACTURING TECHNOLOGY) (Regulations 2018)**

#### **Semester I**

Sub Code	Course Title	L	T	P	C
Theory					
118AMPT01	Applied Probability and Statistics	3	1	0	4
118AMPT02	Advanced in Manufacturing Technology	3	1	0	4
118AMPT03	Computer Integrated Manufacturing	3	0	0	4
118AMPT04	Advances in Casting and Welding	3	0	0	4
118AMPT05	Metal Cutting Theory and Practice	3	0	0	4
	Programme Elective I	3	0	0	4
Practical					
118AMPP01	CAD/CAM Laboratory	0	0	4	3
Total		18	2	4	27

#### **Semester II**

Sub Code	Course Title	L	T	P	C
Theory					
218AMPT01	Optimization Techniques in Manufacturing	3	1	0	4
218AMPT02	Advances in Metrology and Inspection	3	1	0	4
218AMPT03	Theory of Metal Forming	3	0	0	4
218AMPT04	Tooling for Manufacturing	3	0	0	4
	Programme Elective II	3	0	0	4
	Programme Elective III	3	0	0	4
Practical					
218AMPP01	Automation and Metal Forming	0	0	4	3
218AMPP02	Technical Seminar				
Total		18	2	4	27



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## Appendix – V

### ACTION TAKEN REPORT ON STAKEHOLDERS FEEDBACK DEPARTMENT OF MECHANICAL ENGINEERING

2017-2018

Program	Stakeholder	Feedback	Recommendation	Action taken
MECH	Student	Library facilities must be augmented to meet the current requirement of the students to enable efficient learning.	Suggested to facilitate with journals	Our Library was equipped with lot of SCOPUS, IEEE journals and reprography facilities.
	Teacher	E- Waste recycling must be encouraged among student community.	Student should get awareness about e waste	Students spread awareness about e waste recycling through community education program and extension activities.
	Alumni	Employability skills may be improved.	skill training & Entrepreneurship Development	Communication skills training, career action coaching management training leadership training were given to the students
	Parents	Need more exams for formative assessment.	Teachers were encouraged to have more formative assessment of the students.	Teachers put efforts to have more exams for formative assessment.



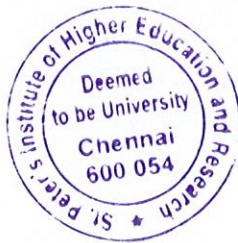
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	Employer	Suggestion to enhance general communication skills	Teachers incorporated stress on the issues of improvement of communication skills of the students in their teaching of curriculum	Teachers were given instructions to ensure enhancement of communication skills of the students
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*G. K.*

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NEW COURSES FOR THE ACADEMIC YEAR 2017-2018

B.E. – MECHANICAL ENGINEERING

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	MEU	B.E. - Mechanical Engineering	613MET07	QUALITY CONTROL AND RELIABILITY ENGINEERING

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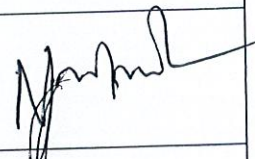
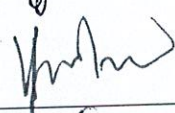

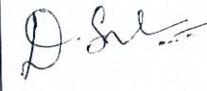

(Declared under Section 3 of the UGC Act. 1956)  
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### MINUTES OF THE 2<sup>nd</sup> MEETING OF THE BOARD OF STUDIES IN

#### BIOCHEMISTRY

Held on 12.02.2018


#### Members Present

S.No	Name	Designation	Member	Signature
1.	Dr Ganesan N	Professor & Head	Chairman	
2.	Mr. Vijay Anand	Assistant Professor	Internal Member	
3.	Ms. BV. Febiyola	Assistant Professor	Internal Member	
4.	Dr. D. Saravanan	Assistant Professor Department of Biochemistry D.G. Vaishnav College, Chennai 106	External Member	
5.	Dr. S. J. Selvaraj	Scientist E Meenakshi Ammal Dental College, MAHER	External Member	



  
Registrar

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Chairman  
Head of the Department  
Biochemistry  
St. Peter's Institute of Higher Education & Research  
Avadi, Chennai - 600 054.

3.1 Considered the minutes of the 3<sup>rd</sup> meeting of Board of Studies in BIOCHEMISTRY held on 25.09.2017.

**RESOLVED** that the minutes of the 3<sup>rd</sup> meeting of Board of Studies in BIOCHEMISTRY held on 25.09.2017 be confirmed

3.2 Reviewed the Regulation & Syllabi III & IV of B.Sc. BIOCHEMISTRY programme under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the Regulation & Syllabi of III & IV of B.Sc. BIOCHEMISTRY programme under the Regulations 2016 with Choice Based Credit System (CBCS) be continued (Appendix I)

3.3 Reviewed the Regulation & Syllabi of III & IV of M.Sc. BIOCHEMISTRY programme under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the Regulation & Syllabi of III & IV of M.Sc. BIOCHEMISTRY programme under the Regulations 2016 with Choice Based Credit System (CBCS) be continued. (Appendix-II)

3.4 Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.Sc. (BIOCHEMISTRY) and M.Sc. (BIOCHEMISTRY).

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "Environmental Toxicology" be approved for the upcoming semester (2018-19 - Odd semester).

Date: 12.02.2018



  
Chairman

Head of the Department  
Biochemistry

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Registrar

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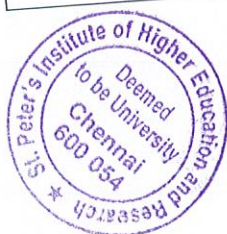
**DEPARTMENT OF BIOCHEMISTRY  
B.Sc BIOCHEMISTRY**

**III Semester**

Code No.	Course Title	Credits	CA	EA	Total
316UTMT01 / UTET01 / UHIT01/ 316UFRT01	<b>Part I :</b> Language -III (Tamil -III / Telugu -III / Hindi -III/ French -III)	3	25	75	100
316UEHT02	<b>Part II :</b> English -III	3	25	75	100
316UBYT03	<b>Part IV Core Subject:</b> Chemistry of Biomolecules I	5	25	75	100
316UBYT04	<b>Allied Paper- III:</b> Microbiology - I	3	25	75	100
316UCCT03	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>16</b>	<b>150</b>	<b>350</b>	<b>500</b>

**IV SEMESTER**

Code No.	Course Title	Credits	CA	EA	Tot
416UTMT01 / UTET01/ UHIT01 / 416UFRT01	Language -IV (Tamil -IV / Telugu -IV / Hindi-IV / French -IV)	3	25	75	10
416UEHT02	English -IV	3	25	75	10
416UBYT03	<b>Core Subject :</b> Chemistry of Biomolecules- II Core Practical II	5	25	75	10
416UBYP01		4	40	60	10
416UBYT04	<b>Allied Paper- IV:</b> Microbiology - II	3	25	75	10
416UBYP02	<b>Allied Practical :</b> Microbiology	4	40	60	10
416UEST01	<b>PART IV:</b> Environmental Studies (Common to all UG Branches)	2	25	75	10
416UCCT04	Soft Skills (Common to all UG Branches)	2	50	50	1
<b>Total</b>		<b>26</b>	<b>255</b>	<b>545</b>	<b>8</b>



*[Signature]*  
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# M.Sc BIOCHEMISTRY

## III Semester

Code No.	Course Title		Credit	Marks		
				CA	EA	Total
<b>Theory</b>			4	25	75	100
316PBYT01	Core sub:	Biotechnology	4	25	75	100
316PBYT02		Clinical Biochemistry I	4	25	75	100
316PBYT03		Molecular Biology	4	25	75	100
316PBYT04		<b>Elective Paper - III: Biostatistics</b>	4	25	75	100
316PBYT05	<b>Extra Disciplinary - II: Life Style — diseases Prevention</b>		4	25	75	100
	<b>Total</b>		<b>20</b>	<b>125</b>	<b>375</b>	<b>500</b>

## IV Semester

Code No.	Course Title		Credit	Marks		
				CA	EA	Total
<b>Theory</b>			4	25	75	100
416PBYT01	Core Sub:	Hormones	4	25	75	100
416PBYT02		Clinical Biochemistry - II	4	25	75	100
416PBYP01		Practical - III	2	40	60	100
416PBYP02		Project and Viva	2	40	60	100
416PBYT03	<b>Elective Paper - IV: Signal transduction</b>		4	25	75	100
416PBYT04	<b>Elective Paper - V : Immunochemistry</b>		4	25	75	100
	<b>Total</b>		<b>20</b>	<b>180</b>	<b>420</b>	<b>600</b>



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# St. PETER'S UNIVERSITY





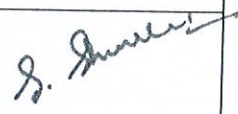
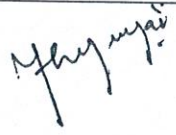
St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared under Section 3 of the UGC Act. 1956)  
AVADI, CHENNAI - 600 054.

## MINUTES OF THE 19<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN COMPUTER SCIENCE & APPLICATIONS

Held on 13.03.2019

### Members Present

S.No	Name	Designation	Member	Signature
1.	Dr. R.Latha	Professor & Head	Chairperson	
2.	Mrs.S.Brindha	Assistant Professor	Internal Member	
3.	Mr. M.C.Babu	Assistant Professor	Internal Member	
4.	Mrs. R.Subhashni	Assistant Professor	Internal Member	
5.	Dr.S.Sasikala	Professor	External Member	
6.	Mr.M.E.Thyagarajan	Co-Founder of Radiare software solutions, Ch.	External Member	



  
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Chairperson



19.1	<p>Considered the minutes of the 18<sup>th</sup> meeting of Board of Studies in Computer Applications and Computer Science held on 23.8.2018.</p> <p><b>RESOLVED</b> that the minutes of the 18<sup>th</sup> meeting of Board of Studies in Computer Applications held on 13.03.2019 to be confirmed</p>
19.2	<p>Considered the provision for the students of B.CA and B.Sc(CS) to have private study for the Non – Tamil and Non –English languages.</p> <p><b>RESOLVED</b> that the the provision for the students of B.CA and B.Sc(CS), to have private study for the Non – Tamil and Non –English languages be approved.</p>
19.3	<p>Reviewed the Regulation &amp; Syllabi of B.C.A and B.Sc(CS) programme under the Regulations 2016 with Choice Based Credit System (CBCS).</p> <p><b>RESOLVED</b> that the Syllabi of B.C.A B.C.A and B.Sc(CS) programme under the Regulations 2016 with Choice Based Credit System (CBCS) to be continued.</p>
19.4	<p>Reviewed the Syllabi and course structure of M.Sc(CS) programmes under the Regulations 2016 with Choice Based Credit System (CBCS).</p> <p><b>RESOLVED</b> that the Syllabi and course structure of M.Sc(CS) programmes under the Regulations 2016 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include following new courses. (Appendix - I)</p>
19.5	<p>Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.</p> <p><b>RESOLVED</b> that the syllabi of B.C.A programme under the Regulations 2016,B.Sc(CS) progrmme Under the Regulations 2016 and M.Sc(CS) programme under the Regulations 2016 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.</p>
19.6	<p>Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.C.A under the Regulations 2016, B.Sc(CS) under the Regulations 2016, M.Sc(CS) under the Regulations 2016.</p> <p><b>RESOLVED</b> that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.C.A, B.Sc(CS),M.Sc(CS) under the Regulations 2016 to be approved.</p>



  
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<p><b>19.7</b></p>	<p>Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of BC.A, B.Sc(CS), M.Sc(CS).</p> <p><b>RESOLVED</b> that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "Office Automation" be approved for the upcoming semester (2017-18 Odd semester).</p>
<p><b>19.8</b></p>	<p>Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.</p> <p><b>Resolved</b> that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix - III)</p>

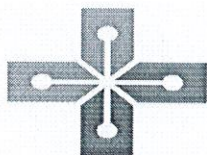
**Date: 13.03.2019**

**Chairperson**



**Registrar**

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AVADI, Chennai – 600054.TamilNadu.

Phone:044-26558080-84  
E-mail:registrar@spiher.ac.in  
Website:www.spiher.ac.in

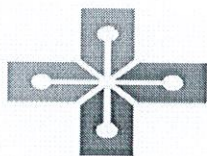
NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

B.Sc. – COMPUTER SCIENCE

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CPU	B.Sc. - Computer Science	516UCST01	OPERATING SYSTEMS
2	CPU	B.Sc. - Computer Science	516UCST02	DATABASE MANAGEMENT SYSTEMS
3	CPU	B.Sc. - Computer Science	516UCST03	COMPUTER ARCHITECTURE AND ORGANIZATION
4	CPU	B.Sc. - Computer Science	516UCSP01	RDBMS LAB
5	CPU	B.Sc. - Computer Science	516UCST06	RDBMS WITH ORACLE
6	CPU	B.Sc. - Computer Science	616UCST01	DATA COMMUNICATION AND NETWORKING
7	CPU	B.Sc. - Computer Science	616UCST02	WEB TECHNOLOGY
8	CPU	B.Sc. - Computer Science	616UCSP01	WEB APPLICATIONS LAB
9	CPU	B.Sc. - Computer Science	616UCST05	SOFTWARE TESTING
10	CPU	B.Sc. - Computer Science	616UCST09	SOFTWARE ENGINEERING
11	CPU	B.Sc. - Computer Science	516UCST05	VISUAL PROGRAMMING
12	CPU	B.Sc. - Computer Science	516UCST07	UNIX PROGRAMMING
13	CPU	B.Sc. - Computer Science	616UCST04	DATA MINING
14	CPU	B.Sc. - Computer Science	616UCST06	OBJECT ORIENTED ANALYSIS AND DESIGN



  
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E-mail:registrar@spiher.ac.in  
Website:www.spiher.ac.in

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## NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

### BACHELOR OF COMPUTER APPLICATION

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CAU	Bachelor of Computer Science and Application	516UCAT01	DATABASE MANAGEMENT SYSTEM
2	CAU	Bachelor of Computer Science and Application	516UCAT02	SOFTWARE ENGINEERING
3	CAU	Bachelor of Computer Science and Application	516UCAT03	RESOURCE MANAGEMENT TECHNIQUES
4	CAU	Bachelor of Computer Science and Application	516UCAP01	RDBMS LAB
5	CAU	Bachelor of Computer Science and Application	516UCAT05	RDBMS WITH ORACLE
6	CAU	Bachelor of Computer Science and Application	616UCAT01	WEB TECHNOLOGY
7	CAU	Bachelor of Computer Science and Application	616UCAT02	DATA COMMUNICATION AND NETWORKING
8	CAU	Bachelor of Computer Science and Application	616UCAT03	SOFTWARE TESTING
9	CAU	Bachelor of Computer Science and Application	616UCAP01	WEB APPLICATIONS LAB
10	CAU	Bachelor of Computer Science and Application	616UCAT06	OBJECT ORIENTED ANALYSIS AND DESIGN
11	CAU	Bachelor of Computer Science and Application	616UCAT07	MULTIMEDIA SYSTEMS
12	CAU	Bachelor of Computer Science and Application	616UCAT08	CLIENT SERVER COMPUTING
13	CAU	Bachelor of Computer Science and Application	616UCAT09	DISTRIBUTED COMPUTING



  
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### BACHELOR OF COMPUTER SCIENCE 2016 REGULATIONS

#### I Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
116UTMT01 / UTET01/UHIT01	<b>Part I:</b> Language -I (Tamil / Telugu / Hindi)	3	25	75	100
116UEHT02	<b>Part II:</b> English -I	3	25	75	100
116UCST03	<b>Part III:</b> Programming in C	4	25	75	100
116UCSP01	<b>Core Sub:</b> <b>Practical – I:</b> Programming in C	4	40	60	100
116UCST04	<b>Allied Paper –I:</b> Mathematics – I	5	25	75	100
116UCST05	<b>Non Major Elective</b>	2	25	75	100
<b>116UCCT01</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>215</b>	<b>485</b>	<b>700</b>

#### Non Major Electives:

1. Business and Office Applications
2. MS ACCESS
3. FLASH
4. HTML

#### II Semester

Code No.	Course Title	Credits	Marks		
			CA	EA	Total
216UTMT01/ UTET01/UHIT01	<b>Part I :</b> Language -II (Tamil / Telugu / Hindi)	3	25	75	100
216UEHT02	<b>Part II :</b> English -II	3	25	75	100
216UCST03	<b>Part III :</b> Digital Electronics & Microprocessor	4	25	75	100
216UCSP01	<b>Core Sub:</b> <b>Practical – II:</b> Digital Electronics & Microprocessors Lab	4	40	60	100
216UCST04	<b>Allied Paper –II:</b> Mathematics – II	5	25	75	100
216UCSP02	<b>Non Major Elective :</b>	2	40	60	100
<b>216UCCT02</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>230</b>	<b>470</b>	<b>700</b>

#### Non Major Electives: (Common to B.Sc. (CS) & BCA)

1. Business and Office Applications Lab
2. MS ACCESS Lab
3. FLASH Lab
4. HTML Lab



  
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### III Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
316UTMT01/ UTET01/UHIT01	<b>Part I:</b> Language -III (Tamil / Telugu / Hindi)	3	25	75	100
316UEHT02	<b>Part II:</b> English -III	3	25	75	100
316UCST03	<b>Part III:</b> Programming in C++ and Data Structures	4	25	75	100
316UCSP01	<b>Core Sub: Practical – III:</b> Data Structures using C++	4	40	60	100
316UCST04	<b>Allied Paper :</b> Paper –I : Physics I	5	25	75	100
316UCSP01	<b>Allied Practical:</b> Physics - I	2	50	50	100
<b>316UCCT03</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>240</b>	<b>460</b>	<b>700</b>

### IV Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
416UTMT01 / UTET01 / UHIT01	<b>Part I :</b> Language -IV (Tamil / Telugu / Hindi)	3	25	75	100
416UEHT02	<b>Part II :</b> English -IV	3	25	75	100
416UCST03	<b>Part III :</b> Programming in JAVA	4	25	75	100
416UCSP01	<b>Core Sub: Practical – IV:</b> Java Programming Lab	4	40	60	100
416UCST04	<b>Allied Paper :</b> Paper – II : Physics II	5	25	75	100
416UCSP02	<b>Allied Practical:</b> Physics - II	2	50	50	100
<b>416UEST01</b>	<b>PART IV:</b> Environmental Studies (Common to all UG Branches)	2	25	75	100
<b>416UCCT04</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>25</b>	<b>265</b>	<b>535</b>	<b>800</b>

### V Semester

Code No.	Course Title	Credit	Marks			
			CA	EA	Total	
516UCST01	<b>Core Sub:</b>	Operating Systems	4	25	75	100
516UCST02		Database Management Systems	4	25	75	100
516UCST03		Computer Architecture and Organization	4	25	75	100
516UCSP01		<b>Practical – V:</b> RDBMS Lab	4	40	60	100
516UCST05	<b>Elective – I :</b>	5	25	75	100	
<b>516UVET01</b>	Value Education (Common to all UG Branches)	2	25	75	100	
<b>Total</b>		<b>23</b>	<b>165</b>	<b>385</b>	<b>600</b>	

### VI Semester

Code No.	Course Title	Credit	Marks			
			CA	EA	Total	
616UCST01	<b>Core Sub:</b>	Data Communication and Networking	4	25	75	100
616UCST02		Web Technology	4	25	75	100
616UCSP01		<b>Practical – VI:</b> Web Applications Lab	4	40	60	100
616UCST06	<b>Elective – II :</b>	5	25	75	100	
616UCST09	<b>Elective – III</b>	5	25	75	100	
<b>616UEAT01</b>	Extension Activities (Common to all UG Branches)	1	-	-	-	
<b>Registrar Total</b>		<b>23</b>	<b>140</b>	<b>360</b>	<b>500</b>	



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## BACHELOR OF COMPUTER APPLICATIONS 2016 REGULATIONS I Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
116UTMT01/ UTET01/UHIT01	<b>Part I:</b> Language -I (Tamil / Telugu / Hindi)	3	25	75	100
116UEHT02	<b>Part II:</b> English -I	3	25	75	100
116UCAT03	<b>Part III:</b> Fundamentals of Digital Computers	4	25	75	100
116UCAP01	<b>Core Sub:</b> <b>Practical - I:</b> PC Software Lab	4	40	60	100
116UCAT04	<b>Allied Paper -I:</b> Mathematics - I	5	25	75	100
116UCST05	<b>Non Major Elective :</b>	2	25	75	100
<b>116UCCP01</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>215</b>	<b>485</b>	<b>700</b>

### NON MAJOR ELECTIVE:

1. MS ACCESS
2. Web Applications
3. FLASH
4. HTML

## II Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
216UTMT01 / UTET01 / UHIT01	<b>Part I :</b> Language -II (Tamil / Telugu / Hindi)	3	25	75	100
216UEHT02	<b>Part II :</b> English -II	3	25	75	100
216UCAT03	<b>Part III :</b> Programming in C	4	25	75	100
216UCAP01	<b>Core Sub:</b> <b>Practical - II:</b> Programming in C Lab	4	40	60	100
216UCAT04	<b>Allied Paper -II:</b> Mathematics II	5	25	75	100
216UCSP05	<b>Non Major Elective :</b>	2	40	60	100
<b>216UCCP02</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>235</b>	<b>470</b>	<b>700</b>

### NON MAJOR ELECTIVE:

1. MS ACCESS Lab
2. Web Applications Lab
3. FLASH Lab
4. HTML Lab



*[Handwritten Signature]*  
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### III Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
316UCAT01	<b>Core Sub:</b> Programming in C++ and Data Structures	4	25	75	100
316UCAT02		4	25	75	100
316UCAT03		4	25	75	100
316UCAP01		3	40	60	100
316UCAT04	<b>Allied Paper – III :</b> Financial Accounting	4	25	75	100
<b>316UCCP03</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>21</b>	<b>190</b>	<b>410</b>	<b>600</b>

### IV Semester

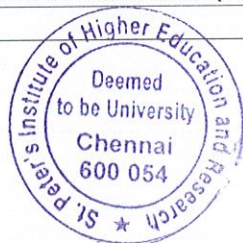
Code No.	Course Title	Credit	Marks		
			CA	EA	Total
416UCAT01	<b>Core Sub:</b> Programming in Java	4	25	75	100
416UCAT02		4	25	75	100
416UCAT03		4	25	75	100
416UCAP01		4	40	60	100
416UCAT04	<b>Allied Paper – IV :</b> Cost and Management Accounting	4	25	75	100
<b>416UEST01</b>	<b>PART IV:</b> Environmental Studies (Common to all UG Branches)	2	25	75	100
<b>416UCCP04</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>24</b>	<b>215</b>	<b>485</b>	<b>700</b>

### V Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
516UCAT01	<b>Core Sub:</b> Database Management System	4	25	75	100
516UCAT02		4	25	75	100
516UCAT03		4	25	75	100
516UCAP01		4	40	60	100
	<b>Elective – I :</b>	4	25	75	100
<b>516UVET01</b>	Value Education (Common to all UG Branches)	2	25	75	100
<b>Total</b>		<b>22</b>	<b>165</b>	<b>435</b>	<b>600</b>

### VI Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
616UCAT01	<b>Core Sub:</b> Web Technology	4	25	75	100
616UCAT02		4	25	75	100
616UCAT03		4	25	75	100
616UCAP01		4	40	60	100
	<b>Elective – II :</b>	4	25	75	100
	<b>Elective – III :</b>	4	25	75	100
<b>616UEAT01</b>	Extension Activities (Common to all UG Branches)	1	-	-	-
<b>Total</b>		<b>25</b>	<b>165</b>	<b>435</b>	<b>600</b>



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**MINUTES OF THE 5<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN  
CHEMISTRY**

Held on 16<sup>th</sup> March, 2018

**Members Present**

- |   |                 |
|---|-----------------|
| (1) Dr. Sayeeda Sultana, Professor & Head   | Chairperson     |
| (2) Dr. S. Ramabadran, Assistant Professor  | Internal Member |
| (3) Dr.N.Indra Gandhi, Associate Professor<br>Department of Chemistry, Presidency College,<br>Chennai | External Member |
| (4) Dr.Anitha, Associate Professor<br>Department of Chemistry, Queen Mary's College,<br>Chennai       | External Member |

5.1	Considered the minutes of the 4 <sup>th</sup> meeting of Board of Studies in Chemistry held on 24.08.2017. <b>RESOLVED</b> that the minutes of the 4 <sup>th</sup> meeting of Board of Studies in Chemistry held on 24.08.2017 be confirmed.
5.2	Reviewed Syllabi of Engineering Chemistry prescribed for Engineering and Technology programmes under the Regulations 2013, 2015 and 2017. <b>RESOLVED</b> that the Syllabi of Engineering Chemistry prescribed for Engineering and Technology programmes under the Regulations 2013 2015 and 2017 be continued.
5.3	Considered the Syllabi of Engineering Chemistry prescribed for Engineering and Technology programmes under the Regulations 2018. <b>RESOLVED</b> that the Syllabi of Engineering Chemistry prescribed for Engineering and Technology programmes under the Regulations 2018 be approved.(Appendix I)
5.4	Reviewed the Regulation & Syllabi of V & VI Semester of B.Sc Chemistry programme under the Regulations 2016. <b>RESOLVED</b> that the Regulation & Syllabi of V & VI Semester of B.Sc Chemistry programme under the Regulations 2016 be continued. (Appendix - II)
5.5	Considered the Regulation & Syllabi of I & II Semester of B.Sc Chemistry programme under the new Regulations 2018. <b>RESOLVED</b> that the Regulation & Syllabi of I & II Semester of B.Sc Chemistry programme under the new Regulations 2018 be approved. (Appendix - III)
5.6	Reviewed the Regulation & Syllabi of M.Sc Chemistry programme under the Regulations 2016. <b>RESOLVED</b> that the Regulation & Syllabi of III & IV Semester of M.Sc Chemistry programme under the Regulations 2016 be continued.



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(Appendix I)

**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**  
**B.E/B.Tech - All Branches**  
**Regulations 2018**

**REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM**

(Effective from the Academic Year 2018-2019)

118CYT01 /218CYT01	CHEMISTRY	L	T	P	C	Total Marks
		3	0	0	3	100

**PREREQUISITES:** Nil

**COURSE OBJECTIVES**

- To make the students conversant with atomic and molecular structure.
- To develop an understanding on the concepts of spectroscopic techniques and their applications.
- To understand the use of free energy in chemical equilibrium.
- To have thorough knowledge on periodic properties.
- To understand the basic concepts of stereochemistry, organic reactions and synthesis of a drug molecule.

**MODULE I ATOMIC AND MOLECULAR STRUCTURE**

Quantum mechanics -. Basics and significance-Schrodinger equation – Particle in one dimensional box-Molecular orbital theory- Molecular orbital diagrams of homonuclear and heteronuclear diatomic molecules. Energy level diagrams of diatomic pi-molecular orbitals of butadiene and benzene and aromaticity. Crystal field theory and the energy level diagrams for transition metal ions and their magnetic properties. Band structure of solids and the role of doping on band structures.

**MODULE II SPECTROSCOPIC TECHNIQUES AND APPLICATIONS**

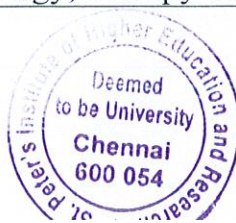
Principles of spectroscopy and selection rules. Electronic spectroscopy and their applications for conjugated molecules and nanoparticles. Fluorescence and its applications in medicine. Vibrational and rotational spectroscopy of diatomic molecules-Applications. Nuclear magnetic resonance and magnetic resonance imaging, surface characterization techniques. Diffraction and scattering.

**MODULE III INTERMOLECULAR FORCES AND POTENTIAL ENERGY SURFACES**

Ionic, dipolar and Vander Waals interactions. Equations of state of real gases and critical phenomena. Potential energy surfaces of H<sub>3</sub>, H<sub>2</sub>F and HCN and trajectories on these surfaces.

**MODULE IV : USE OF FREE ENERGY IN CHEMICAL EQUILIBRIA**

Thermodynamic functions: energy, entropy and free energy. Estimations of



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entropy and free energies. Free energy and emf. Cell potentials, the Nernst equation and applications. Acid base, oxidation reduction and solubility equilibria. Water Chemistry. Corrosion. Use of free energy considerations in metallurgy through Ellingham diagrams.

#### **MODULE V PERIODIC PROPERTIES**

Effective nuclear charge, penetration of orbitals, variations of s, p, d and f orbital energies of atoms in the periodic table, electronic configurations, atomic and ionic sizes, ionization energies, electron affinity and electronegativity, polarizability, oxidation states, coordination numbers and geometries, hard soft acids and bases, molecular geometries.

#### **MODULE VI STEREOCHEMISTRY**

Representations of 3 dimensional structures, structural isomers and stereoisomers, configurations and symmetry and chirality, enantiomers, diastereomers, optical activity, absolute configurations and conformational analysis. Isomerism in transitional metal compounds.

#### **MODULE VII ORGANIC REACTIONS AND SYNTHESIS OF A DRUG MOLECULE**

Introduction to reactions involving substitution, addition, elimination, oxidation, reduction, cyclization and ring openings. Synthesis of a commonly used drug molecule.

**TOTAL HOURS : 54**

#### **COURSE OUTCOMES**

Upon Completion of the course students will be able to:

**CO1:** Analyze microscopic chemistry in terms of atomic and molecular orbitals.

**CO2:** Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques.

**CO3:** Understand bulk properties and processes using thermodynamic considerations.

**CO4:** Gain knowledge on periodic properties.

**CO5:** Gain knowledge on the basic concepts of stereochemistry, organic reactions and synthesis of a drug molecule.

#### **TEXT BOOKS**

1. K. P. C. Volhardt and N.E. Schore, "Organic Chemistry: Structure and Function", 6th Edition, W.H. Freeman Publisher, NHBS, 2015.
2. P. W. Atkins, Julio de Paula, "Physical Chemistry", 8th Edition, Oxford University press, Oxford, 2016.
3. Dr. Sayeeda Sultana, "Engineering Chemistry", R.K. Publishers, Coimbatore, 2016.
4. B. M. Mahan, R. J. Meyers, "University Chemistry", 4th Edition, Pearson Education, India, 2009.
5. Engineering Chemistry by Jain and Jain, 16th Edition, Dhanpat Rai Publishing Company, New Delhi, 2017.
6. C. N. Banwell, "Fundamentals of molecular spectroscopy", 5<sup>th</sup> Edition McGraw-Hill Education India Pvt Limited, India, 2013.



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118CYP01 /218CYP01	CHEMISTRY LABORATORY	L	T	P	C	Total Marks
		0	0	4	2	100
<b>PRE REQUISITES:</b> None						
<b>COURSE OBJECTIVES</b>						
➤ To acquire the quantitative skills in volumetric analysis, potentiometric and conductometric titrations.						
<b>LIST OF EXPERIMENTS</b>						
<p><b>Any 10-12 experiments from the following:</b></p> <ol style="list-style-type: none"> <li>1. Determination of surface tension and viscosity</li> <li>2. Thin layer chromatography</li> <li>3. Ion exchange column for removal of hardness of water</li> <li>4. Determination of chloride content of water</li> <li>5. Colligative properties using freezing point depression</li> <li>6. Determination of the rate constant of a reaction</li> <li>7. Determination of cell constant and conductance of solutions</li> <li>8. Potentiometry - determination of redox potentials and emfs</li> <li>9. Synthesis of a polymer/Determination of molecular weight of polymer</li> <li>10. Saponification/acid value of an oil</li> <li>11. Chemical analysis of a salt</li> <li>12. Determination of the partition coefficient of a substance between two immiscible liquids</li> <li>13. Adsorption of acetic acid by charcoal</li> <li>14. Conductometric titration of strong acid and strong base</li> <li>15. Determination of strength of acids in a mixture using conductivity meter.</li> <li>16. Determination of Total, Permanent and Temporary hardness of water by EDTA method</li> </ol>						
						<b>TOTAL HOURS :72</b>
<b>COURSE OUTCOMES</b>						
<p>On completion of the course students will be able to:</p> <p><b>CO1:</b> Understand the estimation of chloride in water sample.</p> <p><b>CO2:</b> Determination of rate constant of a reaction</p> <p><b>CO3:</b> Gain knowledge on determination of redox potentials and emfs using potentiometer.</p> <p><b>CO4:</b> Determination of molecular weight of polymer and chemical analysis of salt.</p> <p><b>CO5:</b> Determination of strength of acids using conductivity meter and hardness of water by EDTA method.</p>						
<b>REFERENCES</b>						
<ol style="list-style-type: none"> <li>1. Dr. Sayeeda Sultana, "Practical Engineering Chemistry laboratory manual", R.K. Publishers, Coimbatore, 2016.</li> <li>2. Daniel R. Palleros, "Experimental organic chemistry" John Wiley &amp; Sons, Inc. New York, 2011.</li> <li>3. Furniss B.S. Hannaford A.J, Smith P.W.G and Tatchel A.R., "Vogel's Textbook of Practical organic chemistry", LBS, Singapore, 2010.</li> </ol>						



  
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(Appendix III)

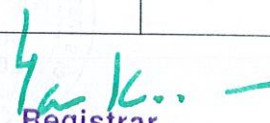
**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**  
**B.Sc. (CHEMISTRY) PROGRAMME-Regulations 2018**  
**REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM**  
**(Effective from the Academic Year 2018-2019)**  
**I Semester**

Code No.	Course Title		Credit	Marks		
				CA	EA	Total
118UTMT01 / UTET01 / UHIT01 / 118UFRT01	Language -I (Tamil - I / Telugu - I / Hindi - I / French I)		3	25	75	100
118UEHT02	English -I		3	25	75	100
118UCHT03	<b>Core Subject:</b>	General Chemistry -I	5	25	75	100
118UCHP01		Major Practicall	2	40	60	100
118UCHT04	<b>Allied -I: Mathematics-I (OR)</b>		5	25	75	100
118UCHT06 / 118UCHP02	<b>Biochemistry - I (Theory and Practical =3 &amp; 2 Credits respectively)</b>			25	75	100
				40	60	100
	<b>Non Major Elective I:</b>		2	25	75	100
118UCCT01	Soft Skills (Common to all UG Branches)		2	50	50	100
<b>Total</b>			<b>22</b>	<b>215/255</b>	<b>485/545</b>	<b>700/800</b>

**II Semester**

Code No.	Course Title		Credit	Marks		
				CA	EA	Total
218UTMT01 / UTET01 / UHIT01 / 218UFRT01	Language -II (Tamil -II / Telugu -II / Hindi -II / French -II)		3	25	75	100
218UEHT02	English -II		3	25	75	100
218UCHT03	<b>Core Subject:</b>	General Chemistry II	5	25	75	100



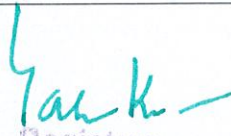
  
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## NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

### B.Sc. - CHEMISTRY

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CYU	B.Sc. - Chemistry	118UEHT02	ENGLISH –I
2	CYU	B.Sc. - Chemistry	118UCHT03	GENERAL CHEMISTRY –I
3	CYU	B.Sc. - Chemistry	118UCHP01	MAJOR PRACTICAL I
4	CYU	B.Sc. - Chemistry	118UCHT04	ALLIED –I: MATHEMATICS-I
5	CYU	B.Sc. - Chemistry	118UCHT05	NON MAJOR ELECTIVE I: FOOD CHEMISTRY
6	CYU	B.Sc. - Chemistry	218UEHT02	ENGLISH –II
7	CYU	B.Sc. - Chemistry	218UCHT03	GENERAL CHEMISTRY II
8	CYU	B.Sc. - Chemistry	218UCHP01	MAJOR PRACTICAL II
9	CYU	B.Sc. - Chemistry	218UCHT04	ALLIED –II: MATHEMATICS-II
10	CYU	B.Sc. - Chemistry	218UCHT07	NON MAJOR ELECTIVE II : DAIRY CHEMISTRY
11	CYU	B.Sc. - Chemistry	218UCCT02	SOFT SKILLS
12	CYU	B.Sc. - Chemistry	516UCHT01	INORGANIC CHEMISTRY
13	CYU	B.Sc. - Chemistry	516UCHT02	ORGANIC CHEMISTRY I
14	CYU	B.Sc. - Chemistry	516UCHT03	PHYSICAL CHEMISTRY I
15	CYU	B.Sc. - Chemistry	516UCHP01	GRAVIMETRIC, ORGANIC ANALYSIS AND PREPARATION
16	CYU	B.Sc. - Chemistry	516UCHT05	ELECTIVE I :POLYMER CHEMISTRY
17	CYU	B.Sc. - Chemistry	516UVET01	VALUE EDUCATION
18	CYU	B.Sc. - Chemistry	616UCHT01	ORGANIC CHEMISTRY II
19	CYU	B.Sc. - Chemistry	616UCHT02	PHYSICAL CHEMISTRY II
20	CYU	B.Sc. - Chemistry	616UCHP01	PHYSICAL CHEMISTRY PRACTICAL



  
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21	CYU	B.Sc. - Chemistry	616UCHT03	PHARMACEUTICAL CHEMISTRY
22	CYU	B.Sc. - Chemistry	616UCHT05	INDUSTRIAL CHEMISTRY
23	CYU	B.Sc. - Chemistry	616UEAT01	PART-IV: EXTENSION ACTIVITY
24	CYU	B.Sc. - Chemistry	516UCHT04	NANOMATERIALS AND GREEN CHEMISTRY
25	CYU	B.Sc. - Chemistry	218UCHT05	COTTAGE INDUSTRIES PRODUCTS



*Yan K.*

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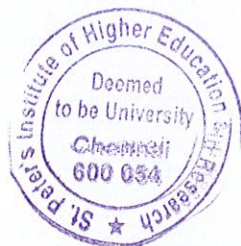
NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

M.Sc. - CHEMISTRY

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CYP	M.Sc. - Chemistry	316CMPT06	RESEARCH METHODOLOGY

*Yanik*  
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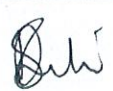
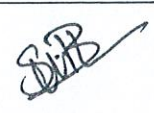
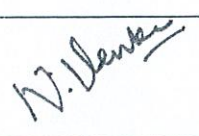
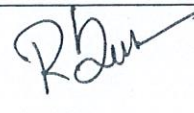
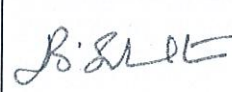

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## MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN COMPUTER SCIENCE & APPLICATIONS

Held on 14.03.2018

### Members Present

S.No	Name	Designation	Member	Signature
1.	Dr. R.Latha	Professor & Head	Chairman	
2.	Mrs.S.Brindha	Assistant Professor	Member	
3.	Mr. N.Venkatesan	Assistant Professor	Member	
4.	Mrs. R.Subhashni	Assistant Professor	Member	
5.	Dr.B.Shanthini	Professor, IT Department, SPCET	Academic Expert Member	
6.	Mr. E.SAi Dinesh Babu	Operations Manager, Amazon Development Centre India Pvt.Ltd, Ch.	Industry Expert Member	



  
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Chairman

17.1	<p>Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Computer Applications and Computer Science held on 22.8.2017.</p> <p><b>RESOLVED</b> that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Computer Applications held on 22.8.2017 to be confirmed</p>
17.2	<p>Considered the provision for the students of B.CA and B.Sc(CS) to have private study for the Non - Tamil and Non -English languages.</p> <p><b>RESOLVED</b> that the the provision for the students of B.CA and B.Sc(CS), to have private study for the Non - Tamil and Non -English languages be approved.</p>
17.3	<p>Reviewed the Regulation &amp; Syllabi of B.C.A and B.Sc(CS) programme under the Regulations 2016 with Choice Based Credit System (CBCS).</p> <p><b>RESOLVED</b> that the Syllabi of B.C.A B.C.A and B.Sc(CS) programme under the Regulations 2016 with Choice Based Credit System (CBCS) to be continued.</p>
17.4	<p>Reviewed the Syllabi and course structure of M.Sc(CS) programmes under the Regulations 2016 with Choice Based Credit System (CBCS).</p> <p><b>RESOLVED</b> that the Syllabi and course structure of M.Sc(CS) programmes under the Regulations 2016 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include following new courses. (Appendix - I)</p>
17.5	<p>Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.</p> <p><b>RESOLVED</b> that the syllabi of B.C.A programme under the Regulations 2016, B.Sc(CS) programme Under the Regulations 2016 and M.Sc(CS) programme under the Regulations 2016 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.</p>
17.6	<p>Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.C.A under the Regulations 2016, B.Sc(CS) under the Regulations 2016, M.Sc(CS) under the Regulations 2016.</p> <p><b>RESOLVED</b> that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.C.A, B.Sc(CS), M.Sc(CS) under the Regulations 2016 to be approved.</p>



*[Handwritten Signature]*  
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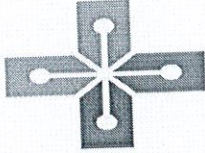
17.7	<p>Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of BC.A,B.Sc(CS), M.Sc(CS).</p> <p><b>RESOLVED</b> that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "Office Automation" be approved for the upcoming semester (2017-18 Odd semester).</p>
17.8	<p>Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.</p> <p><b>Resolved</b> that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix - III)</p>

Date: 14.03.2018

  
Chairman



  
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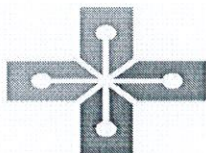
NEW COURSES FOR THE ACADEMIC YEAR 2017-2018

BACHELOR OF COMPUTER APPLICATION

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CAU	Bachelor of Computer Science and Application	316UCAT01	PROGRAMMING IN C++ AND DATA STRUCTURES
2	CAU	Bachelor of Computer Science and Application	316UCAT02	MICROPROCESSORS AND ITS APPLICATIONS
3	CAU	Bachelor of Computer Science and Application	316UCAT03	NUMERICAL AND STATISTICAL METHODS
4	CAU	Bachelor of Computer Science and Application	316UCAT04	FINANCIAL ACCOUNTING
5	CAU	Bachelor of Computer Science and Application	316UCAP01	PROGRAMMING IN C++ USING DATA STRUCTURES
6	CAU	Bachelor of Computer Science and Application	316UCCT03	SOFT SKILLS
7	CAU	Bachelor of Computer Science and Application	416UCAT01	PROGRAMMING IN JAVA
8	CAU	Bachelor of Computer Science and Application	416UCAT02	OPERATING SYSTEM
9	CAU	Bachelor of Computer Science and Application	416UCAT03	COMPUTER GRAPHICS
10	CAU	Bachelor of Computer Science and Application	416UCAP01	JAVA PROGRAMMING LAB
11	CAU	Bachelor of Computer Science and Application	416UCAT04	COST AND MANAGEMENT ACCOUNTING
12	CAU	Bachelor of Computer Science and Application	416UEST01	ENVIRONMENTAL STUDIES
13	CAU	Bachelor of Computer Science and Application	416UCCP04	SOFT SKILLS



  
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## NEW COURSES FOR THE ACADEMIC YEAR 2017-2018

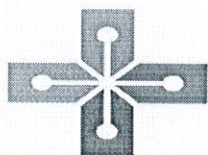
### B.Sc. – COMPUTER SCIENCE

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CPU	B.Sc. - Computer Science	316UTMT01	PART - I TAMIL III
2	CPU	B.Sc. - Computer Science	316UCST03	PROGRAMMING IN C++ AND DATA STRUCTURES
3	CPU	B.Sc. - Computer Science	316UCST04	PHYSICS – I
4	CPU	B.Sc. - Computer Science	316UCSP01	DATA STRUCTURES USING C++ LAB
5	CPU	B.Sc. - Computer Science	316UCSP02	PHYSICS – I PRACTICAL
6	CPU	B.Sc. - Computer Science	416UTMT01	PART - I TAMIL IV
7	CPU	B.Sc. - Computer Science	416UEHT02	PART - II ENGLISH IV
8	CPU	B.Sc. - Computer Science	416UCST03	PROGRAMMING IN JAVA
9	CPU	B.Sc. - Computer Science	416UCSP01	JAVA PROGRAMMING LAB
10	CPU	B.Sc. - Computer Science	416UCST04	PHYSICS – II
11	CPU	B.Sc. - Computer Science	416UCSP02	PHYSICS – II PRACTICAL
12	CPU	B.Sc. - Computer Science	416UCCT04	SOFT SKILLS



  
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## NEW COURSES FOR THE ACADEMIC YEAR 2017-2018

### M.Sc. – COMPUTER SCIENCE

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CPP	M.Sc. - Computer Science	316PCST01	SYSTEMS SOFTWARE
2	CPP	M.Sc. - Computer Science	316PCST02	INFORMATION SECURITY
3	CPP	M.Sc. - Computer Science	316PCST03	OBJECT ORIENTED ANALYSIS AND DESIGN
4	CPP	M.Sc. - Computer Science	316PCSP01	MINI PROJECT
5	CPP	M.Sc. - Computer Science	316PCST06	DISTRIBUTED DATABASE SYSTEMS
6	CPP	M.Sc. - Computer Science	316PCST08	E-COMMERCE
7	CPP	M.Sc. - Computer Science	316PCST04	BIG DATA ANALYTICS
8	CPP	M.Sc. - Computer Science	316PCST05	CRYPTOGRAPHY
9	CPP	M.Sc. - Computer Science	316PCST07	MULTIMEDIA SYSTEMS
10	CPP	M.Sc. - Computer Science	316PCST09	CLOUD COMPUTING



  
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# St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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AVADI, CHENNAI – 600 054.

## BACHELOR OF COMPUTER APPLICATIONS 2016 REGULATIONS

### I Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
116UTMT01/ UTET01/UHIT01	<b>Part I:</b> Language -I (Tamil / Telugu / Hindi)	3	25	75	100
116UEHT02	<b>Part II:</b> English -I	3	25	75	100
116UCAT03	<b>Part III:</b> Fundamentals of Digital Computers	4	25	75	100
116UCAP01	<b>Core Sub:</b> <b>Practical – I:</b> PC Software Lab	4	40	60	100
116UCAT04	<b>Allied Paper –I:</b> Mathematics - I	5	25	75	100
116UCST05	<b>Non Major Elective :</b>	2	25	75	100
<b>116UCCP01</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>215</b>	<b>485</b>	<b>700</b>

#### NON MAJOR ELECTIVE:

1. MS ACCESS
2. Web Applications
3. FLASH
4. HTML

### II Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
216UTMT01 / UTET01 / UHIT01	<b>Part I :</b> Language -II (Tamil / Telugu / Hindi)	3	25	75	100
216UEHT02	<b>Part II :</b> English -II	3	25	75	100
216UCAT03	<b>Part III :</b> Programming in C	4	25	75	100
216UCAP01	<b>Core Sub:</b> <b>Practical – II:</b> Programming in C Lab	4	40	60	100
216UCAT04	<b>Allied Paper –II:</b> Mathematics II	5	25	75	100
216UCSP05	<b>Non Major Elective :</b>	2	40	60	100
<b>216UCCP02</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>235</b>	<b>470</b>	<b>700</b>

#### NON MAJOR ELECTIVE:

1. MS ACCESS Lab
2. Web Applications Lab
3. FLASH Lab
4. HTML Lab



  
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### III Semester

Code No.	Course Title	Credit	Marks			
			CA	EA	Total	
316UCAT01	<b>Core Sub:</b>	Programming in C++ and Data Structures	4	25	75	100
316UCAT02		Microprocessors and its Applications	4	25	75	100
316UCAT03		Numerical and Statistical Methods	4	25	75	100
316UCAP01		<b>Practical – III:</b> Programming in C++ using Data structures	3	40	60	100
316UCAT04	<b>Allied Paper – III :</b> Financial Accounting		4	25	75	100
<b>316UCCP03</b>	Soft Skills (Common to all UG Branches)		2	50	50	100
<b>Total</b>			<b>21</b>	<b>190</b>	<b>410</b>	<b>600</b>

### IV Semester

Code No.	Course Title	Credit	Marks			
			CA	EA	Total	
416UCAT01	<b>Core Sub:</b>	Programming in Java	4	25	75	100
416UCAT02		Operating System	4	25	75	100
416UCAT03		Computer Graphics	4	25	75	100
416UCAP01		<b>Practical – IV:</b> Java Programming Lab	4	40	60	100
416UCAT04	<b>Allied Paper – IV :</b> Cost and Management Accounting		4	25	75	100
<b>416UEST01</b>	<b>PART IV:</b> Environmental Studies (Common to all UG Branches)		2	25	75	100
<b>416UCCP04</b>	Soft Skills (Common to all UG Branches)		2	50	50	100
<b>Total</b>			<b>24</b>	<b>215</b>	<b>485</b>	<b>700</b>

### V Semester

Code No.	Course Title	Credit	Marks			
			CA	EA	Total	
516UCAT01	<b>Core Sub:</b>	Database Management System	4	25	75	100
516UCAT02		Software Engineering	4	25	75	100
516UCAT03		Resource Management Techniques	4	25	75	100
516UCAP01		<b>Practical – V:</b> RDBMS Lab	4	40	60	100
	<b>Elective – I :</b>		4	25	75	100
<b>516UVET01</b>	Value Education (Common to all UG Branches)		2	25	75	100
<b>Total</b>			<b>22</b>	<b>165</b>	<b>435</b>	<b>600</b>

### VI Semester

Code No.	Course Title	Credit	Marks			
			CA	EA	Total	
616UCAT01	<b>Core Sub:</b>	Web Technology	4	25	75	100
616UCAT02		Data Communication and Networking	4	25	75	100
616UCAT03		Software Testing	4	25	75	100
616UCAP01		<b>Practical – VI:</b> Web Applications Lab	4	40	60	100
	<b>Elective – II :</b>		4	25	75	100
	<b>Elective – III :</b>		4	25	75	100
<b>616UEAT01</b>	Extension Activities (Common to all UG Branches)		1	-	-	-
<b>Total</b>			<b>25</b>	<b>165</b>	<b>435</b>	<b>600</b>



  
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# St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Deemed to be University U/S 3 of the UGC Act. 1956)  
AVADI, CHENNAI - 600 054.

## BACHELOR OF COMPUTER SCIENCE 2016 REGULATIONS

### I Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
116UTMT01 / UTET01/UHIT01	<b>Part I:</b> Language -I (Tamil / Telugu / Hindi)	3	25	75	100
116UEHT02	<b>Part II:</b> English -I	3	25	75	100
116UCST03	<b>Part III:</b> Programming in C	4	25	75	100
116UCSP01	<b>Core Sub: Practical - I:</b> Programming in C	4	40	60	100
116UCST04	<b>Allied Paper -I:</b> Mathematics - I	5	25	75	100
116UCST05	<b>Non Major Elective</b>	2	25	75	100
<b>116UCCT01</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>215</b>	<b>485</b>	<b>700</b>

### Non Major Electives:

1. Business and Office Applications
2. MS ACCESS
3. FLASH
4. HTML

### II Semester

Code No.	Course Title	Credits	Marks		
			CA	EA	Total
216UTMT01/ UTET01/UHIT01	<b>Part I :</b> Language -II (Tamil / Telugu / Hindi)	3	25	75	100
216UEHT02	<b>Part II :</b> English -II	3	25	75	100
216UCST03	<b>Part III :</b> Digital Electronics & Microprocessor	4	25	75	100
216UCSP01	<b>Core Sub: Practical - II:</b> Digital Electronics & Microprocessors Lab	4	40	60	100
216UCST04	<b>Allied Paper -II:</b> Mathematics - II	5	25	75	100
216UCSP02	<b>Non Major Elective :</b>	2	40	60	100
<b>216UCCT02</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>230</b>	<b>470</b>	<b>700</b>

### Non Major Electives: (Common to B.Sc. (CS) & BCA)

1. Business and Office Applications Lab
2. MS ACCESS Lab
3. FLASH Lab
4. HTML Lab



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### III Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
316UTMT01/ UTET01/UHIT01	<b>Part I:</b> Language -III (Tamil / Telugu / Hindi)	3	25	75	100
316UEHT02	<b>Part II:</b> English -III	3	25	75	100
316UCST03	<b>Part III:</b> <b>Core Sub:</b> Programming in C++ and Data Structures <b>Practical - III:</b> Data Structures using C++	4	25	75	100
316UCSP01		4	40	60	100
316UCST04	<b>Allied Paper :</b> Paper -I : Physics I	5	25	75	100
316UCSP01	<b>Allied Practical:</b> Physics - I	2	50	50	100
<b>316UCCT03</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>240</b>	<b>460</b>	<b>700</b>

### IV Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
416UTMT01 / UTET01 / UHIT01	<b>Part I :</b> Language -IV (Tamil / Telugu / Hindi)	3	25	75	100
416UEHT02	<b>Part II :</b> English -IV	3	25	75	100
416UCST03	<b>Part III :</b> <b>Core Sub:</b> Programming in JAVA <b>Practical - IV:</b> Java Programming Lab	4	25	75	100
416UCSP01		4	40	60	100
416UCST04	<b>Allied Paper :</b> Paper - II : Physics II	5	25	75	100
416UCSP02	<b>Allied Practical:</b> Physics - II	2	50	50	100
<b>416UEST01</b>	<b>PART IV:</b> Environmental Studies (Common to all UG Branches)	2	25	75	100
<b>416UCCT04</b>	Soft Skills (Common to all UG Branches)	2	50	50	100
<b>Total</b>		<b>25</b>	<b>265</b>	<b>535</b>	<b>800</b>

### V Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
516UCST01	<b>Core Sub:</b> Operating Systems Database Management Systems Computer Architecture and Organization <b>Practical - V:</b> RDBMS Lab	4	25	75	100
516UCST02		4	25	75	100
516UCST03		4	25	75	100
516UCSP01		4	40	60	100
516UCST05		5	25	75	100
<b>516UVET01</b>	<b>Elective - I :</b> Value Education (Common to all UG Branches)	2	25	75	100
<b>Total</b>		<b>23</b>	<b>165</b>	<b>385</b>	<b>600</b>

### VI Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
616UCST01	<b>Core Sub:</b> Data Communication and Networking Web Technology <b>Practical - VI:</b> Web Applications Lab	4	25	75	100
616UCST02		4	25	75	100
616UCSP01		4	40	60	100
616UCST06		5	25	75	100
616UCST09	<b>Elective - II :</b>	5	25	75	100
<b>616UEAT01</b>	<b>Elective - III :</b> Extension Activities (Common to all UG Branches)	1	-	-	-
<b>Registrar Total</b>		<b>23</b>	<b>140</b>	<b>360</b>	<b>500</b>



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# St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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AVADI, CHENNAI – 600 054.

## MASTER OF COMPUTER SCIENCE 2016 REGULATIONS

### I Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
116PCST01	Core Sub: Computer Networks	4	25	75	100
116PCST02		4	25	75	100
116PCST03		4	25	75	100
116PCSP01		3	40	60	100
116PCSP02		3	40	60	100
116PCST04		4	25	75	100
<b>Inter disciplinary Elective I:</b>					
<b>Total</b>		<b>22</b>	<b>180</b>	<b>420</b>	<b>600</b>

### II Semester

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
216PCST01	Core Sub: Principles of Compiler Design	4	25	75	100
216PCST02		4	25	75	100
216PCSP01		3	40	60	100
216PCSP02		3	40	60	100
		4	25	75	100
		4	25	75	100
216PCST03	<b>Inter disciplinary Elective II</b>				
<b>Total</b>		<b>22</b>	<b>180</b>	<b>420</b>	<b>600</b>

### III SEMESTER

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
316PCST01	Core Sub: Systems Software	4	25	75	100
316PCST02		4	25	75	100
316PCST03		4	25	75	100
316PCSP01		4	40	60	100
		4	25	75	100
		4	25	75	100
	<b>Elective II:</b>				
	<b>Elective III:</b>				
<b>Total</b>		<b>24</b>	<b>165</b>	<b>435</b>	<b>600</b>

### IV SEMESTER

Code No.	Course Title	Credit	Marks		
			CA	EA	Total
416PENP01	PROJECT PLUS VIVA VOCE	20	20	60+20	100
<b>Total</b>		<b>20</b>	<b>20</b>	<b>80</b>	<b>100</b>



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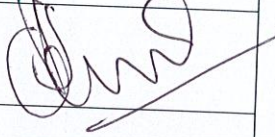

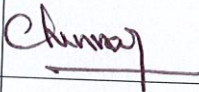
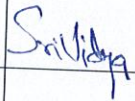

**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

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AVADI, CHENNAI - 600 054.

MINUTES OF THE 17<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN  
**DEPARTMENT OF MANAGEMENT STUDIES**

Held on 14.02.2018

**Members Present**

S.No	Name	Designation	Member	Signature
1.	Dr.R.Gayathri	Professor & Head	Chairman	
2.	Dr.S.Panerselvam	Assistant Professor	Internal Member	
3.	Ms.G.Pramila	Assistant Professor	Internal Member	
4.	Dr.Chinnaraju	Director, CIMAT	External Member	
5.	Ms.Srividya Srinivasan	Head, Doyen Systems Pvt. Ltd., Guindy	External Member	
6.	Dr.P.Umarani	Professor, MGR Educational & Research Institute	External Member	



  
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Avadi, Chennai-600 054

  
Chairman

HEAD OF DEPARTMENT  
School of Commerce &  
Management Studies  
SPIHER, Chennai

17.1	<p>Considered the minutes of the 16<sup>th</sup> meeting of Board of Studies in Department of Management Studies in the light of the minutes of 16<sup>th</sup> meeting of the Academic Council held on 22.08.2017.</p> <p><b>RESOLVED</b> that the minutes of the 16<sup>th</sup> meeting of Board of Studies in Department of Management Studies held on 22.08.2017 be confirmed.</p>
17.2	<p>Reviewed the Regulation &amp; Syllabi of Department of Management Studies MBA for Semester III and Semester IV programmes under the Regulations 2017 with Choice Based Credit System (CBCS).</p> <p><b>RESOLVED</b> that the Syllabi of Department of Management Studies for MBA Semester III and Semester IV under the Regulations 2017 with Choice Based Credit System (CBCS) be approved.</p>
17.3	<p>Considered the New Regulations and Syllabi of Department of Management Studies for BBA Semester V and Semester VI Curriculum from the batch of students to be admitted from 2017-18 under the Regulations 2017 with Choice Based Credit System (CBCS).</p> <p><b>RESOLVED</b> that the new Regulations and Syllabi Department of Management Studies for BBA Semester V and Semester VI on batch of students to be admitted from 2017-18 under the Regulations 2017 with Choice Based Credit System (CBCS) be approved.</p>
17.4	<p>Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.</p> <p><b>RESOLVED</b> that the syllabi of Department of Management Studies programme under the Regulations for MBA under the Regulations 2017 and for BBA under Regulation 2016 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.</p>
17.5	<p>Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of BBA under the Regulations 2016 and MBA under the Regulations 2017.</p> <p><b>RESOLVED</b> that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of BBA under the Regulations 2016 and MBA under the Regulations 2017 to be approved.</p>



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17.6	<p>Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of BBA, Department of Management Studies and MBA Department of Management Studies.</p> <p><b>RESOLVED</b> that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on "GST Registration, E-Filing and Compliance " and "Corporate Communication" be approved for the upcoming semester (2018-19 Odd and Even semester).</p>
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Date: 14.02.2018

Chairman



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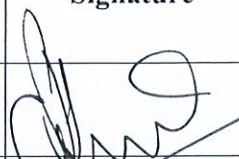
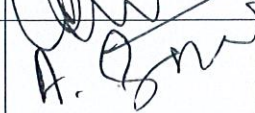
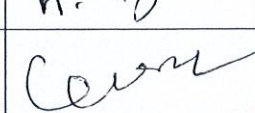
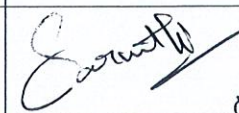
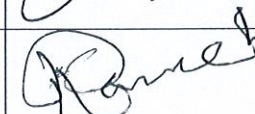
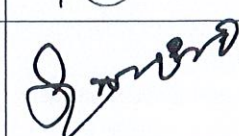
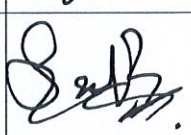
**HEAD OF DEPARTMENT**  
**School of Commerce &**  
**Management Studies**  
**SPIHER, Chennai**

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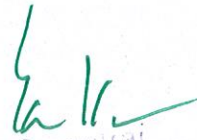
**MINUTES OF THE 5<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN  
DEPARTMENT OF COMMERCE**

Held on 13-03-2018

**Members Present**

S.No	Name	Designation	Member	Signature
1	Dr.S. Panneer Selvam	Professor & Head	Chairman	
2	Dr. A. Senthilnathan	Associate Professor	Member	
3	Ms.P.S. Lakshmi	Assistant Professor	Member	
4	Ms.B.Saraswathi	Assistant Professor	Member	
4	Dr.T.Ramachandran	Professor, SRM University, Kattankulathur.	Academic Expert Member	
5	Dr.B.Sankaran	Professor, SPCET	Academic Expert Member	
6	Mr.G.Sathyaseelan,	Vice-President, Ashok Leyland, Ennore	Industrial Expert	



  
Registrar



**Chairman**

**Dr.S.PANNEERSELVAM**

M.Com, M2A., M.Phil., Ph.D  
HOD / Commerce

St. Peter's Institute of Higher Education and Research  
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Avadi, Chennai-600 054. St. Peter's Institute of Higher Education & Research  
St. Peter's University, Chennai-600 054.

- 5.1** Considered the minutes of the 4<sup>th</sup> meeting of Board of Studies in B.Com.(Commerce) and B.Com (Corporate Secretary ship) held on 21.08.2017.

**RESOLVED** that the minutes of the 4<sup>th</sup> meeting of Board of Studies in B.Com.(Commerce) and B.Com (Corporate Secretary ship) held on 21.08.2017 be confirmed.

- 5.2** Reviewed the Regulation & Syllabi of V and VI semesters of B.Com.(Commerce) and III and IV semester of B.Com (Corporate Secretary ship) programmes under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the Syllabi of all semesters of B.Com.(Commerce) and B.Com (Corporate Secretary ship) under the Regulations 2016 with Choice Based Credit System (CBCS) be approved.

- 5.3** Considered the new Regulations and Syllabi of V and VI semester of B.Com.(Commerce) and III and IV semester of B.Com (Corporate Secretary ship) on the pattern of under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of V and VI semester of semester of B.Com.(Commerce) and III and IV semester of B.Com (Corporate Secretary ship) on the pattern under the Regulations 2016 with Choice Based Credit System (CBCS) be approved.

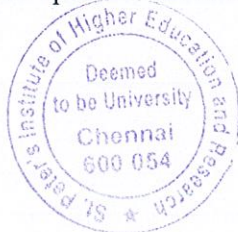
- 5.4** Reviewed the Regulation & Syllabi of III and IV semester of M.Com and M.Phil programs under the Regulations 2016 with Choice Based Credit System (CBCS).

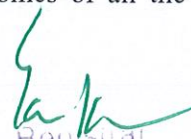
**RESOLVED** that the Regulation & Syllabi of III and IV semester of M.Com and M.Phil programmes under the Regulations 2016 with Choice Based Credit System (CBCS) be continued taking into consideration of the suggestions and remarks given by the members to include the .

- 5.5** Considered the new Regulations and Syllabi of all semesters M.Com and M.Phil Programme from the batch of students to be admitted from 2017-18 under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulations and Syllabi of all semesters M.Com and M.Phil Programme from the batch of students to be admitted from 2017-18 under the Regulations 2016 with Choice Based Credit System (CBCS) be approved.

- 5.6** Reviewed the curricula developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes.



  
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**RESOLVED** that the syllabi of B.Com.(Commerce) and B.Com (Corporate Secretary ship) programme under the Regulations 2016 and M.Com under the Regulations 2016 developed having relevance to the local/national/regional/global developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.

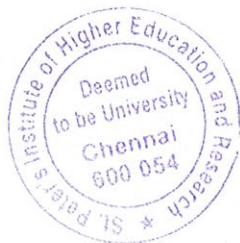
- 5.7** Considered to include courses having focus on employability/ entrepreneurship /skill development in the syllabi of B.Com.(Commerce) and B.Com (Corporate Secretary ship) under the Regulations 2016 and M.Com and M.Phil under the Regulations 2016.

**RESOLVED** that the courses having focus on employability/ entrepreneurship /skill development year wise in the syllabi of B.Com.(Commerce) and B.Com (Corporate Secretary ship) under the Regulations 2016 and M.Com and M.Phil under the Regulations 2016 to be approved.

- 5.8** Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.Com.(Commerce) and B.Com (Corporate Secretary ship) M.Com and M.Phil.

**RESOLVED** that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on “Law and Institutions Human Rights in India, Leadership in Professionals, Digital Banking, and Social Etiquette” be approved for the upcoming semester (2018-19 Odd semester).

**Date: 13.03.2018**



  
**Chairman**

**Dr. S. PANNEERSELVAM**  
M.Com, MBA, M.Phil., Ph.D  
HOD / Commerce  
St. Peter's Institute of Higher Education & Research  
St. Peter's University, Chennai-600 054.

  
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**B.COM (GENERAL)**

**SEMESTER V**

Code No.	Course Title	Credits	CA	EA	Total	
516UBCT01	<b>Core Sub:</b>	Elements of Cost Accounting	4	25	75	100
516UBCT02		Practical Auditing	4	25	75	100
516UBCT03		Entrepreneurial Development	4	25	75	100
516UBCT04		Financial Management	4	25	75	100
516UBCT05 (OR) 516UBCT06	<b>Elective I</b>	<b>Income Tax Law and Practice-I</b> (OR) Visual Basic Programming	5	25	75	100
516UVET01	<b>Part IV : Value Education (Common to all UG Branches)</b>		2	25	75	100
<b>Total</b>			<b>23</b>	<b>150</b>	<b>450</b>	<b>600</b>

**SEMESTER VI**

Code No.	Course Title	Credits	CA	EA	Total	
616UBCT01	Advanced Cost Accounting	4	25	75	100	
616UBCT02	Management Accounting	4	25	75	100	
616UBCT03	Business Environment	4	25	75	100	
616UBCT04 (OR) 616UBCT05	<b>Elective II</b>	<b>Income Tax Law and Practice-II</b> (OR) Visual basic practical	5	25	75	100
616UBCT06 (OR) 616UBCT07	<b>Elective III</b>	<b>Human Resources Management</b> (OR) Portfolio Management	5	25	75	100
616UEAT01	<b>Part IV : Extension Activity (Common to all UG Branches)</b>		1	-	-	-
<b>Total</b>			<b>23</b>	<b>125</b>	<b>375</b>	<b>500</b>



  
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**B.COM (CS)**

**SEMESTER - III**

Code No.	Course Title	Credits	CA	EA	Total
316UCOTO1	Corporate Accounting -I	5	25	75	100
316COTO2	Company Law and Secretarial Practice -II	4	25	75	100
316UCOTO3	Part III: Banking Theory Law and Practice	4	25	75	100
316UCOTO4	Core subject Investment Management	4	25	75	100
316UCOT05	Allied - Statistics I	4	25	75	100
316UCCP001	Soft skills (Common to all UG branches)	2	50	50	100
<b>Total</b>		<b>23</b>	<b>175</b>	<b>425</b>	<b>600</b>

**SEMESTER - IV**

Code No.	Course Title	Credits	CA	EA	Total
416UCOTO1	Part- III Corporate Accounting II	5	25	75	100
416UCOTO2	Core Subject Business Management	4	25	75	100
416UCOTO3	Allied IV: Business Statistics II	4	25	75	100
416UCOTO4	Corporate Finance	4	25	75	100
416UCOTO5	Fundamentals of Insurance	4	25	75	100
416UCCTO4	Soft skills - IV (Common to all UG Branches)	2	50	50	100
416UESTO1	Environmental Studies	2	25	75	100
<b>Total</b>		<b>25</b>	<b>200</b>	<b>500</b>	<b>700</b>



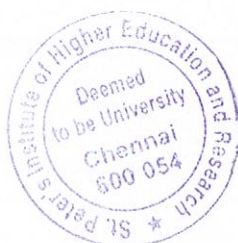
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**M.COM**  
**SEMESTER - III**

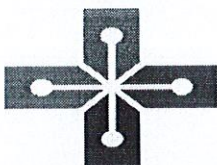
Code No.	Course Title		Credit	Marks		
				CA	EA	Total
316PMCT01	Core	Research Methodology	4	25	75	100
316PMCT02		Knowledge Management	4	25	75	100
316PMCT03		Sub: Fundamentals of Information Technology	4	25	75	100
316PMCT04	Elective III: CRM and Relationship Marketing		3	25	75	100
316PMCT05	Elective IV: Advertising and Salesmanship		3	25	75	100
316PMCT06	Extra Disciplinary Elective Paper – II: Business Ethics, Corporate Governance & Social Responsibility		4	25	75	100
<b>Total</b>			<b>22</b>	<b>150</b>	<b>450</b>	<b>600</b>

**SEMESTER - IV**

Code No.	Course Title		Credit	Marks		
				C A	EA	Total
416PMCT01	Core Sub:	Management Information Systems	4	25	75	100
416PMCT02		Investment Analysis and Portfolio Theory	4	25	75	100
416PMCT03		Merchant Banking and Financial Services	4	25	75	100
416PMCT04	Elective V: International Marketing		3	25	75	100
416PMCP01	PROJECT PLUS VIVA VOCE*		15	40	160 <sup>@</sup>	200



  
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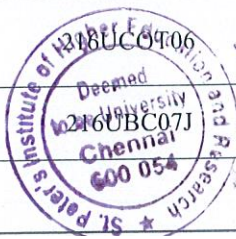
Phone:044-26558080-84  
E-mail:registrar@spiher.ac.in  
Website:www.spiher.ac.in

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NEW COURSES FOR THE ACADEMIC YEAR 2017-2018

BACHELOR OF COMMERCE

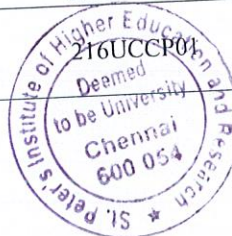
S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CMU	Bachelor of Commerce	316UBCT01	CORPORATE ACCOUNTING
2	CMU	Bachelor of Commerce	316UBCT02	BUSINESS LAWS
3	CMU	Bachelor of Commerce	316UBCT03	BANKING THEORY LAW AND PRACTICE
4	CMU	Bachelor of Commerce	316UBCT04	MARKETING
5	CMU	Bachelor of Commerce	416UBCT01	ADVANCED CORPORATE ACCOUNTING
6	CMU	Bachelor of Commerce	416UBCT02	COMPANY LAW
7	CMU	Bachelor of Commerce	416UBCT03	FINANCIAL SERVICES
8	CMU	Bachelor of Commerce	416UBCT04	INDIRECT TAXATION
9	CMU	Bachelor of Commerce	116UCOT02	ENGLISH – I
10	CMU	Bachelor of Commerce	116UCOT03	FINANCIAL ACCOUNTING
11	CMU	Bachelor of Commerce	116UCOT04	COMPANY LAW AND SECRETARIAL PRACTICE-I
12	CMU	Bachelor of Commerce	116UBCT05	MANAGERIAL ECONOMICS
13	CMU	Bachelor of Commerce	216UEHT02	ENGLISH – II
14	CMU	Bachelor of Commerce	216UCOT03	ADVANCED FINANCIAL ACCOUNTING
15	CMU	Bachelor of Commerce	216UCOT05	BUSINESS COMMUNICATION
16	CMU	Bachelor of Commerce	216UBCT07J	BASICS OF SECRETARIAL PRACTICES
17	CMU	Bachelor of Commerce	216UBCT07J	BASICS OF BUSINESS INSURANCE



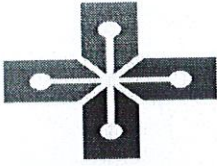
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18	CMU	Bachelor of Commerce	116UBCT06	BASICS OF RETAIL MARKETING
19	CMU	Bachelor of Commerce	116UBCT07	BASICS OF COMPUTER
20	CMU	Bachelor of Commerce	216UBCT06	CONSUMER PROTECTION AND CONSUMER RIGHTS
21	CMU	Bachelor of Commerce	116UBCT06J	INTRODUCTION TO FINANCIAL SERVICE
22	CMU	Bachelor of Commerce	216UCOT06J	BASIS OF CORPORATE E-MANAGEMENT
23	CMU	Bachelor of Commerce	216UCOT05J	INTERNATIONAL TRADE
24	CMU	Bachelor of Commerce	216UBC07	BASICS OF BUSINESS INSURANCE
25	CMU	Bachelor of Commerce	116UTMT01 / UTET01 / UHIT01 116UFRT01	PART -I: LANGUAGE-I(TAMIL-I/TELUGU-I/HINDI-I/FRENCH-I)
26	CMU	Bachelor of Commerce	116UEHT02	ENGLISH - I
27	CMU	Bachelor of Commerce	116UCBT03	FINANCIAL ACCOUNTING
28	CMU	Bachelor of Commerce	116UCBT04	BUSINESS COMMUNICATION
29	CMU	Bachelor of Commerce	116UCBT05	ALLIED -I: BUSINESS ECONOMICS
30	CMU	Bachelor of Commerce	116UCBT06	1. BASICS OF COMPUTER
31	CMU	Bachelor of Commerce	116UCCT01	SOFT SKILLS (COMMON TO ALL UG BRANCHES)
32	CMU	Bachelor of Commerce	216UTMT01/UTET01 / UHIT01/216UFRT01	PART -I: LANGUAGE-I(TAMIL-I/TELUGU-I/HINDI-I/FRENCH- I)
33	CMU	Bachelor of Commerce	116UTMT01/U TET01/UHIT01/116UFRT01	PART -I: LANGUAGE-I(TAMIL-I/TELUGU-I/HINDI-I/FRENCH-I)
34	CMU	Bachelor of Commerce	116UCOTO2	ENGLISH - I
35	CMU	Bachelor of Commerce	116UCOTO3	FINANCIAL ACCOUNTING
36	CMU	Bachelor of Commerce	116UCOT06	COMPUTER APPLICATIONS IN ACCOUNTING.
37	CMU	Bachelor of Commerce	116UCCP001	SOFT SKILLS (COMMON TO ALL UG BRANCHES)
38	CMU	Bachelor of Commerce	216UTMT01/U TET01/UHIT01/216UFRT01	PART -I: LANGUAGE-I(TAMIL-I/TELUGU-I/HINDI-I/FRENCH- I)
39	CMU	Bachelor of Commerce	216UCOT04	HUMAN RESOURCE MANAGEMENT
40	CMU	Bachelor of Commerce	216UCCP01	SOFT SKILLS (COMMON TO ALL UG BRANCHES)



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Website:www.spiher.ac.in

## NEW COURSES FOR THE ACADEMIC YEAR 2017-2018

### MASTER OF COMMERCE

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	CMP	M.COM.	316PMCT01	RESEARCH METHODOLOGY
2	CMP	M.COM.	316PMCT02	KNOWLEDGE MANAGEMENT
3	CMP	M.COM.	316PMCT03	FUNDAMENTALS OF INFORMATION TECHNOLOGY
4	CMP	M.COM.	316PMCT04	CRM AND RELATIONSHIP MARKETING
5	CMP	M.COM.	316PMCT05	ADVERTISING AND SALESMANSHIP
6	CMP	M.COM.	316PMCT06	BUSINESS ETHICS,CORPORATE GOVERNANCE & SOCIAL RESPONSIBILITY
7	CMP	M.COM.	416PMCT01	MANAGEMENT INFORMATION SYSTEMS
8	CMP	M.COM.	416PMCT02	INVESTMENT ANALYSIS AND PORTFOLIO THEORY
9	CMP	M.COM.	416PMCT03	MERCHANT BANKING AND FINANCIAL SERVICES
10	CMP	M.COM.	416PMCT04	INTERNATIONAL MARKETING
11	CMP	M.COM.	416PMCT05	INTERNATIONAL MARKETING
12	CMP	M.COM.	416PMCT06	ACCOUNTING FOR TAXATION MANAGEMENT
13	CMP	M.COM.	416PMCP01	PROJECT PLUS VIVA VOCE
14	CMP	M.COM.	416PMCT05	INCOME TAX LAW AND PRACTICE



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Registrar

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**MINUTES OF THE 3<sup>rd</sup> MEETING OF THE BOARD OF STUDIES IN  
ECONOMICS**

Held on 16<sup>th</sup> March, 2018

**Members Present**

- (1) Mrs. R. Anuradha, Asst. Professor & Head - Chairperson  
(2) Dr. M. Sudhakar, Assistant Professor - Internal Member  
(3) Dr. G. Yoganantham, Professor - External Member  
Dept. of Economics, Thiruvalluvar University, Vellore.  
(4) Mr. Peter Sahayaraj, - External Member  
Director, Jayam Academic, Chennai

*R. Anuradha*  
*M. Sudhakar*  
*G. Yoganantham*  
*Peter Sahayaraj*

3.1	Considered the minutes of the 2 <sup>nd</sup> meeting of Board of Studies in Economics held on 24.08.2017. <b>RESOLVED</b> that the minutes of the 2 <sup>nd</sup> meeting of Board of Studies in Economics held on 24.08.2017 be confirmed.
3.2	Reviewed Syllabi of Economics prescribed for Commerce and Management Studies programmes under the Regulations 2016. <b>RESOLVED</b> that the Syllabi of Commerce and Management Studies programmes under the Regulations 2016 be continued.
3.3	Reviewed the Regulations & Syllabi of V & VI Semester of B. A. Economics programme under the Regulations 2016. <b>RESOLVED</b> that the Regulations & Syllabi of V & VI Semester of B. A. Economics programme under the Regulations 2016 be continued. (Appendix I)
3.4	Considered to include the value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B. A. Economics. <b>RESOLVED</b> that the value added courses imparting transferable and life skills offered beyond the curriculum such as course on " <u>Financial Market and Tamil Nadu Economy</u> " be approved for the upcoming semester (2018-19-ODD semester).



Date: 16.03.2018

*[Signature]*  
Registrar

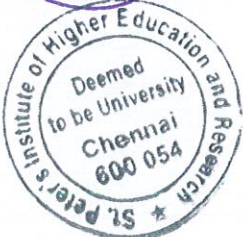
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Registrar

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*[Signature]*  
Chairperson

Department of Economics  
St. Peter's Institute of Higher Education and Research  
Avadi, Chennai - 600 054, Tamil Nadu  
Ph : 044 - 2655 8080  
website : www.stpetersuniversity.org





(Appendix I)

**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**  
**B. A. ECONOMICS PROGRAMME - Regulations 2016**  
**REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM**  
**(Effective from the Academic Year 2018-19)**

**V Semester**

Code No.	Course Title	Credits	CA	EA	Total	
516UECT01	<b>Core Sub:</b>	Macro Economics-I	4	25	75	100
516UECT02		Fiscal Economics- I	4	25	75	100
516UECT03		International Economics- I	4	25	75	100
516UECT04		History of Economic Thought	4	25	75	100
516UECT05	<b>Elective I:</b>	6	25	75	100	
<b>516UVET01</b>	<b>Part IV: Value Education (Common to all UG Branches)</b>	2	25	75	100	
<b>Total</b>		<b>24</b>	<b>150</b>	<b>450</b>	<b>600</b>	

**List of Elective Paper: Elective-I (Semester V)**

Course Code	Course Title	Credits	CA	EA	Total
516UECT05	Managerial Economics	6	25	75	100
516UECT06	Economics of Planning	6	25	75	100
516UECT07	Urban Economics	6	25	75	100

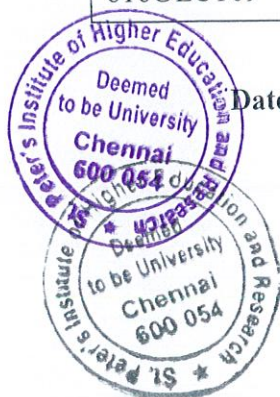
**VI Semester**

Code No.	Course Title	Credits	CA	EA	Total	
616UECT01	<b>Core Sub:</b>	Macro Economics-II	4	25	75	100
616UECT02		Fiscal Economics- II	4	25	75	100
616UECT03		International Economics-II	4	25	75	100
616UECT07	<b>Elective II:</b>	6	25	75	100	
616UECT08	<b>Elective III:</b>	6	25	75	100	
<b>616UEAT01</b>	<b>Part IV: Extension Activity (Common to all UG Branches)</b>	1	-	-	-	
<b>Total</b>		<b>25</b>	<b>125</b>	<b>375</b>	<b>500</b>	

**Elective-II&III (Semester VI)**

Course Code	Course Title	Credits	CA	EA	Total
616UECT04	Tamil Nadu Economy	6	25	75	100
616UECT05	Environmental Economics	6	25	75	100
616UECT06	Financial Markets	6	25	75	100
616UECT07	Human Resource Development	6	25	75	100
616UECT08	Industrial Economics	6	25	75	100
616UECT09	Agricultural Economics	6	25	75	100

Date: 16.03.2018



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**Chairperson**

Department of Economics  
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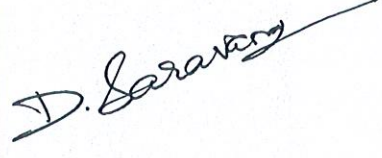
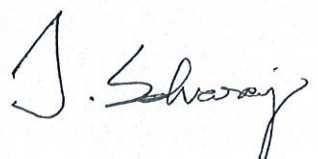
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MINUTES OF THE 4<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN

## MICROBIOLOGY

Held on 12.02.2018

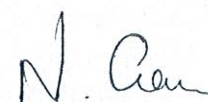
### Members Present

S. No	Name	Designation	Member	Signature
1	Dr GANESAN N	Professor & Head	Chairman	
2	Dr. K. Geetha	Assistant Professor	Internal Member	
3	Mr. Anandanbararsu	Assistant Professor	Internal Member	
4	Dr Saravanan D.	Assistant Professor Department of Biochemistry D.G.Vaishnav College, Chennai 106	External Member	
5	Dr J. Selvaraj	Scientist E Meenakshi Ammal Dental College, MAHER	External Member	

  
Registrar

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**Chairman**

Professor and Head  
Department of Microbiology  
St. Peter's Institute of Higher Education & Research  
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Avadi Chennai - 600

- 4.1 Considered the minutes of the 3<sup>h</sup> meeting of Board of Studies in Microbiology held on 25.09.2017.

**RESOLVED** that the minutes of the 3<sup>th</sup> meeting of Board of Studies in Microbiology held on 25.09.2017 be confirmed

- 4.2 Reviewed the Regulation and Syllabi of III & IV<sup>th</sup> semester of B.Sc. (Microbiology) under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the Syllabi of III & IV semester of B.Sc. (Microbiology) under the Regulations 2016 with Choice Based Credit System (CBCS) from the batch of students to be admitted from 2017-18 to be approved (Appendix - I).

- 4.3 Reviewed the Regulation and Syllabi of III & IV semester of M.Sc. (Microbiology) under the Regulations 2016 with Choice Based Credit System (CBCS).

**RESOLVED** that the new Regulation and Syllabi of III & IV semester of M.Sc. (Microbiology) from the batch of students to be admitted from 2017-18 under the Regulations 2020 with Choice Based Credit System (CBCS) be approved (Appendix - II).

- 4.4 Reviewed the curricula developed having relevance to the local/national/regional/global research developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the

  
Registrar

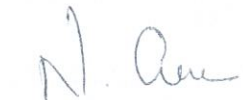
programmes.

**RESOLVED** that the syllabi of B.Sc, Microbiology programme under the Regulations 2016 and M.Sc, Microbiology under the Regulations 2016 developed having relevance to the local/national/regional/global research developmental needs with learning objectives including programme outcomes, program specific outcomes and course outcomes of all the programmes be approved.

- 4.5** Reviewed and considered the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders.

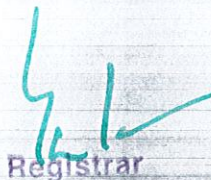
**Resolved** that the curriculum feedback analysis and action taken report based on the suggestions given by the stake holders to be approved. (Appendix – III)

**Date:** 12.02.2018



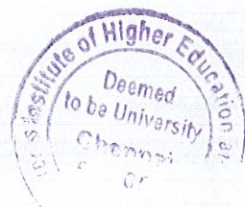
**Chairman**

Professor and Head  
Department of Microbiology  
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**St.Peter's Institute of Higher Education and Research**  
**B.Sc Microbiology**

**APPENDIX I**

**III Semester**

Code No.	Course Title	L	T	P	C	CA	EA	Total
316UTMT01 /UTET01 / UHIT01/316 UFRT01	<b>Part – I</b> Language -III (Tamil - III / Telugu - III / Hindi - III / French - III)	5	0	0	3	25	75	100
316UEHT02	<b>Part – II</b> English –III	5	0	0	3	25	75	100
316UMBT03	<b>Part - III</b> Molecular Biology	5	0	0	4	25	75	100
316UMBP01	<b>Core Subject:</b> <b>Major practical III:</b> Molecular Biology		0	4	4	40	60	100
316UMBT04	<b>Allied -III</b> Bioinstrumentation	5	0	0	4	25	75	100
316UMBP02	<b>Practical</b> Practical III : Bioinstrumentation		0	4	4	40	60	100
316UCCT03	Soft Skills (Common to all UG Branches)	5	0	0	2	50	50	100
<b>Total</b>		<b>25</b>	<b>0</b>	<b>8</b>	<b>24</b>	<b>230</b>	<b>470</b>	<b>700</b>

**IV Semester**

Code No.	Course Title	L	T	P	C	CA	EA	Total
416UTMT01 /UTET01 / UHIT01/416 UFRT01	<b>Part – I</b> Language -IV (Tamil - IV/ Telugu - IV / Hindi - IV /French - IV)	5	0	0	3	25	75	100
416UEHT02	<b>Part – II</b> English –IV	5	0	0	3	25	75	100
416UMBT03	<b>Part - III</b> Soil & Agricultural Microbiology	5	0	0	4	25	75	100
416UMBP01	<b>Core Subject:</b> <b>Major practical IV: Soil</b> & Agricultural Microbiology	0	0	4	4	40	60	100
416UMBT04	<b>Allied -IV</b> Biostatics	5	0	0	4	25	75	100
416UMBP02	<b>Practical</b> Practical IV : Biostatics	0	0	4	4	40	60	100
416UEST01	<b>PART – IV:</b> Environmental Studies (Common to all UG Branches)	5	0	0	2	25	75	100
416UCCT04	Soft Skills (Common to all UG Branches)	5	0	0	2	50	50	100
<b>Total</b>		<b>30</b>	<b>0</b>	<b>8</b>	<b>26</b>	<b>255</b>	<b>545</b>	<b>800</b>

In Overall 48.3% Syllabus of B.Sc has been revised in the academic year of 2018-19



**St.Peter's Institute of Higher Education and Research**  
**M.Sc Microbiology**

**APPENDIX II**

**Semester III**

Code No.	Course Title	L	T	P	Credit	Marks		
						CA	EA	Total
316PMBT01	Microbial Genetics	5	0	0	5	25	75	100
316PMBT02	Genetic Engineering	5	0	0	5	25	75	100
316PMBT03	Molecular Biology	5	0	0	5	25	75	100
316PMBT04	<b>Institute Core-II</b> Soil and Agricultural Microbiology	5	0	0	2	25	75	100
316PMBT05	<b>Extra disciplinary II</b> Environmental Bio-technology	5	0	0	2	25	75	100
316PMBP01	<b>Practical III: Microbial</b> Genetics, Molecular Biology & Genetic Engineering	0	0	4	5	40	60	100
<b>Total</b>		<b>25</b>	<b>0</b>	<b>4</b>	<b>24</b>	<b>165</b>	<b>435</b>	<b>600</b>

**IV Semester**

Code No.	Course Title	L	T	P	Credit	Marks		
						CA	EA	Total
416PMBT01	Food Dairy and Environmental Microbiology	5	0	0	4	25	75	100
416PMBP01	<b>PRACTICAL-IV - Soil,</b> Agricultural ,Food and Environmental microbiology	0	0	4	4	40	60	100
416PMBT01	ElectiveV-Research Methodology	6	1	0	2	25	75	100
416PMBP01	Project Work	0	0	5	10	40	60	100
<b>Total</b>		<b>11</b>	<b>1</b>	<b>9</b>	<b>20</b>	<b>130</b>	<b>270</b>	<b>400</b>

In Overall 45.4% Syllabus of M.Sc has been revised in the academic year of 2019-20

  
Registrar



**APPENDIX III**  
**ACTION TAKEN REPORT ON STAKEHOLDERS FEEDBACK ON CURRICULAM**  
**DEPARTMENT OF MICROBIOLOGY**  
**Academic Year 2017-2018**

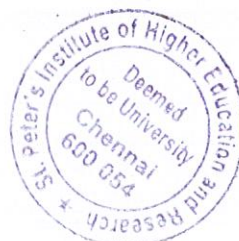
Stakeholder	Feedback	Recommendation	Action taken
Students	It was observed that students like have more practical sessions	Teaching pedagogy to be incorporated.	Students were insisted to take seminar classes using Power point presentation with recently referred articles
Teachers	Assessment practices need more improvement and to be activated to learn	More assessment practices and interactive session needs to be conducted	Weekly test, Continuous assessment tests & Model Exams were conducted
Alumni	Upgrading on use ICT methods were received	Teachers were requested to update the teaching methods	Faculties were requested to opt for ICT teaching methods like PPT presentation, online quiz.
Professional	Updated tendency needs to be contributed in the curriculum.	Suggestions to include topics on recent trends in market.	Faculty members were insisted to share knowledge on recent trends in market.
Employer	Requires enhancement in personality development.	Students were asked to improve their soft skills.	The Department of English was assigned to take up soft skill classes along with a daily schedule to improve the skills of the students.

*S. Sangeetha*

**HOD/MICROBIOLOGY**

Dr. S. Sangeetha  
Asst. Professor/HOD,  
Department of Microbiology,  
St. Peter's Institute of Higher Education and Research  
Avadi, Chennai 600054.

*[Signature]*  
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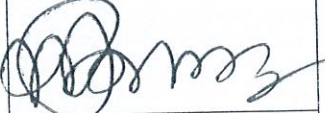

**St.PETERS INSTITUTE OF HIGHER EDUCATION AND RESEARCH**  
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AVADI, CHENNAI-600054

MINUTES OF THE 3<sup>rd</sup> MEETING OF THE BOARD OF STUDIES IN

**VISUAL COMMUNICATION**

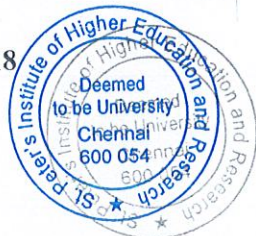
Held on 16-02-2018

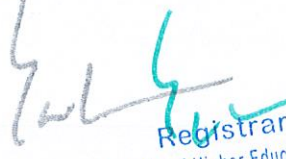
**Members Present**


S.No	Name	Designation	Member	Signature
1.	Mr.S. Kanthaswami	Assistant Professor & Head	Chairman	
2.	Mr. M.P. Prabhu	Assistant Professor, Department of Visual communication, Hindustan College of Arts and Science, Chennai	External Member	
3.	Mr.G.Aravind	Assistant Professor, Department of Visual communication, DG Vaishnav College, Chennai.	External Member	

3.1	Considered the minutes of the 2 <sup>nd</sup> meeting of Board of Studies in Visual Communication held on 24-08-2017 <b>RESOLVED</b> that the minutes of the 2 <sup>nd</sup> meeting of Board of Studies in Visual Communication held on 24-08-2017 be confirmed.
3.2	Reviewed the Regulations & Syllabi of V & VI Semester of B.Sc Visual Communication programme under the Regulations 2016 with Choice Based Credit System (CBCS). <b>RESOLVED</b> that the Regulations & Syllabi of V & VI Semester of B.Sc Visual Communication programme under the Regulations 2016 with Choice Based Credit System (CBCS) be continued.( Appendix-I)
3.3	Considered to include courses having focus on local needs / employability / entrepreneurship /skill development in the syllabi of B.Sc Visual Communication under the Regulations 2016 <b>RESOLVED</b> to include courses having focus on local needs /employability / entrepreneurship /skill development in the syllabi of B.Sc Visual Communication under the Regulations 2016.

Date: 16-02-2018



  
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 Chairman  
 HOD  
 Visual Communication  
 St. Peter's Institute of Higher Education and Research  
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Appendix-I

**St.PETERS INSTITUTE OF HIGHER EDUCATION AND RESEARCH**  
**B.Sc VISUAL COMMUNICATION PROGRAMME –Regulations 2016**  
**REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM**  
**(Effective from the Academic Year 2018-19)**

**V Semester**

Code No.	Course Title		Credit	Marks		
				CA	EA	Total
516UVCT01	<b>Core Sub:</b>	Media, Culture and Society	5	25	75	100
516UVCT02		Television Production	5	25	75	100
516UVCP01		Web Publishing [Practical]	5	V.20	R.80	100
516UVCP02		Advertising Photography [Practical]	5	V.20	R.80	100
516UVET01	Part IV : Value Education (Common to all UG Branches)		2	25	75	100
516UVCP03	Project [Phase 1]		5	40	60	100
<b>Total</b>			<b>27</b>	<b>155</b>	<b>445</b>	<b>600</b>

**VI Semester**

Code No.	Course Title		Credit	Marks		
				CA	EA	Total
616UVCT01	<b>Core Subject:</b>	Media Organization	4	25		100
616UVCP01		TV Production Practice [Practical]	4	V.20	R.80	100
616UVCP02		3 D Animation [Practical]	4	V.20	R.80	100
616UVCP03	Project [Phase 2]		5	40	60	100
616UVCP04	Project [Phase 3]		5	40	60	100
616UEAP01	Extension Activity (Common to all UG Branches)		1	40	60	100
<b>Total</b>			<b>23</b>	<b>185</b>	<b>415</b>	<b>500</b>

Date: 16-02-2018



  
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**Chairman**  
 HOU  
 Dept. of Visual Communication  
 St. Peter's Institute of Higher Education and Research  
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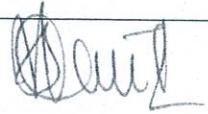
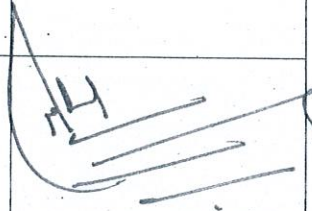


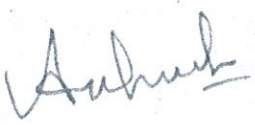
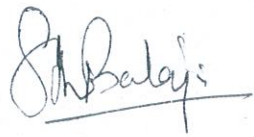
2017-18

**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**  
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AVADI, CHENNAI - 600 054.

**MINUTES OF THE 5<sup>th</sup> MEETING OF THE BOARD OF STUDIES IN  
PHYSICS**


Held on 15<sup>th</sup> March, 2018

**Members Present**

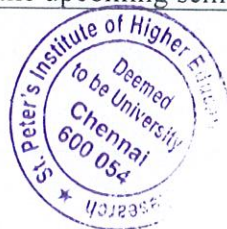
S. No	Name of the Member	Designation	Member	Signature
1.	Dr. S. Stella Mary	Professor & Head Department of Physics SPIHER	Chairperson	
2.	Dr. S. Gunasekaran	Professor Department of Physics SPIHER	Member	
3.	Dr. M. Parasuraman	Professor Department of Physics SPIHER	Member	
4.	Mrs. R. Ramalakshmi	Assistant Professor Department of Physics SPIHER	Member	
5.	Dr G. Anbalagan	Professor Department of Nuclear Physics University of Madras, Guindy Chennai	Academic Expert Member	
6.	Mr. S. L. Balaji	Mr. S. L. Balaji Mobtron Enterprizes, Kilpauk Chennai	Industry Expert Member	



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**Chairperson**  
  
Dr. S. STELLA MARY, M.Sc. M.Phil., Ph.D.,  
Professor & Head, (Research Supervisor)  
Department of Physics  
St. Peter's Institute of Higher Education and Research  
Avadi, Chennai. - 600 054.

5.1	<p>Considered the minutes of the 4<sup>th</sup> meeting of Board of Studies in Physics held on 24.08.2018.</p> <p><b>RESOLVED</b> that the minutes of the 2<sup>nd</sup> meeting of Board of Studies in Physics held on 24.08.2018 be confirmed.</p>
5.2	<p>Reviewed Syllabi of Engineering Physics prescribed for Engineering and Technology programmes under the Regulations 2013, 2015 and 2017.</p> <p><b>RESOLVED</b> that the Syllabi of Engineering Physics prescribed for Engineering and Technology programmes under the Regulations 2013 2015 and 2017 be continued.</p>
5.3	<p>Reviewed Syllabi of Engineering Physics prescribed for Engineering and Technology programmes under the Regulations 2018.</p> <p><b>RESOLVED</b> that the Syllabi of Engineering Physics prescribed for Engineering and Technology programmes under the Regulations 2018 be approved.</p> <p>(Appendix I)</p>
5.3	<p>Reviewed the Regulation &amp; Syllabi of III &amp; IV Semester of B.Sc Physics programme under the Regulations 2016.</p> <p><b>RESOLVED</b> that the Regulation &amp; Syllabi of III &amp; IV Semester of B.Sc Physics programme under the Regulations 2016 be continued with the addition of new courses be continued.</p> <p>(Appendix II)</p>
5.4	<p>Reviewed the Syllabi of Allied Physics I and II prescribed for B,Sc Computer Science, Mathematics and Chemistry programme under the Regulations 2016.</p> <p><b>RESOLVED</b> that the Syllabi of Allied Physics I and II prescribed for B,Sc Computer Science, Mathematics and Chemistry programme under the Regulations 2016. be continued.</p>
5.5	<p>Reviewed the Regulation &amp; Syllabi of I &amp; II Semester of M.Sc Physics programme under the Regulations 2018.</p> <p><b>RESOLVED</b> that the Regulation &amp; Syllabi of I &amp; II Semester of M.Sc Physics programme under the Regulations 2018 be approved.</p> <p>(Appendix II)</p>
	<p>Reviewed the Regulation &amp; Syllabi of M.Phil Physics programme under the Regulations 2018.</p> <p><b>RESOLVED</b> that the Regulation &amp; Syllabi of M.Phil Physics programme under the Regulations 2018 be approved.</p>
5.6	<p>Considered to include value added courses imparting transferable and life skills offered beyond the curriculum in the syllabi of B.Sc (Physics) and M.Sc Physics</p> <p><b>RESOLVED</b> that the value-added courses imparting transferable and life skills offered beyond the curriculum such as course on "Energy Storage Devices" approved for the upcoming semester (2018-19-ODD semester).</p>



Date: 15.03.2018

**Registrar**

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**Chairperson**

DR. S. STELLA MARY, M.Sc, M.Phil., Ph.D.,  
 Professor & Head (Research Supervisor)  
 Department of Physics  
 St. Peter's Institute of Higher Education and Research  
 Avadi, Chennai - 600 054.

(Appendix I)

St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH

B.E/B.Tech

Common to Non-Circuit Branches of Engineering & Technology

Effective from the Academic Year 2018-19

REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM

I Semester

Code No.	Course Title	L	T	P	Credit	Total Credits	Marks				
							CA	EA	Total	Combined Total	
<b>Theory &amp; Practical</b>											
118PHT01	Physics	Theory	3	1	0	4	6	25	75	100	100
118PHP01		Practical	0	0	3	2		25	75	100	
118CST02(CSE) /118MAT02(Others)	Mathematics -I	3	1	0	4	4	25	75	100	100	
118BET03	Basic Electrical Engineering	Theory	3	1	0	4	5	25	75	100	100
118BEP02		Practical	0	0	2	1		25	75	100	
118EGT04	Engineering Graphics & Design	Theory	1	0	0	1	3	25	75	100	100
118EGP03		Practical	1	0	4	2		25	75	100	
<b>Total</b>		<b>11</b>	<b>7</b>	<b>9</b>	<b>18</b>	<b>18</b>	<b>175</b>	<b>525</b>	<b>700</b>	<b>400</b>	



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## Appendix II

## I Semester

CodeNo.	CourseTitle	L	T	P	Credit	Marks		
						CA	EA	Total
ATMT1601/ AHIT1601/ ATET1601/ AFRT1601	Language - I(Tamil/Hindi/Telugu/French)	5	0	0	4	40	60	100
AENT1638	English -I	5	0	0	4	40	60	100
AENT1642	English For Communication	3	0	0	2	40	60	100
A-----	Allied-I	6	1	0	6	40	60	100
APHT1601	Mechanics and Properties of Matter	5	0	0	4	40	60	100
APHL1601	Properties of Matter lab	0	0	4	2	40	60	100
Total		25	1	4	22	240	360	600

## II Semester

CodeNo.	CourseTitle	L	T	P	Credit	Marks		
						CA	EA	Total
ATMT1602/ AHIT1602/ATET 1602/AFRT1602	Language - II(Tamil/Hindi/Telugu/French)	5	0	0	4	40	60	100
AENT1639	English- II	5	0	0	4	40	60	100
A-----	Allied-II	6	1	0	6	40	60	100
AEVT1601	Environmental Science	2	0	0	2	40	60	100
APHT1602	Thermal Physics and Acoustics	5	0	0	4	40	60	100
APHL1602	Thermal Physics and Acoustics lab	0	0	4	2	40	60	100
ASSL1601	Soft Skills- I	0	0	2	1	100	-	100
APHI1601	Internship-I	0	0	0	1	100	-	100
Total		23	1	6	24	440	360	800



*[Signature]*  
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118PHT01	PHYSICS	L	T	P	C
		3	0	0	2

**Pre-requisite:** None

**Course Objectives:**

- To understand the basic concepts in basic Newtons equations.
- To have an overall idea about the conservation of energy
- To understand the basics of frames of reference
- To have an insight on the different motions of bodies
- To acquire knowledge on the basics of rigid body

**Module 1:** Transformation of scalars and vectors under Rotation transformation; Forces in Nature; Newton's laws and its completeness in describing particle motion; Form invariance of Newton's Second Law; Solving Newton's equations of motion in polar coordinates; Problems including constraints and friction; Extension to cylindrical and spherical coordinates

**Module 2:** Potential energy function;  $F = - \text{Grad } V$ , equipotential surfaces and meaning of gradient; Conservative and non-conservative forces, curl of a force field; Central forces; Conservation of Angular Momentum; Energy equation and energy diagrams; Elliptical, parabolic and hyperbolic orbits; Kepler problem; Application: Satellite manoeuvres;

**Module 3:** Non-inertial frames of reference; Rotating coordinate system: Five-term acceleration formula. Centripetal and Coriolis accelerations; Applications: Weather systems, Foucault pendulum;

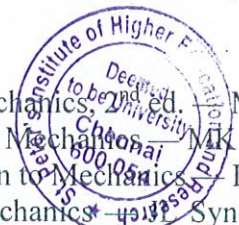
**Module 4:** Harmonic oscillator; Damped harmonic motion – over-damped, critically damped and lightly-damped oscillators; Forced oscillations and resonance.

**Module 5:** Definition and motion of a rigid body in the plane; Rotation in the plane; Kinematics in a coordinate system rotating and translating in the plane; Angular momentum about a point of a rigid body in planar motion; Euler's laws of motion, their independence from Newton's laws, and their necessity in describing rigid body motion; Examples.

**Module 6:** Introduction to three-dimensional rigid body motion — only need to highlight the distinction from two-dimensional motion in terms of (a) Angular velocity vector, and its rate of change and (b) Moment of inertia tensor; Three-dimensional motion of a rigid body wherein all points move in a coplanar manner: e.g. Rod executing conical motion with center of mass fixed — only need to show that this motion looks two-dimensional but is three-dimensional, and two-dimensional formulation fails.

**Suggested Reference Books**

- (i) Engineering Mechanics, 2nd ed., MK Haldar
- (ii) Introduction to Mechanics, MK Verma
- (iii) An Introduction to Mechanics, D Kleppner & R Kolenkow
- (iv) Principles of mechanics, Syngé & BA Griffiths
- (v) Mechanics — JP Den Hartog



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- (vi) Engineering Mechanics - Dynamics, 7<sup>th</sup> ed. - JL Meriam  
(vii) Mechanical Vibrations — JP Den Hartog

**Course Outcome:**

**After completion of the course students will be able**

- CO1: To understand the basic concepts in basic Newtons equations.  
CO2: To have an overall idea about the conservation of energy  
CO3: To understand the basics of frames of reference  
CO4: To have an insight on the different motions of bodies  
CO5: To acquire knowledge on the basics of rigid body



  
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118PHT01	PHYSICS LABORATORY	L	T	P	C
		0	0	4	2

**Pre-requisite:** None

**Course Objectives:**

- To introduce different experiments to test basic understanding of physics concepts applied in optics
- To introduce different experiments to test basic understanding of physics concepts applied in thermal physics
- To introduce different experiments to test basic understanding of physics concepts applied in properties of matter and liquids.
- To acquire knowledge on the measuring instruments

**LIST OF EXPERIMENTS: PHYSICS LABORATORY (Any five)**

1. Determination of Moment of Inertia and rigidity modulus – Torsion pendulum
2. Determination of Young's modulus by non-uniform bending method
3. Determination of thermal conductivity of a bad conductor – Lee's Disc method
4. RC coupled Oscillator
5. Ultrasonic Interferometer-Determination of Velocity of Ultrasonic waves of the given liquid and compressibility
6. Experiments with gyroscope
7. Experiments on an air track

**Course Outcome:**

After completion of the course students will be able

- CO1** To introduce different experiments to test basic understanding of physics concept applied in optics
- CO2** To introduce different experiments to test basic understanding of physics concepts applied in thermal physics
- CO3** To introduce different experiments to test basic understanding of physics concepts applied in properties of matter and liquids.
- CO4** To acquire knowledge on the measuring instruments



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**St. PETER'S INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

**B.E/B.Tech**

**Common to Circuit Branches of Engineering & Technology**

**Effective from the Academic Year 2018-19**

**REGULATIONS AND SYLLABI UNDER CHOICE BASED CREDIT SYSTEM**

**II Semester**

Code No.	Course Title	L	T	P	Credit	Total Credit	Marks				
							CA	EA	Total	Combined Total	
<b>Theory &amp; Practical</b>											
218PHT01	Physics	Theory	3	1	0	4	6	25	75	100	100
218PHP01		Practical	0	0	3	2		25	75	100	
218CST02(CSE) / 218MAT02(Others)	Mathematics -II		3	1	0	4	4	25	75	100	100
218PPT03	Programming for Problem Solving	Theory	3	0	0	3	5	25	75	100	100
218PPP02		Practical	0	0	4	2		25	75	100	
218WMT04	Workshop / Manufacturing Practices	Theory	1	0	0	1	3	25	75	100	100
218WMP03		Practical	0	0	4	2		25	75	100	
<b>Total</b>			<b>10</b>	<b>2</b>	<b>11</b>	<b>18</b>	<b>18</b>	<b>175</b>	<b>525</b>	<b>700</b>	<b>400</b>

  
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118PHT01	PHYSICS	L	T	P	C
		3	0	0	2

**Pre-requisite:** None

**Course Objectives:**

- To understand the basic concepts of wave nature of particles
- To have an overall idea about the solids
- To understand the basics of magnetostatics
- To have an insight on Electrostatics
- To acquire knowledge on the basics of Laser

**Module 1: Wave nature of particles and the Schrodinger equation:** Introduction to Quantum mechanics, Wave nature of Particles, Time-dependent and time-independent Schrodinger equation for wavefunction, Born interpretation, probability current, Expectation values, Free-particle wavefunction and wave-packets, Uncertainty principle.

**Module 2: Introduction to solids:** Free electron theory of metals, Fermi level, density of states, Application to white dwarfs and neutron stars, Bloch's theorem for particles in a periodic potential, Kronig-Penney model and origin of energy bands Numerical solution for energy in one-dimensional periodic lattice by mixing planewaves.

**Module 3: Magnetostatics:** Bio-Savart law, Divergence and curl of static magnetic field; vector potential and calculating it for a given magnetic field using Stokes' theorem; the equation for the vector potential and its solution for given current densities.

**Module 4: Electrostatics in a linear dielectric medium:** Electrostatic field and potential of a dipole. Bound charges due to electric polarization; Electric displacement; boundary conditions on displacement; Solving simple electrostatics problems in presence of dielectrics-Point charge at the centre of a dielectric sphere, charge in front of a dielectric slab, dielectric slab and dielectric sphere in uniform electric field. **Module 5: Wave optics:** Huygens' principle; superposition of waves and interference of light by wave front splitting and amplitude splitting; Young's double slit experiment, Newton's rings, Michelson interferometer, Mach-Zehnder interferometer. Farunhofer diffraction from a single slit and a circular aperture, the Rayleigh criterion for limit of resolution and its application to vision; Diffraction gratings and their resolving power.

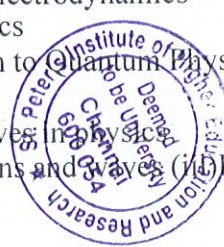
**Module 6: Lasers :** Einstein's theory of matter radiation interaction and A and B coefficients; amplification of light by population inversion, different types of lasers: gas lasers ( He-Ne, CO<sub>2</sub>), solid-state lasers(ruby, Neodymium), dye lasers; Properties of laser beams: mono-chromaticity, coherence, directionality and brightness, laser speckles, applications of lasers in science, engineering and medicines.

**Suggested Text Books**

- David Griffiths, Introduction to Electrodynamics
- D. J. Griffiths, Quantum mechanics
- Eisberg and Resnick, Introduction to Quantum Physics

**Suggested Reference Books**

- Ian G. Main, Oscillations and waves in physics
- H.J. Pain, The physics of vibrations and waves
- A. Ghatak, Optics
- O. Svelto, Principles of Lasers
- Halliday and Resnick, Physics
- E. Hecht, Optics



*[Handwritten Signature]*  
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- (ix) W. Saslow, Electricity, magnetism and light  
(x) D.J. Griffiths, Quantum mechanics

**Course Outcome:**

**After completion of the course students will be able**

CO 1 To understand the basic concepts of wave nature of particles

CO 2 To have an overall idea about the solids

CO 3 To understand the basics of magnetostatics

CO 4 To have an insight on Electrostatics

CO 5 To acquire knowledge on the basics of Laser



  
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### NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

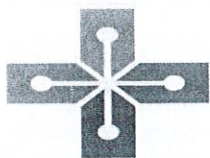
#### M.Sc. – PHYSICS

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	PHP	M.Sc. - Physics	118PMPT02	CLASSICAL MECHANICS & RELATIVITY
2	PHP	M.Sc. - Physics	118PMPT03	QUANTUM MECHANICS- I
3	PHP	M.Sc. - Physics	118UPHT04	INTEGRATED CIRCUITS & MICROPROCESSOR 8085
4	PHP	M.Sc. - Physics	118PMPP01	ADVANCED PHYSICS & ELECTRONICS
5	PHP	M.Sc. - Physics	118PMST01	SOFT SKILLS I
6	PHP	M.Sc. - Physics	218PMPT01	STATISTICAL MECHANICS
7	PHP	M.Sc. - Physics	218PMPT02	QUANTUM MECHANICS- II
8	PHP	M.Sc. - Physics	218PMPT03	SPECTROSCOPY
9	PHP	M.Sc. - Physics	218PMPE01	MEDICAL PHYSICS
10	PHP	M.Sc. - Physics	218PMPE02	CRYSTAL GROWTH AND CHARACTERIZATION
11	PHP	M.Sc. - Physics	218PMPE03	BIO MATERIAL SCIENCE
12	PHP	M.Sc. - Physics	218PMPP01	ADVANCED PHYSICS & MICROPROCESSOR 8085
13	PHP	M.Sc. - Physics	218PMST02	SOFT SKILLS II
14	PHP	M.Sc. - Physics	418PMPE05	ELECTRONICS IN DAILY LIFE SCIENCES
15	PHP	M.Sc. - Physics	118PMPT01	MATHEMATICAL PHYSICS



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## NEW COURSES FOR THE ACADEMIC YEAR 2018-2019

### B.Sc. - PHYSICS

S.No	Programme Code	Programme Name	Course Code	Name of the Course
1	PHU	B.Sc. - Physics	316UPHT03	OPTICS
2	PHU	B.Sc. - Physics	316UPHP01	MAJOR PRACTICAL III
3	PHU	B.Sc. - Physics	316UPHT04	ALLIED CHEMISTRY I
4	PHU	B.Sc. - Physics	316UPHP04	ALLIED CHEMISTRY PRACTICAL I
5	PHU	B.Sc. - Physics	316UCCT01	SOFT SKILLS
6	PHU	B.Sc. - Physics	416UPHT03	ATOMIC PHYSICS
7	PHU	B.Sc. - Physics	416UPHP01	MAJOR PRACTICAL IV
8	PHU	B.Sc. - Physics	416UPHT04	ALLIED CHEMISTRY II
9	PHU	B.Sc. - Physics	416UPHP04	ALLIED CHEMISTRY PRACTICAL II
10	PHU	B.Sc. - Physics	518UPHT05	COMMUNICATION PHYSICS



  
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