

**SRI VENKATESWARA COLLEGE OF ENGINEERING**  
(An Autonomous Institution: Affiliated to Anna University, Chennai – 25)  
**MINUTES OF XVII ACADEMIC COUNCIL MEETING**

Ref.: AC MIN/2022-23/17

Date & Time: 21.04.2023, 09.00 AM

Mode: Physical and Online Mode. (Google meet Link: [meet.google.com/fet-echr-kjf](https://meet.google.com/fet-echr-kjf))

Venue: Conference Hall - Central Library – SVCE

**Members present:**

01.	Dr. S. Ganesh Vaidyanathan, Principal/SVCE, Chairperson	14.	Dr.K.R.Shantha, HoD/EEE, Member
02.	Dr. K. Arunachalam Professor Automobile Engineering, MIT Campus Anna University. AU Nominee	15.	Dr.S.Muthukumar, HoD/ECE, Member
03.	Dr. M. Vijayaraj Prof. & Head/ECE/GCE Tirunelveli AU Nominee	16.	Prof. S.Krishnan, HoD/MAR, Member
04.	Dr. R. Boopathi Rani (Joined through G-meet) Assistant Professor NIT- Puducherry - AU Nominee	17.	Dr.S.RameshBabu, HoD/MEC, Member
05.	Mr. S. Ravichandran Chief Operating Officer, Common Rail & Rotary Business, Delphi-TVS Technologies, Industrial Expert Member	18.	Dr. A. Bhaskar, HoD/APH, Member
06.	Mr. K. Shankar Director, CREVAC TECH PRIVATE LIMITED, Industrial Expert Member	19.	Dr. K. S. Badrinathan, Dean/Educational Development, Member
07.	Dr. N. Kumaravel, Professor of Eminence, Anna University, Subject Expert Member	20.	Dr.T.Murugavel, HoD/HSS, Member
08.	Sri. Amit. R. Shah Head – Delivery Function M/s The Math Company, Bangalore Special Invitee.	21.	Dr.C.Gopinath, Associate Professor/EEE, Member
09.	Dr. J. Venkatesan, HoD/AUT, Member	22.	Mr. V.Gurusamy, AP/Marine, Member
10.	Dr. E. Nakkeran, HoD/BIO, Member	23.	Dr. R. Ramesh. Dean (Academics) Special Invitee
11.	Dr.N.Meyyappan, HoD/CHE, Member	24.	Dr. M. Prem Ananth, DCoE/SVCE, Recording Member
12.	Dr.R.Kumutha, HoD/CVE, Member	25.	Dr. M. Sivanandham Secretary/SVEHT, Permanent Invitee (Joined through G-meet)
13.	Dr.R.Anitha, HoD/CSE, Member	26.	Dr. K. Pitchandi, CoE/SVCE Member Secretary



## 17.1 WELCOME NOTE AND CHAIRPERSON ADDRESS

The Chairperson welcomed all members, Anna university nominees, industrial experts, alumni and subject experts and initiated the proceedings. He mentioned that all the members are present in the meeting except Dr. S. Muthulumar, HoD/ECE, Dr. V. Vidya HoD/INT and Mr. Ganesh Kalyanaraman, who requested the leave of absence due to his pre occupied official commitment.

He also mentioned that following special invitee from The Math Company was called for the meeting as a one-time measure to obtain the Industrial feedback about the Curriculum and syllabus development under the regulation 2022.

01.	Mr. Amit Shah Math Company
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He further explained the agenda points of the meeting to the members as follows.

1. Approval of XVI Academic Council Meeting (held on 08.10.2022) Minutes sent through E mail on 02.11.2022.
2. Assessment methodology for Tamil Subjects.
3. Replacement of Subject CY22251 for B. Tech Chemical Engineering students with their own subject
4. Fees to be fixed for the Honours and Minor Degree schemes.
5. Modalities for facilitating the students to study one semester away from the campus.
6. Indian Traditional knowledge system.
7. Briefing of minutes of various Boards of Studies meetings by Chairpersons to the Council.
8. Any other matter with the permission of the Chair.

### 17.2 Briefing by Secretary/Special Invitee

Prof. M. Sivanandham welcomed the members of the council. He appreciated the various steps taken by the college for incorporating the NEP 2020 in our academic related activities.

### 17.3 Discussion on the Agenda

The agenda points mentioned in 17.1 were discussed in detail among the members. After discussing about the various points, the following resolutions mentioned in 17.4 were passed.

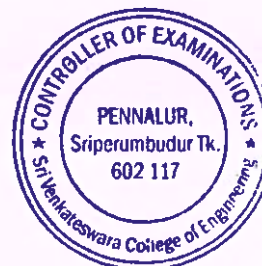
### 17.4 Resolutions

17.4.1 Resolved to approve the minutes of the 16<sup>th</sup> Academic council meeting, held on 08.10.2022.

17.4.2 It is resolved to approve that the following subjects are going to be evaluated only through Formative assessments. Summative examinations would not be conducted for these two courses.

*Note: More activity based Formative assessments are recommended for these two courses by the council*

Sl. No	Subject Code	Subject Name	Credit
01.	HS22151	Tamil language and Heritage of Ancient Tamil Society (Common to all branches)	1
02.	HS22251	Science and Technology in Ancient Tamil Society (Common to all Branches)	2



*17.4.3 It is resolved to approve the following recommendation of Chemical and Biotechnology Board in their Board of Studies meeting held on 21.03.2023,*

A new subject "Introduction to Chemical Engineering", with a subject code as CH22201, is introduced in the B.Tech., Chemical Engineering Curriculum in the place of CY22251 – Physical Organic Chemistry.

*17.4.4 It is resolved to approve the following as a recommendation to the Governing council for their approval.*

The fee for the Honours and Minor scheme is fixed as an amount proportionate to 20 credits. This is based on the tuition fee fixed by the Government for all the students irrespective of their category. Further the students will be permitted to pay these fees as and when they register the courses for the Honours and Minor scheme in a particular semester.

*17.4.5 It is resolved to approve the following instructions with respect to the facilitation of studying one semester away from the campus.*

- (i) A student can earn a maximum credit which is equal to the sum of credits allotted for professional and Open electives in their curriculum. It includes the credits earned by studying the online courses using SWAYAM.*
- (ii) Eligible Institutions are identified by the PCC as per the guidelines given by AICTE and UGC.*
- (iii) There will not be any examinations at SVCE to approve the credits earned through online course or through another institutions.*
- (iv) PCC will determine the letter grade (O, A+, A, B+, B, C, U) based on the students' performance in those subjects.*
- (v) Students should meet out the expenditure incurred towards the above said program, on their own.*

17.4.6 It is resolved to consider agenda 6 for discussion, after the internal discussion for finalising 2 or 3 subjects with the tailor-made syllabus, in the next academic council meeting to be scheduled in the month of September/October 2023 for approval.

17.4.7 It is resolved to approve the minutes of the following Boards of studies meeting submitted by the respective chairpersons. The minutes of the meetings are attached as Annexure I

1. Automobile and Mechanical Engineering board
2. Biotechnology and Chemical Engineering board
3. Civil Engineering board
4. Computer Science & Engineering and Information Technology board
5. Electrical, Electronics and Communication Engineering board
6. Marine Engineering board
7. Applied sciences and HSS board

As there were no further points for discussion, the Chairperson concluded the Academic Council meeting by thanking all the members for their active participation.



*[Handwritten signature in blue ink]*  
20/6/23

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(Dr. S. Ganesh Vaidyanathan)  
Chairperson/ Academic Council – SVCE



21.04.2023

**Minutes of Meeting of Board of Studies for Faculty of Mechanical and Automobile Engineering held on 12.04.2023**

The meeting of Board of Studies for Faculty of Mechanical and Automobile Engineering was held on 12.04.2023 at 2.00 pm on HYBRID mode (Venue: CAD Lab/MEC, Link: <https://meet.google.com/xcd-kogy-qpr>).

**Members attended:**

Sl. No.	Name with Designation and Address	Category
1	Dr. J. Venkatesan Professor & Head Department of Automobile Engineering, SVCE	Chairman
2	Dr. K. Ramesh, Professor Department of Mechanical Engineering Government College of Technology, Coimbatore - 641 013	University Nominee
3	Dr. M. Senthil Kumar Prof. and Head Department of Automobile Engineering MIT Campus, Anna University, Chennai	Expert Member 2
4	Mr. I. Meenakshi Sundaram, CTO, Amalgamations Component Group, Chennai	Industrial Expert
5	Mr. L. Pasupathi, Divisional manager - Digital Organization Tractors and Farm Equipment Limited, Chennai - 600 011	Industrial Expert
6	Dr. Rino Nelson, Assistant Professor Indian Institute of Information Technology, Design and manufacturing, Kancheepuram (Dist) - 600 127	PG meritorious Alumnus
7	Dr. S. Ramesh Babu Professor & Head Department of Automobile Engineering, SVCE	Member
8	All faculty members of Faculty	Members

**Agenda of the Meeting**

1. Approval of the previous minutes.
2. Approval of curriculum of II, III and IV Year UG programs under Regulations 2022.
3. Approval of syllabus of II Year UG programs under Regulations 2022.

At the start of the meeting Dr. J. Venkatesan, Chairman and Dr. S. Ramesh Babu, HoD-MEC welcomed the members of Board of Studies. Dr. S. Vengadesan expressed his inability to attend the meeting due to his personal work.

### **1. Approval of the minutes of previous meeting held on 06.10.2022**

- Dr. J. Venkatesan, Chairman presented minutes of previous meeting of Board of Studies held on 06.10.2022 for the discussion and approval. BoS approved the minutes.

### **2. Approval of curriculum of II, III and IV Year UG programs under Regulations 2022**

- Chairman and HoD AUT presented the curriculum II, III and IV Year B.E. Automobile Engineering. He explained the salient points of the new curriculum. He also explained the outcome of the stakeholders meetings which was held on 06.04.2023.
- Dr. Ramesh Babu, HoD MEC presented the curriculum and syllabus B.E. Mechanical Engineering and B.E. Mechanical and Automation Engineering. He also explained the outcome of the stakeholders meetings which was held on 01.04.2023 and 05.04.2023.

### **3. Approval of syllabus of II Year UG programs under Regulations 2022**

- Chairman and HoD AUT presented the Syllabus of II and III Semester B.E. Automobile Engineering. Dr. Ramesh Babu, HoD MEC presented the syllabus B.E. Mechanical Engineering and B.E. Mechanical and Automation Engineering.

### **General Comments:**

The following are the important comments and feedback provided by the expert members.

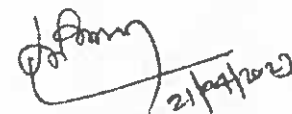
- Professional core subjects should be less than 50%
- Prerequisite if applicable should be included for the subjects.
- Verticals which are identified for Minors and Honours should specifically be mentioned in the curriculum.
- Course outcomes were not mapped with the majority of the POs in many subjects and hence the Course articulation matrix of the subjects should be revisited.
- Adiabatic flame temperature should be added in the subject "Basic and Applied Thermodynamics" and Basics of Mass Transfer in the subject "Thermal Engineering and Heat Transfer".



- University nominee suggested to have maximum of 5 Verticals including Diversified Groups to avoid practical issues during the execution of the concept of Honours and Minor Degrees.
- University nominee suggested to offer the subject related to "Ethics" in the earlier semesters.
- He also suggested to have minimum number of reference books 2 to 3.
- He suggested to prescribe Fluid Mechanics by A.K. Mohanty as a reference book for the subject "Fluid Mechanics".
- The expert member suggested reducing the credit of the course 'Hydraulics & Pneumatics' from 4 credits to 3 credits (2 0 2 3).
- The Anna University nominee appreciated the procedure followed for framing the curriculum by taking the feedback from the stakeholders and convening the meeting with the internal and external stakeholders. He also appreciated the inclusion of certain verticals such Piping design, Automation etc.
- Dr. K. Ramesh, University Nominee suggested having some common verticals for Mechanical Engineering and Mechanical and Automation Engineering programs.
- In the course "Operations Research", the expert member suggested using the latest techniques and the latest edition textbooks and to take some of the topics from the NPTEL courses.

**Resolutions:**

1. It was resolved to approve the minutes of the meeting held on 06.10.2022
2. It was resolved to recommend the curriculum of II, III and IV Year UG programs under Regulations 2022 for the approval of Academic Council.
3. It was resolved to recommend the syllabus of II Year UG programs under Regulations 2022 for the approval of Academic Council.



**(Dr. J. Venkatesan)**

Chairman - BoS  
Chairman  
Board of Studies  
Faculty of Mechanical Engineering  
Sri Venkateswara College of Engineering  
Pennalur, Sriperumbudur (Tk) - 602 117



# SVCE

Sri Venkateswara  
College of  
Engineering

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## Board of Studies of Faculty of Biotechnology and Chemical Engineering

### Minutes of the 16<sup>th</sup> Board of Studies Meeting

Ref: SVCE/BoS-BT&CH/2022-23/16

Date: 21/03/2023

Time: 08.45 AM to 1.00 PM

The board of studies meeting for Biotechnology (BT) and Chemical Engineering (CH) Board was held on 21<sup>st</sup> March, 2023 through hybrid mode. The meeting started at 8.45 am. The following members were present in the meeting.

1. Prof. N. Meyyappan, Professor & HOD, Department of Chemical Engineering, SVCE, Chairman, BOS for BIO & CHE.
2. Prof. P. Rani, Department of Biotechnology, PSG College of Technology, Peelamedu, Coimbatore – 641004, Anna University Nominee.
3. Sri. A. Ramasubramanian, General Manager - Process, M/s.Technip India Limited, Chennai. Industry Expert - CHE.
4. Prof. N. Balasubramanian, Professor, Department of Chemical Engineering, A C Tech., Anna University, Chennai – 600025, Subject Expert – CHE.
5. Prof. M. Sivanandham, Secretary, & Professor of Biotechnology, SVCE (Special Invitee).
6. Dr.E. Nakkeeran, Professor & HOD, Department of Biotechnology, SVCE. (Member)
7. All the faculty members of the Department of Biotechnology and Department of Chemical Engineering, SVCE (Members).

Prof. N. Meyyappan, Chairman of BoS of BIO & CHE, welcomed the members of the BoS and preceded the BoS meeting by introducing the members to the Committee.

Following points were discussed in the BoS meeting

**Agenda:1 Approval of the previous minutes**

1. The previous minutes of the meeting was displayed by the chairman and got it approved by the members.

**Agenda:2 Amendments to be made in Second Semesters of R2022 Curriculum**

**a) B. Tech (Chemical Engineering)**

Expert members recommended the proposed inclusion of Introduction to Chemical Engineering subject in second Semester instead of CY22251- Physical Organic Chemistry, because the contents of syllabus in Physical Organic Chemistry are repeated in the fore coming courses.

The members suggested that external lectures by industrial experts on the contents present in Introduction to Chemical Engineering can be arranged for the students to introduce the course.

**b) M. Tech (Chemical Engineering)**

BoS members accepted the reduction of credits to 4 from 5 credits for the following two Professional core subjects CL22104 - Process Modeling and Simulation (Integrated) and CL22204- Software applications in Chemical Industries (Integrated)

**Agenda : 3 Draft Curriculum for R22 higher semesters**

**a) B. Tech (Chemical Engineering)**

- 1.A new draft curriculum for B.Tech Chemical Engineering was proposed to the committee and the following points were discussed.
- 2.Expert members accepted the exclusion of laboratory courses in Seventh semester and elective courses in Eighth semester.
- 3.Prof. Rani suggested to have only six verticals with 8 theory courses and one laboratory course for Honors and Minor degree.
- 4.Industrial expert Mr. Ramasubramanian suggested that industrial expert lectures will be arranged for students to make interest of Chemical Engineering in the induction program. He suggested to arrange for senior students to make ease of equipment design course.
- 5.Skill development course will be given to the students to enhance the skill development and ease of adaptability to industries.
- 6.A new laboratory course of Environmental Engineering Laboratory was proposed in III Semester and unanimously accepted by BoS members.

7. Expert members appreciated for being handled one unit of CH18604 & CH18704 - Process Equipment Design I & II courses in R2018 syllabus by Mr. Elango, Consultant, Mr. Hamad Ahmed, KBR Systems Pvt. Ltd.,
8. BoS members insisted to handle minimum of five lectures of GATE coaching class and Chemical Software courses per week to enhance the knowledge on software skill development courses.
9. BoS members recommended the revised curriculum from I to VIII Semesters of B Tech – Chemical Engineering and the Syllabus for III and IV Semester and gave their consent for getting it approved in the forthcoming Academic Council Meeting.

**b) M. Tech (Chemical Engineering)**

1. A new draft curriculum for M.Tech Chemical Engineering from I to IV Semester was proposed with few modifications and was approved, as it did not deviate much from the AICTE Model Curriculum.
2. BoS members recommended this updated curriculum along with the syllabus from I to IV Semesters of M Tech – Chemical Engineering and gave their consent for getting it approved in the forthcoming Academic Council Meeting.

**c) B.Tech (Biotechnology)**

1. Prof. E. Nakkeeran, HOD/BIO informed the members that feedbacks were obtained from internal and external stakeholders and accordingly a modified draft curriculum (Semester III to VIII) has been prepared. Syllabus for all the courses of Semester III and IV has also been prepared. He also informed that the syllabus has been modified for the course “BT22211-Bioorganic Chemistry Laboratory” in semester II of B.Tech Biotechnology programme (R2022) as per the suggestions received from stakeholders.
2. Dr. K. Vasantharaj, Academic Objective Coordinator/BIO presented the revised syllabus for the course “BT22211-Bioorganic Chemistry Laboratory”. The BoS members accepted changes made in syllabus and recommended the same to the Academic Council for approval.
3. The modified draft curriculum (Semester III to VIII) was presented to the members. Prof. Rani provided the following suggestions to be included in the curriculum.
  - i. The course name “Biostatistics” in Semester IV shall be changed to “Introduction to Biostatistics”.
  - ii. The course name “Biochemical Thermodynamics” in Semester IV shall be changed to “Chemical and Biochemical Thermodynamics”.
  - iii. The course name “Chemical Engineering Laboratory for Biotechnologists” in semester IV shall be changed to “Chemical Engineering Laboratory”.

- iv. The course name "Interpersonal Skills Laboratory for Biotechnologists" in semester I shall be changed to "Communication Skills Laboratory".
  - v. The course name "Bioprocess and Enzyme Engineering" shall be changed to "Bioprocess Engineering" and a separated course shall be offered for "Enzyme Engineering" either as a core or elective course.
  - vi. Mandatory Course II shall be included in Semester V.
  - vii. The order of the courses in each vertical shall be provided in order (from basic to advanced level).
  - viii. The course "Protein Engineering and Applications" in vertical III shall be removed and an alternative course can be offered.
  - ix. The course "Bio-fertilizer Production and Mushroom Cultivation" in vertical IV shall be removed and an alternative course can be offered.
  - x. The courses "Fundamentals of Animal Biotechnology" and "Advances in Biotechnology" in vertical V shall be merged into a single course and another new course can be added.
  - xi. The course "Animal Genomics" in vertical V shall be replaced with a new course.
  - xii. The title of vertical VI shall be revised appropriately.
4. The syllabus for the courses from Semester III to IV was presented to the members. All the members accepted and recommended the same to the Academic Council for approval.

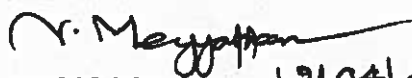
**d) M.Tech (Biotechnology)**

Prof. E. Nakkeeran, HOD/BIO informed the members that there are no changes required in the R2022-M. Tech Curriculum and Syllabus (Semester I to IV) which has been already approved by all the expert members of BoS in the previous meeting.

The Chairman informed that the recommendations made by the BoS members will be forwarded to the Academic Council of SVCE for further approval.

Dr. E. Nakkeeran, HOD/ BIO delivered the vote of thanks to the BOS members for their presence and valuable suggestions.


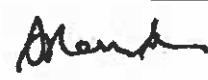

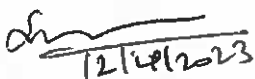
The Chairman thanked all the members for their presence and this meeting was adjourned at 1.00PM.

  
Prof. N. Meyyappan, 12/04/23

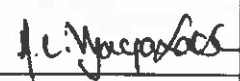
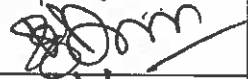

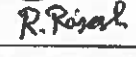
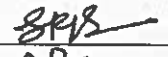
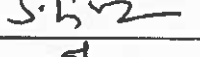

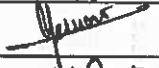
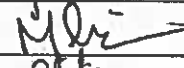



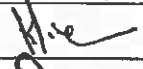

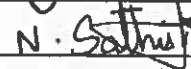
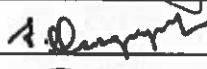
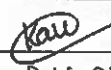
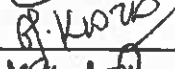

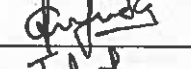

Chairman - BoS

Faculty of Biotechnology and Chemical Engineering

Members

 Prof. P. Rani, Anna University Nominee, Professor, Department of Biotechnology, PSG College of Technology, Coimbatore – 641004,.	 Sri. A. Ramasubramanian, Industry Expert - CHE. General Manager - Process, M/s. Technip India Limited, Chennai.
 Prof. N. Balasubramanian, Academic Expert, Professor, Department of Chemical Engineering, A C Tech., Anna University, Chennai – 600025.	Prof. M. Sivanandham, Secretary, SVEHT, Professor of Biotechnology, SVCE.
 Dr. E. Nakkeeran, Professor & HOD, Department of Biotechnology, SVCE	

Faculty Members of the Department of Chemical Engineering and Biotechnology:

S.No	Name of the Faculty	Designation	Signature
1.	Ms. Vijayalakshmi.A.C	Asst. Professor, Curriculum coordinator – CHE	
2.	Dr.K.Vasanthraj	Asst.Professor, Curriculum coordinator – BIO	
3.	Dr.R.Govindarasu	Asso.Professor, AHOD	
4.	Dr.R.Palani	Associate Professor	
5.	Dr. G. Sudha	Associate Professor	
6.	Dr. R. Rajesh @ Nithyanandham	Associate Professor	 R. Rajesh
7.	Mr. S. Rajasekar	Asst.Professor	
8.	Dr. D. Sivakumar	Asst.Professor	
9.	Mr. N. Arun Prem Anand	Asst.Professor	
10.	Mr. S. Jai Ganesh	Asst.Professor	
11.	Dr. N.P.Kavitha	Asst.Professor	
12.	Dr.G.Manikandan	Asst.Professor	
13.	Dr.M.Srividhya	Asst.Professor	
14.	Dr.Philip Bernstein Saynik	Asst.Professor	
15.	Mr. M. AnandaBoopathy	Asst.Professor	
16.	Dr. V.Sumitha	Professor	
17.	Dr.S. Pandi Prabha	Professor	
20.	Dr.K.Divakar	Associate Professor	
21.	Mr.J.Hariharan	Asst.Professor	
22.	Mr.N.Sathish	Asst.Professor	 N. Sathish
23.	Mr.S.Nagavignesh	Asst.Professor	
24.	Mrs.N.Kanagam	Asst.Professor	
27.	Dr.G.Karthiga Devi	Asst.Professor	 G. Karthiga
28.	Dr.K.Ganesh Prasath	Asst.Professor	
29.	Mr.J.G.Aswin Jenio	Asst.Professor	
30.	Dr.J.Isaivani	Asst.Professor	 J. Isaivani



**SRI VENKATESWARA COLLEGE OF ENGINEERING**  
(An Autonomous Institution, affiliated to Anna University Chennai)  
Pennalur, Sriperumbudur-Tk

**DEPARTMENT OF CIVIL ENGINEERING**  
**MINUTES OF THE BOARD OF STUDIES MEETING**

Date of meeting : 31-03-2023 (Friday) , Online Mode Time:2.00 P.M

Google meet link : [meet.google.com/pwi-jciw-ydo](https://meet.google.com/pwi-jciw-ydo)

The Board of Studies meeting for the Faculty of Civil Engineering was held on 31.03.2023 at 2.00 pm through Online mode and the following members were present:

S.No.	Name with Designation and Address	Category
1.	<b>Dr. R. Kumutha</b> Professor & Head Dept. of Civil Engineering, SVCE	Chairman, BoS
2.	<b>Dr. S. Krishnamoorthi</b> Professor, Dept. of Civil Engineering Kongu Engineering College Perundurai, Erode - 638 060	University Nominee
3.	<b>Dr. S. T. Ramesh</b> Professor, Dept. of Civil Engineering, National Institute of Technology Tiruchirapalli - 620015	Member -Subject Expert
4.	<b>Dr. R. Saravanan</b> Professor Department of Civil Engineering, College of Engineering Guindy Anna University, Chennai – 600025.	Member -Subject Expert
5.	<b>Dr. S. Justin</b> Joint General Manager - Design Engineering Design & Research Centre, Buildings and Factories, Health Division Larsen & Toubro construction, Chennai	Member -Industrial Expert
6.	<b>Mr. Sai Prasad Vijayakumar</b> Associate Proposals Manager Global Competence Centre (G3C) NKT Operations India Pvt. Ltd, Guindy Chennai – 600032	Member -Alumnus
7.	Dr. P. Venkateswara Rao, Professor/Civil, SVCE	Member
8.	Dr. M. Selvakumar, Associate Professor/Civil, SVCE	Member



9.	Dr. R. Sathia, Associate Professor/Civil, SVCE	Member
10.	Ms. Ruby Freya, Assistant Professor/Civil, SVCE	Member
11.	Mr. G. Arun, Assistant Professor/Civil, SVCE	Member
12.	Mr. R. Mathiyazhagan, Assistant Professor/Civil, SVCE	Member
13.	Mr. R. Kalaivannan, Assistant Professor/Civil, SVCE	Member
14.	Mr.S.Hariswaran, Assistant Professor/Civil, SVCE	Member
15.	Mr.A. Vijay Vignesh, Assistant Professor/Civil, SVCE	Member

#### AGENDA:

- R-2022 Curriculum Development
  - a. Curriculum 1 to 8<sup>th</sup> semesters
  - b. Syllabi of 3<sup>rd</sup> and 4<sup>th</sup> semester courses
  - c. List of courses in verticals for Professional electives
- Proposal of Certificate courses

The Chairman welcomed the Board of Studies members.

1. The agenda of the meeting was briefed to the members.
2. Chairman presented the department profile.
3. The salient features of Regulations -2022 were highlighted.
4. The proposed curriculum of the Regulation 2022 was presented. The same is enclosed in Annexure 1.
  - 4.1 Dr.R.Saravanan clarified the distribution of L T P C for a 3 credit TNP course.
5. The syllabus of the courses offered by the Department in the second year under Regulation 2022 was presented.

S. No	Course Title	Type	Total Periods	L	T	P	C	Designed by
<b>Semester III</b>								
1.	Soil Mechanics	T	45	3	0	0	3	Mr. S. Hariswaran
2.	Construction Techniques, Equipments and Practices	T	45	3	0	0	3	Dr. R. Sathia
3.	Surveying	TNP	75	3	0	2	4	Mr. G. Arun
4.	Strength of Materials	T	60	3	1	0	4	Dr. R. Kumutha
5.	Fluid Mechanics	TNP	75	3	0	2	4	Mr. R. Kalaivannan
6.	Highway Engineering	TNP	60	2	0	2	3	Dr. M. Selvakumar
7.	Strength of Materials Laboratory	P	30	0	0	2	1	Dr. P. Venkateswara Rao

S. No	Course Title	Type	Total Periods	L	T	P	C	Designed by
<b>Semester IV</b>								
1.	Numerical and Statistical Methods	T	45	3	1	0	4	APM
2.	Applied Hydraulic Engineering	TNP	75	3	0	0	2	Mr. R. Kalaivannan
3.	Structural Analysis I	T	45	3	0	0	3	Ms. Ruby Freya
4.	Water Supply and Wastewater Engineering	T	60	4	0	0	4	Mr. R. Mathiyazhagan
5.	Foundation Engineering	T	45	3	0	0	3	Mr. S. Hariswaran
6.	Environmental Sciences and Sustainability	T	45	3	0	0	3	ACH
7.	Survey Practical	P	30	0	0	2	1	Mr. G. Arun
8.	Soil Mechanics Laboratory	P	30	0	0	2	1	Mr. S. Hariswaran

#### 5.1 Discussion on Construction Techniques, Equipment and Practices

- Dr. R. Saravanan suggested to include advanced techniques as Unit 5 or a topic in Unit 1.

#### 5.2 Discussion on Applied Hydraulic Engineering

- Dr. S. Krishnamoorthi suggested to add topics on latest turbines.

#### 5.7 Discussion on Foundation Engineering

- Dr. S. Krishnamoorthi suggested to change the title of unit 5.
- Dr. S. Krishnamoorthi enquired if plate load test and STP is being demonstrated.

#### 5.8 Discussion on Survey Practical

- Dr. R. Saravanan suggested that GPS demonstration also must be included.
- Dr. S. Krishnamoorthi insisted on more usage of Total Station.

6. The list of courses proposed in the Professional Elective Verticals, Value Added Courses and Open Electives. It was highlighted that to pursue B.E /B.Tech. degree with Honours / Specialization or Minors, a student must complete 20 credits which includes 6 courses of 3 credits each from the listed verticals and a mini project for 2 credits.

S. No.	Course Title
<b>Vertical I - Structural Engineering</b>	
1	Structural Dynamics
2	Tall Buildings
3	Smart Materials and Structures

S. No.	Course Title
4	Concrete Technology
5	Bridge Engineering
6	Prefabricated Structures
7	Prestressed Concrete Structures
8	Advanced Strength of Materials
9	Finite Element Analysis
10	Cold Formed Steel Structures
11	Steel Concrete Composite Structures
12	Earthquake Resistant Design of Structures
13	Architecture
14	Repair and Rehabilitation of Structures
<b>Vertical II - Environmental Engineering</b>	
1	Municipal Solid Waste Management
2	Industrial Waste Management
3	Air Pollution Management
4	Disaster Mitigation and Management
5	Global Climate Change
6	Sustainability and Social Development
7	Design of Physio-Chemical Treatment Systems
8	Environmental Policy and Legislations
9	Environment, Health and Safety
10	Design of Biological Treatment Systems
11	Marine Pollution and Control
<b>Vertical III - Construction Management</b>	
1	Construction Equipment and Management
2	Construction Materials and Management
3	Construction Personnel and Management
4	Formwork, Scaffolding and Shoring
5	Contract Management and Dispute Resolution
6	Building Services and maintenance
7	Risk Management in Construction Projects
8	Construction Quality and Safety Management
9	Sustainable Construction
10	Safety in Civil Engineering Practices
11	Housing Planning and Management
12	Lean Construction
13	Building Information Modeling and Management
14	Valuation of Real Properties

S. No.	Course Title
15	Green Buildings
<b>Vertical IV- Transportation Engineering</b>	
1	Urban Planning and Development
2	Railway Engineering
3	Traffic Engineering and Management
4	Airport and Harbour Engineering
5	Pavement Engineering
6	Design of Pedestrian and Bicycle Tracks
7	Smart Cities
8	Intelligent Transportation Systems
9	Traffic Management Plan for Construction Site
<b>Vertical V - Geo-Informatics</b>	
1	Cartography and GIS
2	Photogrammetry
3	Cadastral Surveying
4	Airborne and Terrestrial laser mapping
5	Satellite Image Processing
6	Total Station and GPS Surveying
7	Hydrographic Surveying
8	Geo informatics Applications for Civil Engineers
<b>Vertical VI - Geotechnical Engineering</b>	
1	Subsurface Investigation and Instrumentation
2	Earth Pressure and Earth Retaining Structures
3	Environmental Geotechnics
4	Ground Improvement Techniques
5	Geosynthetics Design and Applications
6	Deep Foundation
7	Tunneling
8	Rock Mechanics
9	Foundation on Expansive Soil
10	Soil Dynamics and Machine Foundations
<b>Vertical VII - Water Resources Engineering</b>	
1	Coastal Engineering
2	Groundwater Engineering
3	Water Resources Systems Engineering
4	Agriculture Engineering
5	Integrated Water Resources Management
6	Participatory Water Resources Management

S. No.	Course Title
7	Urban Water Infrastructure
8	Watershed Conservation and Management
<b>Open Electives</b>	
1	Basic Civil Engineering
2	Fundamentals of Remote Sensing and GIS
3	Electronic Waste Management
4	Basics and Principles of Green Building Design
5	Principles of Vastu in Interior Design
6	Integrated Solid Waste Management
7	Life Cycle Assessment
8	Water Pollution and its Management
<b>Value Added Courses</b>	
1	Application of Planning Tool in Construction Projects
2	Application of Remote Sensing in Civil Engineering
3	Finite Element Analysis using Computer Tools
4	Water Conservation Techniques
5	Vastu in Construction
6	Practical Valuation
7	Design of Multistorey Building – A practical Approach
8	Corrosion of Steel in Concrete and Preventive Measures
9	Wastewater Treatment Techniques
10	Automation in Construction
11	Biomimicry in Civil Engineering
12	Architectural Acoustics
13	Forensic Civil Engineering
14	Optimization Techniques
15	In-Situ Soil Testing and Instrumentation
16	Non Destructive Testing Techniques
17	Base Isolation and Damping Techniques in Aseismic Design
18	Interior Designing
19	Exterior Designing and Landscaping

6.1 Dr. R. Saravanan suggested that number of courses under each vertical should be same.

6.2 Dr. R. Saravanan said that anna University follows a matrix format with verticals and horizontals.

6.3 Dr. R. Saravanan suggested to include River engineering, Environmental Hydraulics under Water Resources Engineering.

6.4 Dr. R. Saravanan suggested to include courses on Artificial Intelligence applications in Civil Engineering and Data Science.

7. Chairman presented the newly proposed certificate courses.

S. No.	Course Title	Proposed by
1.	30 hours Certificate Course on “MATLAB FOR CIVIL ENGINEERS”	Dr. R. Kumutha, Ms. Ruby Freya, Mr. G. Arun
2.	30 hours Certificate Course on “ETABS FOR BEGINNERS”	Dr. R. Kumutha, Dr. R. Sathia, Ms. Ruby Freya

7.1 Dr. R. Saravanan suggested to include Python programming as a certificate course.

8. Dr. S. Justin enquired if all are aware of L and T EduTech courses. Chairman clarified that few students have undergone courses offered by L&T EduTech..

9. The chairman informed that the suggestions and recommendations made by the members will be carried out and will be forwarded to the Academic Council of SVCE for approval.

Ms. Ruby Freya proposed the vote of thanks thanking all the members for their presence and valuable suggestions.

#### Resolutions:

1. It is resolved to approve the proposed curriculum under Regulation-2022.
2. It is resolved to approve the following list of verticals.

S. No	Course Title
<b>Structural Engineering</b>	
1	Structural Dynamics
2	Smart Materials and Structures
3	Concrete Technology
4	Prefabricated Structures
5	Prestressed Concrete Structures
6	Advanced Strength of Materials
7	Earthquake Resistant Design of Structures
8	Repair and Rehabilitation of Structures
9	Mini Project
<b>Environmental Engineering</b>	
1	Municipal Solid Waste Management
2	Industrial Waste Management
3	Air Pollution Management
4	Disaster Mitigation and Management
5	Global Climate Change

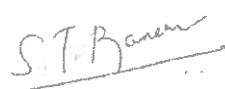
S. No	Course Title
6	Sustainability and Social Development
7	Environmental Policy and Legislations
8	Environment, Health and Safety
9	Mini Project
<b>Construction Management</b>	
1	Construction Equipment and Management
2	Construction Materials and Management
3	Formwork, Scaffolding and Shoring
4	Contract Management and Dispute Resolution
5	Building Services and maintenance
6	Risk Management in Construction Projects
7	Construction Quality and Safety Management
8	Sustainable Construction
9	Mini Project
<b>Transportation Engineering</b>	
1	Urban Planning and Development
2	Traffic Engineering and Management
3	Airport and Harbour Engineering
4	Pavement Engineering
5	Design of Pedestrian and Bicycle Tracks
6	Smart Cities
7	Intelligent Transportation Systems
8	Traffic Management Plan for Construction Site
9	Mini Project
<b>Geo-Informatics</b>	
1	Cartography and GIS
2	Photogrammetry
3	Cadastral Surveying
4	Airborne and Terrestrial laser mapping
5	Satellite Image Processing
6	Total Station and GPS Surveying
7	Hydrographic Surveying
8	Geo informatics Applications for Civil Engineers
9	Mini Project
<b>Geotechnical Engineering</b>	
1	Subsurface Investigation and Instrumentation
2	Earth Pressure and Earth Retaining Structures
3	Ground Improvement Techniques

S. No	Course Title
4	Geosynthetics Design and Applications
5	Deep Foundation
6	Tunneling
7	Rock Mechanics
8	Soil Dynamics and Machine Foundations
9	Mini Project
<b>Water Resources Engineering</b>	
1	Coastal Engineering
2	Groundwater Engineering
3	Water Resources Systems Engineering
4	Integrated Water Resources Management
5	Participatory Water Resources Management
6	Urban Water Infrastructure
7	Watershed Conservation and Management
8	River Engineering
9	Mini Project

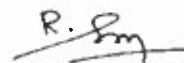
3. It is resolved to approve the syllabus of second year courses under Regulation-2022.
4. It is resolved to approve the proposed Certificate Courses.



**Dr. S. Krishnamoorthi**  
Professor / Civil Engineering  
Kongu Engineering College  
Erode  
**University Nominee**



**Dr. S. T. Ramesh**  
Professor, Dept. of Civil  
Engineering,  
National Institute of  
Technology  
Tiruchirapalli – 620015  
**Member -Subject Expert**



**Dr. R. Saravanan**  
Professor/ Civil Engineering  
College of Engineering  
Guindy, Anna University  
**Member - Subject Expert**



**Dr. S. Justin**  
Joint General Manager –  
Design, Engineering Design &  
Research Centre,  
Buildings and Factories,  
Health Division  
L & T construction, Chennai  
**Industrial Expert**



**Mr. V. Sai Prasad**  
Associate Proposals  
Manager  
Global Competence Centre  
(G3C)  
NKT Operations India Pvt.  
Ltd. Guindy, Chennai  
**Member -Alumnus**



**Dr. R. Kumutha**  
Professor & Head/ Civil  
Engineering, SVCE  
**Chairman -BOS**



**Annexure I**

**B. E. CIVIL ENGINEERING REGULATIONS 2022 – CURRICULUM – 168 CREDITS**

Sem	Cat.	Course Title	C	Hrs	Sem	Cat.	Course Title	C	Hrs
I-23 420	T	Tamil language and Heritage of Ancient Tamil Society	1	15	IV-23 390	T	Foundation Engineering	3	45
	T	Communicative English	3	45		T	Environmental Sciences and Sustainability	3	45
	T	Applied Mathematics I	4	60		P	Survey Practical	1	30
	T	Engineering Physics	3	45		P	Soil Mechanics Laboratory	1	30
	T	Technical Chemistry	3	45		T	Structural Analysis II	3	45
	T	Engineering Geology and Construction Materials	3	45	V-21 345	T	Design of Reinforced Concrete Elements	4	60
	T	Engineering Drawing for Civil Engineers	3	75		T	Environmental and Social Impact Assessment	3	45
	P	Physics Laboratory	1	30		T	Remote Sensing and GIS	3	45
	P	Chemistry Laboratory	1	30		T	Professional elective I	3	45
	P	Basic Civil and Mechanical Engineering Laboratory	1	30		T	Open elective I	3	45
II-24 420	T	Science and Technology in Ancient Tamil Society	2	30		P	Water and Wastewater Analysis Laboratory	1	30
	T	Technical English	3	45		P	Structural and Applied Mechanics Laboratory	1	30
	T	Applied Mathematics II	4	60	VI-24 405	TNP	Design of Steel Structures	4	75
	TNP	Computer Programming and Practice	3	60		T	Estimation and Quantity Surveying	3	45
	T	Basic Electrical and Electronics Engineering	3	45		T	Transportation Systems	3	45
	TNP	Building Planning and Drawing	3	60		T	Advanced Reinforced Concrete Design	3	45
	T	Engineering Mechanics for Civil Engineers	4	60		T	Professional elective II	3	45
	P	Basic Electrical and Electronics Engineering Laboratory	1	30		T	Professional Elective III	3	45
	P	Construction Materials Laboratory	1	30		T	Open elective II	3	45
III-22 375	T	Soil Mechanics	3	45		P	Structural Analysis and Design Laboratory	2	60
	T	Construction Techniques, Equipment and Practices	3	45	VII-21 300	T	Ethics in Civil Engineering Practice	2	30
	TNP	Surveying	4	75		TNP	Planning, Scheduling and Control of Construction Projects	3	60
	T	Strength of Materials	4	60		T	Hydrology and Irrigation Engineering	3	45
	TNP	Fluid Mechanics	4	75		T	IoT in Civil Engineering	2	30
	TNP	Highway Engineering	3	60		T	Professional Elective IV	3	45
	P	Strength of Materials Laboratory	1	30		T	Professional Elective V	3	45
IV	T	Numerical and Statistical Methods	4	60		T	Professional Elective VI	3	45
	TNP	Applied Hydraulic Engineering	4	75			Internship / Industrial Training	2	
	T	Structural Analysis I	3	45	VIII		Project Work	10	
	T	Water Supply and Wastewater Engineering	4	60					

**Annexure for the Minutes of the Board of Studies meeting**  
**Faculty of Computer Science and Engineering & Information Technology**

Date: 06/04/2023

Time: at 10:00 am

BoS Meeting Reference Number: SVCE/CS & IT//BOS MIN/2022-23/16

Regulations R2022

**Members present for the meeting:**

The Sixteenth Board of Studies for the Faculty of Computer Science and Engineering and Faculty of Information Technology was held on 6.04.2023 at 10:00am in online mode. The list of members attended the meeting are attached.

G\_Meet: <https://meet.google.com/vyd-ziud-wyh>

S. No.	Name of the External Expert Members	Designation & Details
1.	<b>Dr. V. Masilamani</b> <i>Expert Member</i>	Associate Professor, Department of Computer Science Indian Institute of Information Technology Design & Manufacturing, Kancheepuram, Chennai - 600 127 Mobile : 9840260783 <a href="mailto:masila@iitdm.ac.in">masila@iitdm.ac.in</a>
2.	<b>Dr P.Golda Jeyasheeli</b> <i>University Nominee</i>	Professor Department of Computer Science and Engineering Mepco Schlenk Engineering College, Sivakasi - 626005. Mobile : 8940925403 <a href="mailto:pgolda@mepcoeng.ac.in">pgolda@mepcoeng.ac.in</a>
3.	<b>Dr A. Kannan</b> <i>Special Invitee- AI &amp; DS</i>	Senior Professor School of Computer Science and Engineering Vellore Institute of Technology, Vellore – 632014 Mobile : 9444231185 <a href="mailto:akannan123@gmail.com">akannan123@gmail.com</a>
4.	<b>Dr. Arivoli A</b> <i>Distinguished PG Alumnus</i>	Assistant Professor (Senior) Department of Computational Intelligence School of Computer Science and Engineering VIT University, Vellore – 632014 Mobile :9486704045 <a href="mailto:arivoli.a@vit.ac.in">arivoli.a@vit.ac.in</a>
5.	<b>Mr. N Hari Kumar</b> <i>Industry Expert</i>	Senior Researcher Ericsson Research Lab Pvt Ltd. 8th Floor, Block C, SP Info City 40, MGR Salai, Kandanchavadi, Perungudi, Chennai 600096 Mobile:9790998573 <a href="mailto:n.hari.kumar@ericsson.com">n.hari.kumar@ericsson.com</a>

Dr. R Anitha, Chairman-BoS & HOD/CSE welcomed all the Board of Studies members and other faculty members for the meeting. Dr Anitha welcomed the special invitees, Dr. A Kannan, Senior Professor, VIT Vellore and Mr. T Srinivasan, CEO, Glosys Technologies, Chennai for the program Artificial

Intelligence & Data Science. Dr. R Anitha, outlined the agenda of the 16<sup>th</sup> BoS meeting to the members of Board of Studies

**Agenda:**

1. To get approval for the 15<sup>th</sup> BoS minutes
2. Approval for Regulation R2022 entire draft curriculum for the programs B.E.(CS), B.Tech(AD), B.Tech.(IT), M.E.(CSE) and M.Tech.(Cyber Forensics) for the Semesters 03 to Semester 08.
3. Approval for the syllabus of Semesters 03 and 04 under Regulation 2022
4. Approval for the Value-added courses, General Electives and Verticals of Professional Electives

**Discussion on R22:**

The BoS chairman initially requested for the approval of the 15<sup>th</sup> BoS meeting and the members have approved the minutes of the 15<sup>th</sup> BoS meeting. Chairman of BoS member, Dr. Anitha madam thanked all the members of the board of studies for their approval.

BoS Chairman informed the members about the introduction of Professional Elective Verticals under Regulation 2022, awarding B.E./B.Tech. Honours (specialization in the same discipline), B.E. /B.Tech. (Honours) B.E. /B.Tech. (Minor in other specialization)

**Approval for Regulation R2022 Entire draft curriculum for the programs B.E. Computer Science and Engineering:**

BoS Chairman requests the approval for curriculum of Regulation 2022 for the entire subjects of Semester 03 to Semester 08. Dr. Golda Jeyasheeli has raised that whether the fixing of Open Electives, Value Added Courses are in the same slot for B.E(CSE) and B.Tech (IT). BoS Chairman informed that same slots are not followed, fixing of Open Electives, Mandatory course, Value Added Courses are based on Students preference as per the CBCS system. Dr. Kannan and Dr. Golda Jeyasheeli had query on when do the Value Added Courses and additional mandatory. Chairman of BoS ensured that Value Added Course-I and Value Added Course-II will be offered in 3<sup>rd</sup> and 4<sup>th</sup> semester. All the BoS members approved the introduction of the Value Added courses in Regulation 2022. BoS Chairman clarified that Regulation 2022 curriculum aims at advancing Industry Readiness Level of the students to benefit them in Placements. She also informed that project alone is given in the eighth semester.

**Semester 03:**

BoS Chairman presented the course named "Computer Architecture and Microprocessor." Members of BoS informed that frame the syllabus shall have sequence in Microprocessor concepts covered in the Unit1, Unit2 and Unit3, followed by Computer Architecture concepts in Unit 04 & 05. Also suggested to change the syllabus Title as "Microprocessor and Computer Architecture".

Dr. Golda Jeyasheeli, raised doubt that why the laboratory is named as "Assembly Language Programming Laboratory", Board Chairman clarified that the course **Microprocessor and Computer Architecture** aims to discuss essentials of microprocessor in the perspective of computer hardware and software instruction sets, parallel computing mechanisms. Members suggested to rename as **"Microprocessor and Interfacing Laboratory"**.

Dr. Masilamani, suggested that in **Data Structures Unit 03** to replace topic "Tree ADT" as "Tree" remove term "ADT".

#### Semester 04:

Dr. Golda Jeyasheeli had a query with syllabus framing of **Operating Systems**, why storage management is fixed in unit 02, and process management at unit 03. BoS chairman justified that, based on the inputs received from the industry experts in stake holders meeting conducted. Bos Members suggested to have Process management and then the Storage management. Also suggested to include **"Windows Operating Systems"** in Unit 05 as an evolution of **"Influential Operating Systems"**.

It is concluded that **"Operating Systems Laboratory"** experiments to follow the same order that theory is framed, to ensure all the experiments based on process management are serialized first and experiments of storage management.

#### Semester 05, 06, 07 & 08:

BoS Chairman requests the approval for the common course in semester 05 **"Internet of things and Applications"** introduced as theory cum laboratory for both B.E. (CS) and B.Tech. (AD).

In course **Java Programming** being offered as integrated course, members of BoS suggested to title **"List of Experiments"** as **"List of Sample Experiments"** not limiting the list of experiments, but to have hands on experiments on Java programming based on the additional exercises also.

#### Regulation 2022 Verticals for Professional Elective and General Elective:

BoS Chairman requests the approval for the verticals introduced for B.E. (CS) and B.Tech. (AD) and requested for the approval of the same. BoS members suggested to include Parallel programming, GPU programming and approved all other subjects of the verticals introduced.

##### **General Elective Verticals:**

- VERTICAL I : FINTECH AND BLOCK CHAIN
- VERTICAL II : ENTREPRENEURSHIP
- VERTICAL III: PUBLIC ADMINISTRATION

- VERTICAL IV: BUSINESS DATA ANALYTICS
- VERTICAL V: ENVIRONMENT AND SUSTAINABILITY

**Approval for Regulation R2022 Entire draft curriculum for the programs B.Tech. Artificial Intelligence and Data Science:**

**Dr. Golda Jeyasheeli**, suggested that Students of AI&DS need more focus towards Artificial Intelligence courses and Data science course, and to remove “Digital Principles and System Design” course.

Members of BoS approved the draft syllabus of Semester 03 and Semester 04 for the course B.Tech. (AD), BoS chairman thanked all the members for the valuable inputs given for freezing the regulation 2022.

Bos Chairman informed that the total credit for B.E. Computer Science and Engineering and for B.Tech. Artificial Intelligence and Data Science is 168 and the students should earn extra 20 credit to get B.E./B.Tech. Honours (specialization in the same discipline), B.E. /B. Tech. (Honours) B.E./B.Tech. (Minor in other specialization)

**Approval for Regulation R2022 Full curriculum and syllabus for the programs M.E. Computer Science and Engineering:**

BoS Chairman presented the syllabus for 3<sup>rd</sup> semester elective papers and the syllabus for Advanced Neural Networks for the program M.E. Computer Science and Engineering and members of the board approved the syllabus.

**Department of Information Technology**

**Approval for Regulation R2022 Entire draft curriculum for the programs B.Tech. Information Technology**

Dr.V.Vidhya listed the various degrees that would be awarded apart from the regular B.Tech IT and the requirement to be fulfilled for the same. Regular B.Tech. IT degree would be awarded to students who earn a total credit of 167. B.Tech. IT with Honor would be awarded to students earning an additional 20 credits. B.Tech. IT with Minor for the students earning 20 credits from other branches through verticals offered by the department . **Dr. Golda Jeyasheeli** enquired whether degree will be named as (B.Tech IT with Honors and specialization), BoS chairman clarified that, as per the curriculum and Regulation 2022, as per Anna University directed the degree will be awarded as B.E. /B. Tech. (Honours) / Minor DEGREE (optional) through vertical courses.

#### Approval for syllabus of Semester 03 & 04 of - B.Tech. [IT] – R22

HoD/INT presented the draft curriculum for III to VIII semesters of B.Tech. Information Technology and III & IV semesters M.Tech. Cyber Forensics and Information Security. She also presented the syllabus for III and IV semesters of B.Tech. Information Technology and M.Tech. Cyber Forensics and Information Security. The following suggestions were provided by the BoS members:

#### B.Tech. Information Technology :

- I. Mr. Harikumar suggested including cloud DB in the course database concepts.
- II. Mr. Harikumar insisted on including the courses Intellectual Property Rights and Data Governance.
- III. Mr. Harikumar suggested to include MEP's in Software Engineering Methodologies.
- IV. Ms. Golda insisted on including the latest version of the textbook for the course Operating System. She also suggested including advanced 8086 architecture under unit-2 of the course Microprocessor and Microcontroller.
- V. Mr. Masilamani opined to incorporate industry-based applications. He also insisted on including a mini project as part of the curriculum.

#### M.Tech CFIS

- I. Mr. Harikumar suggested to include few case studies related to twitter and facebook in Social Network Analysis.
  - II. Dr. Golda Jeyasheeli insisted on including more reference books for all the subjects.
- BoS members confirmed and approved the structure of B.Tech. IT and M.Tech. CFIS curriculum. They also approved the different verticals offered to B.Tech. IT students and various courses under each vertical. Dr.V.Vidhya assured to incorporate the suggestions provided by the members.

#### Approval for Value Added Courses, General Elective, Verticals for professional electives and open elective

- I. HoD/INT presented the importance of verticals which are newly incorporated in R2022. Six verticals with eight courses under each vertical were identified to offer for the students of B.Tech IT. She also listed the courses identified under each vertical. The BoS members approved the same.
- II. HoD/INT presented various Value-Added Courses. The BoS members approved the same.
- III. HoD/INT presented courses under open elective. The BoS members approved the same.

**Resolutions:**

1. Members approved the Regulation R2022 entire curriculum for the programs B.E. (CS), B.Tech.(AD), B.Tech.(IT), M.E.(CSE) and M.Tech. (Cyber Forensics).
2. BoS members approved the syllabus of Semesters 03 and 04 under Regulation 2022 for B.E. (CS), B.Tech.(AD), B.Tech.(IT), M.E.(CSE) and M.Tech.(Cyber Forensics)
3. BoS members approved the Value-added courses, General Electives and Verticals of Professional Electives introduced in regulation 2022.

As there were no more points, the meeting came to an end.

  
Chairman

Board of Studies

Faculty of Computer Science & Information Technology  
Sri Venkateswara College of Engineering  
Pennalur, Sriperumbudur (TN) - 602 117

**Sri Venkateswara College of Engineering**  
(Autonomous Institution, Affiliated to Anna University Chennai)

Pennalur, Sriperumbudur Tk - 602 117

**Minutes of Meeting of Board of Studies for Faculty of Electrical and Electronics Engineering & Faculty of Electronics and Communication Engineering held on April 10<sup>th</sup>, 2023**

The Second meeting of Board of Studies in the academic year 2022-23 for Electrical and Electronics (EE) and Electronics and Communication (EC) Engineering, was held on 10.04.2023 Monday through Online mode with the following members.

Sl.No	Member	Designation
<b>Expert nominated by the Vice-chancellor</b>		
1	Dr.K.Selvi	Professor, Department of Electrical & Electronics Engineering, Thiagarajar College of Engineering, Madurai- 625015.
<b>Representative from Industry</b>		
2	Mr.K. Sendil Vel	CEO, Malar Electronics, Anna Nagar West, Chennai – 600 040.
<b>Experts in the Subject from outside the College</b>		
3	Dr.P.Somasundaram	Professor, Department of Electrical and Electronics Engineering, CEG, Anna University, Chennai.
4	Dr.P.K.Jawahar	Professor, Department of Electronics and Communication Engineering, B.S.Abdur Rahman University ,Chennai.
<b>Meritorious Alumni</b>		
5	Mr.Vineeth Vijayaraghavan	Director - Research and Outreach, Solarillion Foundation, Chennai
6	Dr.Arun Janarthanan	Sr. Staff, QUALCOMM, TVH Agnito Tech Park, Thazhambur, Chennai.
<b>Chairman-Board of Studies (EEE &amp; ECE)</b>		
7	Dr.KR.Santha	Professor and Head, Vice Principal, Department of Electrical and Electronics Engineering.



<b>BoS Members (Faculty members of EEE &amp; ECE)</b>		
8	Dr. S Muthukumar	Professor and Head, Department of Electronics and Communication Engineering.
9	Dr.NK.Mohanty	Prof./EEE
10	Dr.Sudhakar.K.Bharatan	Prof./EEE
11	Dr. G A Sathish Kumar	Prof./ECE
12	Dr.N.Kumarathan	Prof./ECE
13	Dr. P Jothilakshmi	Prof./ECE
14	Dr.S.R.Malathi	Prof./ECE
15	Dr.R.Gayathri	Prof./ECE
16	Dr.R.Karthikeyan	Asso.Prof./EEE
17	Dr.S.G.Bharathidasan	Asso.Prof./EEE
18	Dr.C.Gopinath	Asso.Prof./EEE
19	Dr S.Kumaravel	Asso.Prof./EEE
20	Dr T.Annamalai	Asso.Prof./EEE
21	Dr S.S.Sethuraman	Asso.Prof./EEE
22	Dr.T.J.Jeyaprabha	Asst.Prof./ECE
23	Dr.D.Menaka	Asst.Prof./ECE
24	Dr.M.Bindhu	Asst.Prof./ECE
25	Mrs S.Arulmozhi	Asst. Prof./EEE
26	Dr.N.Shanmugavadivu	Asst.Prof/EEE
27	Mrs.K.Suganthi	Asst.Prof/EEE
28	Dr.D.Amudhavalli	Asst.Prof/EEE
29	Dr R.J. Venkatesh	Asst.Prof/EEE
30	Mr.I.Arun Abhishek	Asst.Prof/EEE
31	Mrs S.Akila	Asst.Prof/EEE
32	Mr.V.Karthikeyan	Asst.Prof/EEE
33	Mrs R. Kousalya	Asst.Prof./ECE

Dr KR.Santha Chairman-Board of Studies welcomed the BoS members for the meeting and mentioned the Agenda as follows.

1. Consideration and approval of Revised Curriculum for the following programmes under R2022 (CBCS).

B.E. (Electrical and Electronics Engineering)

M.E. (Power Electronics and Drives)

B.E. (Electronics and Communication Engineering)

M.E. (Communication Systems)

2. Consideration and approval of Syllabus for the courses in Semesters III & IV of B.E Electrical and Electronics Engineering curriculum under R2022(CBCS).

3. Consideration and approval of Syllabus for the course "Electrical Drives and Electronics Engineering" included in semester III of B.E. Mechanical Engineering and B.E. Mechanical and Automation Engineering Curriculum under R2022 (CBCS).

4. Consideration and approval of Syllabus for the courses "Marine Electrical Machines-I and Marine Electrical Machines-II" included in semester III & IV of B.E. Marine Engineering Curriculum under R2022 (CBCS).

**The following points were suggested by the members of Board of Studies for the Department of Electrical and Electronics Engineering:**

- HOD/EEE delivered a presentation on the Program Specific Outcomes (PSO), Curriculum and Syllabus of the programme B.E. (Electrical and Electronics Engineering) under R2022 (CBCS). The courses in the category of Professional Core (PC), Professional Elective Verticals (PE), Theory with Laboratory, Industry Supported, Mandatory courses and Value added courses were proposed for approval.

- HOD/EEE has presented the syllabus of courses in the Third and Fourth semesters of B.E (EEE) as follow.

✓ The four Second year Theory courses of R2018 B.E. (EEE) are converted into Theory with Laboratory in R2022. Each course will carry 4 credits with a total periods of 60 [45(Theory) +15(Laboratory)]. The courses are listed below.

SL.NO	NAME OF THE SUBJECTS	SEMESTER
1	Electron Devices and Circuits with Laboratory	III
2	Digital Logic Circuits with Laboratory	III
3	Measurement and Instrumentation with Laboratory	IV
4	Analog Electronics with Laboratory	IV

- ✓ The four Second year courses of R2018 B.E. (EEE) are made with Syllabus revision of above 20% for R2022 .The courses are listed below.

SL.NO	NAME OF THE SUBJECTS	SEMESTER
1	Electric Power System	III
2	Control Systems	IV
3	Electrical Machines - II Laboratory	IV
4	Control Systems Laboratory	IV

- ✓ The four Second year theory courses of R2018 B.E (EEE) is made with a minimal Syllabus revision for R2022 .The subjects are listed below.

SL.NO	NAME OF THE SUBJECTS	SEMESTER
1	Electromagnetic Theory	III
2	Electrical Machines - I	III
3	Electrical Machines - II	IV
4	Electrical Machines - I Laboratory	III

- HOD/EEE conveyed that, the Curriculum and Syllabus for M.E. (Power Electronics & Drives) Programme was approved by BoS members on 07.10.2022 and Academic Council on 08.10.2022.
- Dr.P.Somasundaram asked to clarify whether a pass is required in Pre-requisite subject mentioned in curriculum while registering for the subsequent course. HOD clarified that pre-requisite column demands the required knowledge that the student must have, for better understanding of a subsequent course.
- Dr.K.Selvi enquired about the credit system to be followed for B.E. Honour and Minor with respect to selection of courses from Verticals. HOD/EEE conveyed that, according to Regulations 2022 (CBCS) section 4.15, for B.E. (Honours), a student shall register for the additional courses (20 credits) from semester V onwards. These courses shall be from the same vertical or a combination of different verticals of the same programme of study only and for minor degree, a student shall register for the additional courses (20 credits) from semester V onwards. All these courses have to be in a particular vertical from any one of the other programmes. Moreover, for minor degree the student can register for management courses from any one of the verticals presented in R2022.
  - ✓ VERTICAL I-Fintech and Block Chain
  - ✓ VERTICAL II-Entrepreneurship
  - ✓ VERTICAL III-Public Administration
  - ✓ VERTICAL IV-Business Data Analytics
  - ✓ VERTICAL V-Environment and Sustainability
- Also it is informed that the Internship is Mandatory to a minimum of 4 weeks to earn 2 credits and HOD/EEE presented the Professional Elective Verticals (PE) as follows.

**PROFESSIONAL ELECTIVE COURSES: VERTICALS**

Professional Elective	VERTICAL I	VERTICAL II	VERTICAL III	VERTICAL IV	VERTICAL V	VERTICAL VI	VERTICAL VII
	<b>Renewable Engineering</b>	<b>Electrical Drives and Control</b>	<b>Electric Vehicle Technology</b>	<b>Power System Engineering</b>	<b>Semiconductor and VLSI Design</b>	<b>Embedded Systems</b>	<b>Diversified Fields</b>
1.	Solar Photovoltaic Technologies	Analysis of Power Converters	Electric and Hybrid Vehicles	Power Quality	VLSI Technology	Digital Signal Processing with Hands on Session (Theory cum Practical)	Computer Aided design of Electrical Apparatus
2.	Solar Energy Conversion System	Advanced Electric Drives	Vehicle Dynamics, Chassis and Body Engineering	Energy Conservation & auditing	VLSI Design	Embedded System Design	Computer Aided analysis of Power Electronic Circuits
3.	Wind Energy Conversion System	Solid state Controlled Electrical Drives	Automotive Power Electronics and Control	HVDC and FACTS	Solid State Devices	Embedded Processors and its Programming	Power System Transients
4.	Renewable Power Generation Technologies and Policies	Special Electrical Machines & Drives	Energy Storage System and Management	Power System Dynamics	Microelectronics circuits	Real Time Systems	Electrical Generation and Utilization
5.	Design and Modelling of Renewable Energy System (Lab Supported)	Discrete Control Systems	Drives and Control for Electric Vehicle	High Voltage Engineering	Nanoelectronics	Embedded Controller for Electrical Drives	Bio-Medical Engineering
6.	Renewable Energy Grid Integrating Techniques and	Modeling & Analysis of Electrical	Automotive Embedded Systems	Restructured Power Systems	MEMS Technology	Embedded System for Automotive (EV)	Machine Learning

	Challenges	Machines	Intelligent Transport System	Substation Engineering and Substation Automation	Wide Bandgap Devices	Applications	
7.	Hybrid Renewable Energy Systems	Fuzzy Logic & Neural Networks	Plug-in EV in smart grid / Electrical Power Systems for Sustainable Mobility	Electrical Safety	Integrated Circuit Design for Sensor System	Artificial Intelligence based Automation	Nano Technology
8.	Renewable Energy Storage Technologies	Industrial Automation & Robotics	Modeling and Simulation of Electric Vehicle (Theory / Lab)	Digital Protection of Power System	Semiconductor Design Laboratory	FPGA for Embedded Systems	Design of Electrical Machines
9.	Power Electronics for Renewable Energy Systems	Finite Element Method of Analysis of Electrical Machines	-	Soft Computing Techniques for Power Systems	-	IOT for Embedded Systems	Design Thinking & Prototyping Laboratory
10.	-	Advanced Power Electronics	-	Power Quality and Digital Protection Laboratory	-	-	-
11.	-	-	-	-	-	-	-

- Dr.P.Somasundaram suggested not to define higher RBT Levels for U.G courses. Also, he recommended to mention maximum of two standard books as Text books, and any number of books can be given under reference category, with recent Edition and Publisher details.
- Dr.K.Selvi suggested to differentiate Solar Photovoltaic Technologies, and Solar Energy Conversion System under Vertical I -Renewable Engineering.
- Dr.P.Somasundaram asked about the difference that can be brought up in the Syllabus of Computer Aided design of Electrical Apparatus and Computer Aided analysis of Power Electronic Circuits under Vertical VII, and suggested to refine if required.
- The Syllabus with 20% revision for the course “Electrical Drives and Electronics Engineering” included in semester III of B.E. Mechanical Engineering and B.E. Mechanical and Automation Engineering Curriculum under R2022 (CBCS) was discussed and approved.
- The Syllabus with 20% revision for the courses “Marine Electrical Machines-I and Marine Electrical Machines-II” included in semester III & IV of B.E. Marine Engineering Curriculum under R2022 (CBCS) was discussed and approved.

**The following points were suggested by the members of Board of Studies for Department of Electronics and Communication Engineering:**

Dr.S.Muthukumar, Professor & HoD-ECE has presented few points on lateral entry student subjects, syllabus and verticals in R2022 before BoS members for approval.

- One B.Sc., student (lateral entry) subjects as discussed in PCC was presented for approval and Dr.P.K.Jawahar has accepted and asked Chairman of BoS to approve.
- Third semester and Fourth semester syllabus have been presented with new courses and committee members approved for the same.

**Theory cum practical**

1. Machine Learning
2. Microcontroller systems

**New subject**

1. Transform and Random process

- Programming Course offered should be with Python Programming or retain of Data Structures with C++, opinion and suggestion was put for the forum. Dr.P.K.Jawahar proposed to retain Data Structures with C++ for 3 credits.

- Six modules and 12 Verticals were presented for extra 20 credits earned apart from regular 168 credits for Honors / Major / Minor programs. Dr.Somasundaram Periaswamy suggested to reduce number of verticals as it may require more number of subjects for syllabus preparation without repetition and more staff are needed if student are allowed to choose. Dr.Muthukumar also confirmed BoS members changes will be made in verticals, reframed and will be circulated through mail.

Thus BOS members have accepted the changes in syllabus in the existing subject and inclusion of new courses as listed above, also in reframing the verticals with modules and recommended the same for the submission before Academic Council members.

Finally, BoS members recommended the proposed R2022 (CBCS) Curriculum and course Syllabus for semesters III and IV of the programmes B.E. (Electrical and Electronics Engineering), M.E. (Power Electronics and Drives), B.E. (Electronics and Communication Engineering), M.E. (Communication Systems), course Syllabus of B.E.(Mechanical Engineering), B.E(Mechanical and Automation Engineering) and B.E(Marine Engineering) to the Acadmic Council for approval.

K.R. Sankar

21.4.23

Chairman (EE&EC Engineering Board)

Chairman

Board of Studies

Faculty of Electrical & Electronics Engineering

Sri Venkateswara College of Engineering

Pennalur, Sriperumbudur (Tk) - 602 117

**Sri Venkateswara College of Engineering**  
(Autonomous Institution, Affiliated to Anna University Chennai)  
Pennalur, Sriperumbudur Tk - 602 117

**Department of Electrical and Electronics Engineering**

15.05.2023

**Discussion on R2022 (CBCS) B.E- Electrical and Electronics Engineering Curriculum with Expert Members**

As per the directions from CoE office, to ensure the proper structural flow of R2022 (CBCS) B.E (EEE) curriculum and order of Professional Elective Subjects as Verticals I - VI, a meeting was conducted with following Expert Members at different time. The suggestions were incorporated as well in the Curriculum and Syllabus. The details are given in the Table.

Sl	Name of the Expert	Affiliation	Meeting held on	Suggestions	Action taken
1.	Ms.Kamatchi nathan	Founder,  Managing Director of SEN EDS, Chennai	25.04.2023	The knowledge of components used in Substations is essential for Electrical Engineering students.	Suitable topics will be included in the subject " <i>Substation Automation</i> "
				The knowledge of substation design is necessary for core Placements.	This will be incorporated by enriching the syllabus of subject " <i>Design of substation (Laboratory/ Mini project)</i> "
2.	Dr.V.Senthil Kumar	Professor,  Power System Engineering Division, Department of EEE, College of Engineering, Guindy, Anna University, Chennai.	13.05.2023	From Vertical VI - Diversified Fields, the subject " <i>Programming for Embedded systems</i> " may be moved to Vertical II - Electrical Drives and Control or to Vertical III- Electric Vehicle Technology.	As per the suggestion, the order of Vertical II is modified by including the subject " <i>Programming for Embedded systems</i> ".
				In the Third semester subject, " <i>Electric Power System</i> " topics on Conventional and non-conventional Energy sources can be detailed.	The same is incorporated in " <i>Electric Power System</i> ".

*K.R. Sarthi*  
HOD/EEE 16-5-23

Head of the Department  
Department of Electrical and Electronics Engineering  
Sri Venkateswara College of Engineering  
Pennalur, Sriperumbudur Taluk-602 117  
Tamilnadu, INDIA







**SRI VENKATESWARA COLLEGE OF ENGINEERING,**


(An Autonomous Institution, Affiliated to Anna University, Chennai - 600025)

## **B.E., Electrical and Electronics Engineering**

### **CURRICULUM AND SYLLABUS REGULATION - 2022 CHOICE BASED CREDIT SYSTEM**

Curriculum Revision No:		Board of Studies recommendation date :	07.10.2022 10.04.2023	Academic Council Approved date:	08.10.2022 21.04.2023
Salient Points of the revision	01.				
	02.				
	03.				
	04.				
	05.				

1. In Vertical I Programming or Embedded Systems may be shifted to Vertical II or III.
2. In 3rd Semester, Electric Power System conventional and non conventional Energy Sources may be included.

  
**Dr. V. SENTHIL KUMAR, B.Tech., M.E., Ph.D.**  
Professor  
Power System Engineering Division  
Dept. of Electrical And Electronics Engineering  
College of Engineering Guindy  
Anna University, Chennai - 600 025.

# **SRI VENKATESWARA COLLEGE OF ENGINEERING,**

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## **REGULATIONS 2022**

### **CHOICE BASED CREDIT SYSTEM**

#### **PROGRAM EDUCATIONAL OBJECTIVES (PEOs)**

- I. Graduates will serve as Engineering contributors in the emerging fields of Electrical, Electronics and Computer Engineering.
- II. Graduates will become Entrepreneurs through human centered design thinking and innovation.
- III. Graduates will be successful in pursuing higher studies in Engineering or Management.
- IV. Graduates will be effective and ethical team player in the field of Green Energy Management and Sustainability .

#### **PROGRAM OUTCOMES (POs)**

##### **PO GRADUATE ATTRIBUTES**

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional

- engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
  9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
  10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
  11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
  12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

#### PROGRAM SPECIFIC OUTCOMES(PSOs)

13. Design, analyse and implement Power Electronics circuit with smart control systems for Industrial drives and Electric Vehicles.
14. Analyse safety, stability, control and protection of vertical and deregulated Smart grid Power systems and interconnection of microgrid comprising Renewable, Storage and Nano technologies.

#### PEO's-PO's & PSO's MAPPING: (Example)

POs	PEOs			
	I	II	III	IV
1.	✓	✓	✓	
2.	✓	✓	✓	
3.	✓		✓	
4.	✓		✓	
5.	✓	✓	✓	
6.		✓		✓
7.		✓		✓
8.		✓		✓
9.		✓	✓	✓
10.		✓	✓	✓
11.		✓	✓	✓
12.	✓			
13.	✓		✓	✓
14.	✓		✓	✓

**SRI VENKATESWARA COLLEGE OF ENGINEERING,**  
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Chennai – 600025)

**REGULATIONS 2022**  
**CHOICE BASED CREDIT SYSTEM**

**B.E. ELECTRICAL AND ELECTRONICS ENGINEERING**

**CURRICULUM FOR SEMESTERS I TO VIII**

**SEMESTER I**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
1.	IP22151	Induction Program		-	-	-	-	-	NIL	-
<b>Theory Subjects</b>										
2.	HS22151	Tamil language and Heritage of Ancient Tamil Society (Common to all branches)	HS	1	0	0	1	1	NIL	F
3.	HS22152	Communicative English (Common to all branches)	HS	3	0	0	3	3	NIL	F
4.	MA22151	Applied Mathematics - I (Common to all branches except MR)	BS	3	1	0	4	4	NIL	F
5.	PH22151	Applied Physics (Common to AD, CS, EE, EC, IT)	BS	3	0	0	3	3	NIL	F
6.	CY22151	Applied Chemistry (Common to AD, CS, EE, EC, IT)	BS	3	0	0	3	3	NIL	F
7.	CM22151	Basic Civil and Mechanical Engineering	ES	3	0	0	3	3	NIL	F
8.	IT22101	Programming for Problem Solving (Common to IT, AD, CS, EE, EC)	ES	3	0	0	3	3	NIL	F
<b>Practical Subjects</b>										
9.	EE22111	Basic Electrical & Electronics Engineering Laboratory (Common to all branches except EC)	ES	0	0	2	1.0	2	NIL	F
10.	ME22161	Basic Civil & Mechanical Engineering Laboratory (Common to CE, EE, EC)	ES	0	0	2	1.0	2	NIL	F
11.	IT22111	Programming for Problem Solving Laboratory (Common to IT, AD, CS, EE, EC)	ES	0	0	3	1.5	3	NIL	F
<b>Total</b>				<b>19</b>	<b>1</b>	<b>7</b>	<b>23.5</b>	<b>27</b>		

**SEMESTER II**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
<b>Theory Subjects</b>										
1.	HS22251	Science and Technology in Ancient Tamil Society (Common to all branches)	HS	2	0	0	2	2	NIL	F
2.	HS22252	Technical English (Common to all branches)	HS	3	0	0	3	3	NIL	F
3.	MA22251	Applied Mathematics - II (Common to all branches except MR)	BS	3	1	0	4	4	NIL	F
4.	PH22252	Physics of Materials (Common to EE and EC)	BS	3	0	0	3	3	NIL	F
5.	ME22252	Fundamentals of Engineering Graphics	ES	2	0	2	3	4	NIL	F
6.	EE22201	Electric Circuit Analysis	PC	3	1	0	4	4	NIL	F
<b>Practical Subjects</b>										
7.	PH22161	Physics Laboratory (Common to all branches except BT)	BS	0	0	2	1	2	NIL	F
8.	CY22161	Chemistry Laboratory (Common to all branches except AD, CS, IT)	BS	0	0	2	1	2	NIL	F
9.	EE22111	Electric Circuits Laboratory	PC	0	0	3	1.5	3	NIL	F
<b>Total</b>				<b>16</b>	<b>2</b>	<b>9</b>	<b>22.5</b>	<b>26</b>		

**SEMESTER III**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
Theory Subjects										
1.		Mathematics For Electrical Engineers	BS	3	1	0	4	4	NIL	F
2.		Digital Logic Circuits with Laboratory	PC	3	0	2	4	5	NIL	F
3.		Electrical Machines – I	PC	3	0	0	3	3	EE22201	F
4.		Electric Power System	PC	3	0	0	3	3	NIL	F
5.		Electromagnetic Theory	PC	3	0	0	3	3	NIL	F
6.		Electron Devices and Circuits with Laboratory	PC	3	0	2	4	5	NIL	F
Practical Subjects										

7.		Communication and Soft Skills Laboratory	HS	0	0	2	1	2	NIL	F
8.		Electrical Machines - I Laboratory	PC	0	0	3	1.5	3	NIL	F
Total				18	1	9	23.5	28		

#### SEMESTER IV

SEMESTER IV

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
Theory Subjects										
1.		Numerical Methods	BS	2	1	0	3	3	NIL	F
2.		Environmental Sciences and Sustainability (Common to all branches)	BS	3	0	0	3	3	NIL	F
3.		Analog Electronics with Laboratory	PC	3	0	2	4	5	NIL	F
4.		Control Systems	PC	3	0	0	3	3	NIL	F
5.		Electrical Machines - II	PC	3	0	0	3	3	EMI	F
6.		Measurement and Instrumentation with Laboratory	PC	3	0	2	4	5	NIL	F
Practical Subjects										
7.		Control Systems Laboratory	PC	0	0	3	1.5	3	NIL	F
8.		Electrical Machines - II Laboratory	PC	0	0	3	1.5	3	NIL	F
Total				19	1	10	23	28		

#### SEMESTER V

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
Theory Subjects										
1.		Microprocessors and Microcontrollers	PC	3	0	0	3	3	NIL	F
2.		Power Electronics	PC	3	0	0	3	3	EDCL	F
3.		Power System Analysis	PC	3	0	0	3	3	EPS EM II	F
4.		Programming and Data Structures	PC	3	0	0	3	3	NIL	F
5.		Professional Elective I	PE	3	0	0	3	3	NIL	M
6.		Open Elective – I	OE	3	0	0	3	3	NIL	M

Practical Subjects										
7.		Microprocessors and Microcontrollers Laboratory	PC	0	0	3	1.5	3	NIL	F
8.		Power Electronics Laboratory	PC	0	0	3	1.5	3	NIL	F
9.		Programming and Data Structures Laboratory	PC	0	0	3	1.5	3	NIL	F
Total				18	0	9	22.5	27		

#### SEMESTER VI

S L. N O.	COURSE CODE	COURSE TITLE	CATEGO RY#	PERIODS PER WEEK				TOTAL HOURS	PREREQ- UISITE	POSITION
				L	T	P	C			
Theory Subjects										
1.		Digital Signal Processing	PC	3	0	0	3	3	NIL	F
2.		Industrial Automation and Networking (Industry supported)	PC	3	0	0	3	3	NIL	F
3.		Power System Operation and Control	PC	3	0	0	3	3	PSA	F
4.		Professional Elective II	PE	3	0	0	3	3	NIL	M
5.		Professional Elective III	PE	3	0	0	3	3	NIL	M
6.		Open Elective - II	OE	3	0	0	3	3	NIL	M
Practical Subjects										
7.		Industrial Automation Laboratory	PC	0	0	3	1.5	3	NIL	F
8.		Power System Simulation Laboratory	PC	0	0	3	1.5	3	NIL	F
Total				18	0	6	21	24		

#### SEMESTER VII

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
Theory Subjects										
1.		Electric Vehicles with Laboratory	PC	3	0	2	4	5	EM II PE	M
2.		Protection and Switchgears	PC	3	0	0	3	3	PSA	M



3.		Smart Grid with Laboratory	PC	3	0	2	4	5	PSA MIL	M
4.		Professional Elective IV	PE	3	0	0	3	3	NIL	M
5.		Professional Elective V	PE	3	0	0	3	3	NIL	M
6.		Professional Elective VI	PE	3	0	0	3	3	NIL	M
<b>Practical Subjects</b>										
7.		Project work-I	EEC	0	0	4	2	4	NIL	M
<b>Total</b>				<b>18</b>	<b>0</b>	<b>8</b>	<b>22</b>	<b>26</b>		

### SEMESTER VIII

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL HOURS	PREREQUISITE	POSITION
				L	T	P	C			
Practical Subjects										
1		Project work-II	EEC	0	0	16	8	16	NIL	F
Total				0	0	16	8	16		

Total Credits: 168

### INTERNSHIP/TRAINING (MANDATORY) \*

No. of Weeks	Credits
4	2

#Students should complete Internship/Training before 8th semester entry.

PROFESSIONAL ELECTIVE COURSES: VERTICALS						
Professional Elective	VERTICAL I Power System Engineering	VERTICAL II Electrical Drives and Control	VERTICAL III Electric Vehicle Technology	VERTICAL IV Renewable Engineering and Management	VERTICAL V Nanotechnology	VERTICAL VI Diversified Fields
1.	Restructured Power Systems	Modeling and Analysis of Electrical Machines	Hybrid Electric Vehicles	Distributed Generation and Microgrid	Solid State Devices	Programming for Embedded System
2.	Substation Automation	Electric Drives	Vehicle Dynamics and Body Engineering	Solar Energy Conversion System	Microelectronics circuits	Bio-medical Engineering
3.	HVDC and FACTS	Special Electrical Machines and Drives	Automotive Power Electronics	Wind Energy Conversion System	Semiconductor Technology	Computer aided design of Electrical Apparatus
4.	Power System Dynamics	SMPS and UPS	Energy Storage System and Management in Electric Vehicle	Hybrid Renewable System and Storage Technologies	VLSI Design	IoT in Engineering
5.	High Voltage Engineering	Analysis of Power Converters	Electric Vehicle Control	Power Quality	MEMS Technology	Computer Architecture
6.	Soft Computing Techniques for Power Systems	Analog and Digital Controllers	Automotive Embedded Systems	Power System Management	Wide Bandgap Semiconductors	Fuzzy Logic & Neural Networks
7.	Electrical Safety	Microcontroller based System Design	Vehicle Communication	Energy Management and Auditing	Sensor Technology	Machine Learning in Engineering
8.	Digital Protection of Power System	Control System design for Power Electronics	Charging infrastructure for Sustainable Mobility	Electrical Energy Conservation and Utilization	Embedded System Design	Robotics and Automation
9.	Design of substation (Laboratory/ mini project)	Electric Drives Laboratory	Modeling and Simulation of Electric Vehicle (Laboratory)	Design and Modeling of Renewable Energy System (Laboratory)	IC Design Laboratory	Design Thinking and Prototyping Laboratory

**OPEN ELECTIVES**  
**OPEN ELECTIVES OFFERED IN ODD SEMESTER\***

Sl. No.	COURSE CODE	COURSE TITLE
1.		Bio medical Engineering
2.		Control system Engineering
3.		Micro and Smart Grid
4.		Electric Vehicle Technology
5.		Energy Conservation Practices
6.		Industrial Electric Systems
7.		Autonomous Vehicle

**OPEN ELECTIVES OFFERED IN EVEN SEMESTER\***

Sl. No.	COURSE CODE	COURSE TITLE
1.		Industrial Automation
2.		Digital Systems
3.		Motors for Industries
4.		Indian Power Grid
5.		Industrial IOT
6.		Electrical Automation & Robotics

**MANDATORY COURSE**

(Course should be completed between 3<sup>rd</sup> and 6<sup>th</sup> semester)

S.NO.	COURSE CODE	COURSE TITLE	No. of Hours
1.		Indian Constitution (Common to all branches except MR)	30

**VALUE ADDED COURSES**

(Course should be completed between 3<sup>rd</sup> and 6<sup>th</sup> semester and Students must earn at least 2 credits)

S.NO.	COURSE CODE	COURSE TITLE	No. of Hours	Credit
1.		Embedded Programming	30	2
2.		Nano-device Manufacturing	30	2
3.		Modeling and simulation of Electrical Systems	30	2
4.		Electric Vehicle Design	30	2
5.		Design Thinking	30	2
6.		Electronic circuits design and PCB Fabrication	30	2
7.		Design and Fabrication of Photovoltaic Systems	30	2
8.		Smart grid Cyber security	30	2
9.		Industrial IoT	30	2
10.		Smart Switchgears & Protection	30	2

ELECTRICAL AND ELECTRONICS ENGINEERING										
Subject Area	Credits per Semester								Total Credits	Credits in %
	I	II	III	IV	V	VI	VII	VIII		
Humanities and Social Sciences (HS), including Management	4	5	1						10	5.95
Basic Sciences (BS) including Mathematics, Physics, Chemistry, Biology	10	9	4	6					29	17.26
Professional Subjects-Core (PC), relevant to the chosen specialization/branch; (May be split into Hard (no choice) and Soft (with choice), if required)		5.5	18.5	17.0	16.5	12	11		80.5	47.92
Engineering Sciences (ES), including Materials, Workshop, Drawing, Basics of, Electrical / Electronics/ Mechanical / Computer Engineering, Instrumentation	9.5	3							12.5	7.44
Professional Subjects – Electives (PE), relevant to the chosen specialization/ branch					3	6	9		18	10.71
Open Subjects - Electives (OE), from other technical and/or emerging subject area					3	3			6	3.57
Project Work, Seminar and/or Internship in Industry or Elsewhere (EEC)						2	2	8	12	7.14
<b>Total Credits</b>	<b>23.5</b>	<b>22.5</b>	<b>23.5</b>	<b>23</b>	<b>22.5</b>	<b>23</b>	<b>22</b>	<b>8</b>	<b>168</b>	<b>100</b>





**Sri Venkateswara  
College of  
Engineering**

**(An Autonomous Institution, Affiliated to Anna University Chennai)**

**The Board of Studies (BoS) meeting for B.E Marine Engineering course was held on 12-04-2023 (Wednesday) with the following members.**

**Ref. No: SVCE/MAR/BoS/2022-23/02**

12.04.2023

The following members were present

1.	<b>Dr.K Ramesh</b> , Professor, Department of Mechanical Engineering, Govt. College Technology, Coimbatore.	<b>University Nominee</b>
2.	<b>Mr. CPK Kashyap</b> , Executive Director, The Sanmar Group, No-9, Cathedral Road, Chennai - 600 086.	<b>Industrial Expert</b>
3.	<b>Mr. V.Ganapathi Rao</b> , Senior Faculty, Hindustan Institute of Maritime Training (HIMT), Kalpakkam	<b>Academic Experts</b>
4.	<b>Dr. S. Selvaraju</b> , Dean-Marine Studies, Bharath University, Chennai	
5.	<b>Mr. Kalisaran Ramalingam</b> , Branch Manager M/S Columbia Aurus Ship Management Pvt. Ltd., Chennai-600 008	<b>PG Meritorious Alumni</b>
6.	<b>Dr M. Anandan</b> , Associate Professor, Dept. of Marine Engineering, SVCE	<b>Members</b>
7.	<b>Mr V Gurusamy</b> , Associate Professor, Dept. of Marine Engineering, SVCE	
8.	<b>All the faculty members of Marine Engineering</b>	
9.	<b>Prof. S.Krishnan</b> , Professor and Head, Dept. of Marine Engineering, Sri Venkateswara College of Engineering	<b>Chairman</b>

Prof.S. Krishnan, Chairman, BoS welcomed all the members for the Board of Studies meeting.

**1. Approval for the III to VIII semesters curriculum under R2022**

The chairman- BoS presented the III to VIII semesters curriculum under R2022 in the following structure.

### SEMESTER III

SEMESTER II										
SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY*	PERIODS PER WEEK				TOTAL Hours	Prereq uisite	Position
				L	T	P	C			
Theory Subjects										
1.		Computational Methods	BS	3	0	0	3	3	Nil	F
2.		Hydraulics and Fluid Machinery for Marine Engineers	PC	3	0	0	3	3	Nil	F
3.		Marine Auxiliary Machinery I	PC	3	0	0	3	3	Nil	F
4.		Marine Electrical Machines I	PC	3	0	0	3	3	Nil	F
5.		Seamanship, Elementary Navigation and Survival at Sea	PC	3	0	0	3	3	Nil	F
6.		Marine Boilers and steam Turbines	PC	3	0	0	3	3	Nil	F
7.		Marine Diesel Engines -I	PC	3	0	0	3	3	Nil	F
Practical Subjects										
8.		Marine Hydraulics and Fluid Machinery Laboratory	PC	0	0	4	2	4	Nil	F
9.		Thermal Engineering and Boiler Chemistry Laboratory	PC	0	0	4	2	4	Nil	F
Total				21	0	8	25	29	-	-

### SEMESTER IV

SEMESTER IV										
SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY*	PERIODS PER WEEK				TOTAL Hours	Prerequisite	Position
				L	T	P	C			
Theory Subjects										
1.		Strength of Materials for Marine Engineers	PC	3	1	0	4	4	Nil	F
2.		Ship Construction	PC	3	0	0	3	3	Nil	F
3.		Marine Diesel Engines II	PC	3	0	0	3	3	Nil	F
4.		Marine Electrical Machines II	PC	3	0	0	3	3	Nil	F
5.		Marine Auxiliary Machinery II	PC	3	0	0	3	3	Nil	F
6.		Environmental Science and Sustainability (Common to all branches)	BS	3	0	0	3	3	Nil	F
7		Manufacturing Technology for Marine Engineers	PC	3	0	0	3	3	Nil	F
Practical Subjects										
8.		Strength of Materials and Applied Mechanics Laboratory	PC	0	0	4	2	4	Nil	F
9.		Advanced Welding Techniques, Lathe and Special Machines Laboratory	PC	0	0	4	2	4	Nil	F
Total				21	1	8	26	30	-	-

**SEMESTER V**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY <sup>#</sup>	PERIODS PER WEEK				TOTAL Hours	Prerequisite	Position
				L	T	P	C			
Theory Subjects										
1.		Metrology ,Instrumentation and Automation	PC	3	0	0	3	3	Nil	F
2.		Ship's Fire Prevention and Control	PC	3	0	0	3	3	Nil	F
3.		Professional Ethics for Marine Engineers	PC	3	0	0	3	3	Nil	F
4.		Professional Elective I	PE	3	0	0	3	3	Nil	F
5.		Professional Elective II	PE	3	0	0	3	3	Nil	F
6.		Professional Elective III	PE	3	0	0	3	3		
7.		Mandatory Course	MC	--	--	--	--	3	--	--
Practical Subjects										
8.		Marine Propulsion and Auxiliary Machineries Overhauling Laboratory	PC	0	0	4	2	4	Nil	F
9.		Mechanical Measurement and Instrumentation Laboratory	PC	0	0	4	2	4	Nil	F
Total				18	0	8	22	29	-	-

**SEMESTER VI**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY#	PERIODS PER WEEK				TOTAL Hours	Prerequisite	Position
				L	T	P	C			
Theory Subjects										
1.		Stability of Ships	PC	3	0	0	3	3	Nil	F
2.		Marine Electrical Technology	PC	3	0	0	3	3	Nil	F
3.	--	Professional Elective IV	PE	3	0	0	3	3	Nil	F
4.	--	Professional Elective V	PE	3	0	0	3	3	Nil	F
5.	--	Open Elective - I	OE	3	0	0	3	3	Nil	F
6.		Value Added Course-I	VD	-	-	-	-	-	-	-
Practical Subjects										
7.		Fire Fighting, Controls and Simulator Laboratory	PC	0	0	4	2	4	Nil	F
8.		Electrical, Electronics and Micro Controller Laboratory	PC	0	0	6	3	6	Nil	
9.		Interview and Career Skills Laboratory	EEC	0	0	4	2	4	Nil	F
Total				15	0	14	22	29	-	-



**SEMESTER VII**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY*	PERIODS PER WEEK				TOTAL Hours	Prereq uisite	Position
				L	T	P	C			
Theory Subjects										
1.		Marine Vehicles Performance	PC	3	0	0	3	3	Nil	F
2.		Marine Management and IMO Requirements	PC	3	0	0	3	3	Nil	F
3.	--	Professional Elective VI	PE	3	0	0	3	3	Nil	F
4.	--	Open Elective II	OE	3	0	0	3	3	Nil	F
5.	--	Value Added Course -II	VD	-	-	-	-	-	-	-
6		Mandatroy Course- II	-	-	-	-	-	-	-	-
Practical Subjects										
6.		Project Work	EEC	0	0	20	10	20	Nil	F
TOTAL				12	0	20	22	32		

**SEMESTER VIII**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY*	PERIODS PER WEEK				TOTAL Hours	Prereq uisite	Position
				L	T	P	C			
Theory Subjects										
1.		Marine Workshop Practices and Afloat Training	EEC	48			16	48	NIL	F
Total								16		
Total No. of credits								183		

Dr. K Ramesh, Anna University Nominee suggested the following changes in the Curriculum

1. Shifting of Marine Electrical Machines II from V semester to IV semester so as to maintain the continuity with Marine Electrical Machines I taught in semester II.
2. Shifting of the subject Professional ethics for Marine Engineers from VII semester to V semester.
3. Uniform credit distribution of V and VII semesters.

All the suggestions given by the AU nominee are incorporated in the Curriculum.

**Resolution**

**"It is resolved that the R2022 Marine Engineering curriculum from III to VIII semesters with total of 183 credits is passed by the BoS members in the present structure"**

### **3. Approval for the III and IV semesters Syllabus**

The BoS chairman presented the detailed syllabus for the III and IV semesters to the members. Queries raised by the members have been suitably met with and the changes in the syllabus incorporated are explained by the respective faculty members along with the BoS Chairman.

The following are the changes suggested by the members were incorporated

SNo	Subject Name	Suggestions
1.	Marine Hydraulics and Fluid Machinery	<ul style="list-style-type: none"><li>➤ The title shall be modified as Hydraulics and Fluid Machinery for Marine Engineers.</li><li>➤ Suggested to add the Fluid mechanics and Machinery authored by Mr A K Mohanty as one of the text book</li></ul>
2.	Marine Boilers and steam Turbines	<ul style="list-style-type: none"><li>➤ Members wanted to have operation and maintenance of boilers to be covered in Unit V instead of unit IV</li><li>➤ The topic Thermal oil boilers is suggested to be included in the unit I.</li><li>➤ The topic Water hammering in pipes is shifted to unit IV from unit II.</li></ul>
3	Marine Auxiliary Machines -I	<ul style="list-style-type: none"><li>➤ It is suggested Relevant MARPOL annexes are also included at appropriate places.</li></ul>
4	Ship Construction	<ul style="list-style-type: none"><li>➤ The title of the Unit V is changed as Offshore Technology and Ship Surveys.</li></ul>

#### ***Resolution***

***“ It is resolved that the syllabus for the III and IV semesters with the changes mentioned in the above table is passed by the BoS members”***

✓

**4. Approval for the Professional electives, Open Electives, Value added courses, Mandatory courses and B.E. / B. Tech. (Honors) / Minor DEGREE**

**Professional Elective Courses**

The Professional Elective courses in FIVE verticals were presented to the members and the rules for taking the PEs were explained.

- Professional Elective Courses will be registered in Semesters V, VI and VII.
- These courses are listed in groups called verticals that represent in a particular area of Specialisation /diversified groups. In the case of Marine Engineering , it is not possible to group the subjects into a particular area of Specialisation. Hence, the PEs are grouped into FIVE diversified groups (Verticals).
- Students are permitted to choose all the Professional Electives from a particular vertical or from different verticals.
- Further, only one Professional Elective course shall be chosen in a semester horizontally (row-wise).
- However, two courses are permitted from the same row, provided one course is enrolled in the consecutive semesters namely Semester V, VI and VII.

**PROFESSIONAL ELECTIVE (PE) COURSES : VERTICALS**

**VERTICAL 1 : Diversified Group -1**

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	C
1.		Surface engineering and coating technology	PE	3	0	0	3
2.		Marine Engineering Equipment Design	PE	3	0	0	3
3.		Electrical Technology for Marine Engineers	PE	3	0	0	3
4.		Marine Refrigeration and Air conditioning	PE	3	0	0	3
5.		Mathematical Foundation for Data Science and Artificial Intelligence	PE	3	0	0	3
6.		Marine Machinery Drawing	PE	3	0	0	3
7.		Industrial Robotics	PE	3	0	0	3
8.		Safety Precautions and Watch Keeping	PE	3	0	0	3
9.		Advanced Welding Laboratory	PE	2	0	0	2

**VERTICAL 2: Diversified Group -2**

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	C
1.		Data Science	PE	3	0	0	3
2.		Latest Trends in Marine Propulsion Engines	PE	3	0	0	3
3.		Marine Propellers and Propulsion	PE	3	0	0	3
4.		Mechanics of Marine Machines	PE	3	0	0	3
5.		Offshore Technology	PE	3	0	0	3
6.		Renewable Energy Resources	PE	3	0	0	3
7.		Basic Concepts of Marine Insurance	PE	3	0	0	3
8.		Marine Maintenance Engineering Laboratory	PE	2	0	0	2

**VERTICAL 3: Diversified Group -3**

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	C
1.		Ship Safety and Environmental Protection	PE	3	0	0	3
2.		Special Duty Vessels and Type of Operations	PE	3	0	0	3
3.		Marine Corrosion and Prevention	PE	3	0	0	3
4.		Marine Environment and Air Quality	PE	3	0	0	3
5.		Renewable Energy applied for Marine Engineering	PE	3	0	0	3
6.		Marine Vibration Measurement Techniques	PE	3	0	0	3
7.		Energy Efficient Ship Operation	PE	3	0	0	3
8.		Electrical Control Systems Laboratory	PE	2	0	0	2

**VERTICAL 4: Diversified Group -4**

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	C
1.		Fuel Lubrication and Technology	PE	3	0	0	3
2.		Ship Recycling	PE	3	0	0	3
3.		Roles of Classification Society	PE	3	0	0	3
4.		Material handling Equipment	PE	3	0	0	3
5.		Dry Docking and Ship Repair	PE	3	0	0	3
6.		Emergency management & damage control	PE	3	0	0	3
7.		Marine Resource Management	PE	3	0	0	3
8.		Nuclear Engineering	PE	3	0	0	3
9.		Pneumatic and Hydraulics Laboratory	PE	2	0	0	2

**VERTICAL 5: Diversified Group -5**

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	C
1.		Disaster Management	PE	3	0	0	3
2.		Engineering Management	PE	3	0	0	3
3.		Human Resource Management	PE	3	0	0	3
4.		Universal Human Values	PE	3	0	0	3
5.		Marine Logistics and Management	PE	3	0	0	3
6.		Shipboard Leadership & Management	PE	3	0	0	3
7.		Total Quality Management	PE	3	0	0	3
8.		Risk Management	PE	3	0	0	3
9.		Marine Engineering safety Practices Laboratory	PE	2	0	0	2

**Open Electives and Value Added Courses**

The BoS members were told about the open elective course offered to the other department students and the value added courses for marine students.

**Open Electives**

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	C
1.		Elements of Marine Engineering	OE	3	0	0	3
2.		Marine Propulsion	OE	3	0	0	3
3.		Marine Vehicles	OE	3	0	0	3
4.		Introduction to Marine Diesel Engines and Machineries	OE	3	0	0	3

**Value Added Courses**

S.NO	COURSE TITLE
1.	Basic Safety Training (BST)
2.	Security Training for Seafarers with Designated Security Duty (STSDSD)
3.	High Voltage Operational Level Course

**Mandatory Courses**

S.NO	COURSE TITLE
1.	Indian Constitution
2.	Essence of Indian Traditional Knowledge
3.	Gender Sensitisation

### **Enrollment for B.E/B.Tech Honors and Minor Degree**

BoS chairman explained the following conditions for B.E/B.Tech Honors and Minor Degree to the members and lot of queries raised by the members were clarified.

- A student can also optionally register for additional courses (20 credits) and become eligible for the award of B.E. / B. Tech. (Honours) or Minor Degree.
- For B.E. / B. Tech. (Honours), a student shall register for the additional courses (20 credits) from semester V onwards.
- These courses shall be from the same vertical or a combination of different verticals of the same programme of study only.
- For minor degree, a student shall register for the additional courses (20 credits) from semester V onwards. All these courses have to be in a particular vertical from any one of the other programmes.
- **Due to the unique nature of the programme, the Honours/Minors degree will be titled as follows, subject to fulfillment of rules as per the Regulation 2022.**

- ❖ **B.E Marine Engineering with Honors**

- ❖ **B.E in the respective programme with minor in Marine Engineering.**

After the discussion, the members accepted the same and recommended for the approval.

### **Resolution**

***" It is resolved that the list of Professional electives, Open Electives, Value added courses, mandatory courses and the introduction of B.E. / B. Tech. (Honors) / Minor DEGREE are passed by the BoS members"***

### **5. Discussion on value added courses suggested by the Directorate General of Shipping (DGS) and under Nan Mudalvan Scheme**

Prof S Krishnan, Chairman-BoS talked about the circulars issued by the DGS and Vice-Chancellor, Anna University, Chennai.


He said that both the circulars talk about the offering of certain courses to the students which are over and above the regular courses. Members felt that the study of these additional courses will increase the burden on the students of the Marine Engineering programme. Since the students need to complete 4500 hours for award of degree and in addition, a student has to

undergo extra courses to be eligible for recruitment on board a vessel as a Trainee Marine Engineer (TME). They also felt that the programme has lot of rigidity and offers little space for any further accommodation.

**Resolution:**

***" It is resolved that the above shall be implemented in an appropriate manner as and when they are enforced"***

Finally Chairman thanked all the members and the meeting was adjourned.



Prof S Krishnan  
Chairman-BoS  
Marine Engineering

**Chairman**  
**Board of Studies**  
**Faculty of Marine Engineering**  
**Sri Venkateswara College of Engineering**  
**Pennalur, Sriperumbudur (Tk) - 602 117**

Copy to:  
The Principal  
Controller of Examinations  
All the BoS members - Through Mail  
BoS File

**SRI VENKATESWARA COLLEGE OF ENGINEERING**  
(An Autonomous Institution, Affiliated to Anna University, Chennai-25)

**Board of Studies: Science and Humanities**  
**Minutes of the meeting**

SVCE/AUT/SH/2023-2024/01

Date: 13.04.2023

**Minutes of the meeting of Board of Studies for Science and Humanities held on 13<sup>th</sup> April 2023 (Thursday) at 10.30 am to 12.00 pm**

**Venue:** Library Conference Hall

**Google Meet Link:** <https://meet.google.com/nzg-aagu-poc>

The Board of Studies of Science and Humanities of Sri Venkateswara College of Engineering, met on Thursday 13<sup>th</sup> April at 10.30 am. The following members were present:

**University Nominee**

**Prof. V Gnanaraj** [online], Retd.Professor, Department of Mathematics, Thiagarajar College of Engineering, Madurai

**Department of Humanities and Social Science (HSS)**

**Prof. S Soundirarajan** [online], Professor, Department of English, Anna University, Chennai

**Prof. T Murugavel**, Professor and Head, Department of HSS, SVCE.

**Dr. Amutha Charu Sheela**, Assistant Professor, Department of HSS, SVCE

**Department of Applied Mathematics (APM)**

**Prof. G Sethuraman** [online]

Professor, Department of Mathematics, Anna University, Chennai.

**Dr B Thilaka**, Professor, Department of APM, SVCE.

**Department of Applied Physics (APH)**

**Dr. K. Venkataraman** [online], Professor and Head, Department of Physics, SCSVMV University, Kanchipuram.

**Prof. A Bhaskaran**, Professor and Head, Department of Applied Physics, SVCE (CHAIRMAN)

**Prof. S Sampath Krishnan**, Professor, Department of Applied Physics, SVCE.

**Department of Applied Chemistry (ACH)**

**Prof. N. Rajendran**[online], Professor, Department of Chemistry Anna University

**Prof. G. Devasagayam**, Professor and Head, Department of Applied Chemistry, SVCE.



### Industry Representative

**Mr. Amalan Alavandar [online]**

**Urban Infrastructure & Renewable Energy Specialist & Director,  
Argine Solar Solutions Pvt. Ltd. Chennai**

### **English**

**Prof. T Murugavel** told the Board that the topics as already discussed in the previous BoS meeting has been included in the syllabus. **Mr. Amalan Alavandar and Prof. S Soundirarajan** gave their valuable inputs regarding the components to be included in the Assignment part and same has been accepted by the other BoS members.

### **Applied Chemistry**

**Prof. G. Devasagayam** detailed about the syllabus pertaining to Regulation 2022 and revision pertaining to the credit awarded for ENVIRONMENTAL SCIENCES AND SUSTAINABILITY (common to all branches).

The members of the Committee discussed the topics that can be incorporated in the Syllabus and approved the same.

### **Mathematics**

**Prof. B.Thilaka** Presented the revision in the title and topics of UG papers as suggested by the BoS members in the BoS meeting held on September 2022.

The following subjects are offered for Under-Graduate programmes 3<sup>rd</sup> and 4<sup>th</sup> semester.

#### **Mathematics Courses for Semester III**

S. No	Subject Title	Branch to which Subject is offered
1.	Partial Differential Equations and Computational Methods	B.Tech. Biotechnology
2.	Differential Equations and Special Functions	B.Tech. Chemical Engineering
3.	Discrete Mathematics	Common to CSE and IT
4.	Statistics For Data Science – I	B.Tech. Artificial Intelligence and Data Science
5.	Mathematics For Data Science	B.Tech. Artificial Intelligence and Data Science
6.	Partial differential Equations and Numerical Methods	B.E. Automobile Engineering
7.	Transform And Random Processes	B.E. ECE
8.	Transforms And Differential Equations	Common to B.E., MEC & MAE(Mechanical and Automation Engineering)
9.	Mathematics For Electrical Engineers	EEE
10.	Statistical Methods For Engineers	Open Elective, Common to all Branches
11.	Computational Methods	B.E. Marine Engineering

### Mathematics Courses for Semester IV

S. No	Subject Title	Branch to which subject is offered
1.	Introduction to Biostatistics	B.Tech. Biotechnology
2.	Numerical Methods	Common to EEE & CH
3.	Statistics and Numerical Methods	Common to CE, MEC & MAE(Mechanical and Automation Engineering)
4.	Probability and Queueing Theory	Common to CSE & IT
5.	Queueing Theory and Optimization	B.Tech. Artificial Intelligence and Data Science

The committee members approved the syllabus.

### Physics

Prof. A Bhaskaran told the members that the Engineering Physics Syllabi pertaining to Regulation 2022 was already approved by the BoS members in the previous BoS meeting.

The syllabi for the various courses were recommended for approval by BoS members.

*A. Bhaskaran*  
13/4/2023  
(Dr. A. Bhaskaran)

Chairman BoS for Science and Humanities

**Chairman**  
**Board of Studies**  
Faculty of Science & Humanities  
Sri Venkateswara College of Engineering  
Pennalur, Sripersambudur (TK) - 602 117