

**New Horizon College of Engineering**  
(Autonomous college, affiliated to VTU)

**Department of Basic Sciences and Humanities**

**BOARD OF STUDIES – I MEETING**

**Basic Sciences (BS) Board**

A. Y. 2015-16.

**DAY & DATE:** Saturday, July 11, 2015

**VENUE:** Conference Hall, Chatrapathi Shivaji Block, NHCE

**TIME:** 9.30 am onwards



**NEW HORIZON COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCES AND HUMANITIES**

**BOARD OF STUDIES- BASIC SCIENCES (BS) – I MEETING**

**AGENDA**

- Agenda 1: Introduction to I Year scheme of BE (common to all branches)
- Agenda 2: Discussion on syllabus for
  - a. **Mathematics:**
    1. Engg Mathematics I (15MA11)
    2. Engg Mathematics II (15MA21)
    3. Applied Mathematics for M Tech (EC)
    4. Advanced Mathematics for M Tech (ME)
    5. Discrete Mathematics and graph theory for MCA
    6. Numerical Methods for MCA
  - b. **Engg Physics (15PH12/22)**
  - c. **Engg Chemistry (15CH12/22)**

**{Including discussion on Course outcomes, Text and Reference books,  
Self Study, if applicable}**

- Syllabus finalization and Approval
- Discussion on CIE and SEE

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## MEMBERS OF THE BOARD OF STUDIES

Sl No.	Category	Nomination of the Committee	Name of the Person
1	Head of the Dept.	Chairperson	Dr.Pratima Khandelwal
2	HoDs of Maths, Physics & Chemistry	Co-Chairpersons	Dr.Gangadharaiah Y H (Maths)
			Mrs.Revathi Shankar (Physics)
			Dr. Anusuya V. S. (Chemistry)
3	Faculty Members at different level veering different specializations	1	Dr. Vijilus Helana Raj , Assoc Prof, Maths
		2	Mr. Ananda K, AP (1), Maths
		3	Mr. Prashanth K S, AP(2), Physics
		4	Ms Bhavya P, AP(1), Physics
		5	Ms. Padma N. Sr AP, Chemistry
		6	Mrs Subhashini K, AP(2), Chemistry
4	Subjects Experts from outside the College nominated by Academic Council	1	Dr. Rajanna K R, Prof & HOD, Dept of Mathematics, Acharya Institute of Technology, Bangalore
		2	Dr. Sankar M Professor, Mathematics, East Point College of Engineering & Technology, Bangalore
		3	Dr Bhuvaneshwar Babu Prof and HOD, Dept of Physics RVCE (Autonomous) Bangalore
		4	Dr.Hariharan Nalatore, Assoc . Prof., Dept of Physics, SMVIT, Bangalore
		5	Dr S. Satyanarayana Professor, Dept of Chemistry RVCE (Autonomous), Bangalore
5	Expert from outside college, nominated by Vice-Chancellor	Member	VTU Nominee
6	Representative from Industry/corporate sector/ allied area relating to placement nominated by Academic Council	Member	Dr.Sandeep Kumar, Professor, Raman Research Institute, Bangalore
7	Meritorious alumnus nominated by Principal	Member	Mr. Jitish Pamnani, ECE 2006- 2010 Batch SSE, IBM, Software Lab, Bangalore
8	Co-opted members		Mrs Asha K (Maths) Mr Ramachandra Naik (Physics) Mr Parasuram L (Chemistry)

## MEMBERS PRESENT

SL. NO	NAME	DESIGNATION AND AFFILIATION	SIGNATORS
1.	Sandeep Kumar	Professor, RRI Bangalore	Sandeep Kumar
2.	Dr. S. Satyanarayana	professor, RVCE	[Signature]
3.	Dr. Anurag Rai	Associate. Neo NHCE	[Signature]
4.	K. Subashini	Asst. Prof., NHCE	[Signature]
5.	Parashuram.L	Asst prof NHCE	[Signature]
6.	Dr. Vijilias H Raj	Asso. Prof NHCE	[Signature]
7.	Dr G. Gundobas. YH	Asso. prof	[Signature]
8.	Dr. Rajanna KR	Prof & Head	[Signature]
9.	Dr. Mani Shankar	Asst. Prof. NHCE	On Skype
10.	Ramachandra Naite	Asst. Prof. NHCE	[Signature]
11)	Dr. Harihararam	Associate Prof., Sir. MVIIT	[Signature]
12)	Dr. Bhuvanagowda	Asst Prof + HoD	[Signature]
13	Revathi	HO D - Physics NHCE	[Signature]
14	Bhavya.P	Asst prof NHCE	[Signature]
15	Prashanth.K.S	Asst. Prof NHCE	[Signature]
16	Jitesh Pamnani	Alumni 2006-2010 SSE, IBM, SAP, Oracle	[Signature]
17	DR. MANJUNATHA	Principal NHCE.	[Signature]
18	Dr CSR Prashanth	Dean Academic	[Signature]

## WELCOME ADDRESS BY THE CHAIRMAN OF THE BOS AND INTRODUCTION OF MEMBERS

### Minutes:

Dr. Prathima Khandelwal, HOD Dept BSH, Chairman BOS welcomed each and every member present under BS Board. While expressing the purpose and significance of the meeting in her address, she introduced Dr Manjunatha, Principal New Horizon College of Engineering, Dean Academics & HOS-CSE, Dr. Prashanth to all members. Then, she individually introduced invited members both from academia and industry, followed by HODs – Dr Gangadhariyaha (HOD- Mathematics), Mrs Revathi Sankar (HOD- Physics) and Dr Anusuya S V (HOD Chemistry) along with the faculty members from department under Mathematics, Physics and Chemistry subjects. She had a special mention for Dr Mani Sankar, Prof & Head, Mathematics, East Point College of Engg for being available for BOS meet through Skype from South Korea.

She also gave a brief introduction on leadership at NHEI and NHCE; and presented the dynamics of BSH through its Vision, Mission and Goals. Through slides presentation, she also shared the challenges and opportunities at BSH, NHCE in terms of heterogeneity so as to make all members come at same forum while discussing the syllabus and meet the objectives as set for the day towards meaningful deliberations.

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### NEW HORIZON COLLEGE OF ENGINEERING DEPARTMENT OF BSH I BOARD OF STUDIES MEETING (BS) AGENDA -1

**TITLE OF AGENDA: Introduction to I Year scheme of BE (common to all branches)**

### Minutes:

Welcome and Introduction session of members was followed by introducing the Scheme of I & II semesters under Physics and Chemistry cycles. The schemes of both cycles in I/II sem (2015-16) were projected on screen by Chairman BOS.

She highlighted the credits involved and the mandatory courses, while highlighting the newly introduced courses under HS Board.

Dr Satyanarayana S, Professor Chemistry, RVCE suggested that Govt/VTU. now insists to give credit to subjects of Humanities. To this observation, Principal-NHCE said that NHCE shall consider it once official order is received for Autonomous colleges.

Thereafter, she opened the meet individually for discussing the drafted syllabus under Mathematics (for BE, MTech and MCA), Engg Physics and Engg Chemistry subjects in forms of three sub-divisions of the BS Board at the same venue. Then, the process continued with the discussion on the each syllabus and scheme by the subject specific BOS members.

**NEW HORIZON COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BSH**  
**I BOARD OF STUDIES MEETING (BS)**  
**AGENDA -2**

**TITLE OF AGENDA: Discussion on syllabus for subjects under each division of BS under BSH: Mathematics, Physics and Chemistry**

1. Mathematics: Syllabus discussion was done for
  - a. Engg Mathematics I (15MA11)
  - b. Engg Mathematics II (15MA21)
  - c. *Applied Mathematics for M Tech (EC)*
  - d. *Advanced Mathematics for M Tech (ME)*
  - e. *Discrete Mathematics and graph theory for MCA*
  - f. *Numerical Methods for MCA*

{Discussion included Course outcomes, Text and Reference books}

Some modifications (addition/deletion/combining topics) were suggested by Dr Rajanna and Dr Mani Sankar for each course under Mathematics. Dr Gangadharaiya, HOD Mathematics, added his inputs for each of the the points. Each module in syllabus was detailed amongst members.

**Minutes: A few modifications/minor changes were suggested in syllabus of courses and later, after discussion amongst the members, some of these were incorporated as recommendations.**

*Our meritorious alumni Mr.Jitesh Pamnani suggested to introduce Mathematics as an elective paper in V Sem and VI of BE which will help the students to appear for competitive exams (for ex CAT , GRE, GMAT) to pursue their higher studies .*

The Reference books were discussed and it followed by listing the Recommendations.

2. **Engg Physics (15PH12/22)**  
{Including discussion on Course outcomes, Text and Reference books, Self Study}

All concerned members had a detailed discussion about the Syllabus for theory and lab. Suggestions given by Dr Bhuvaneshwar Babu, Prof & Head Dept of Physics, RVCE and Dr Hari Haran, MVIT and other members were recorded. Mrs Revathi Sankar, HOD Physics, also presented her thoughts. Discussion pertained to all five modules along with Lab Experiments. Useful suggestions were recorded as recommendations.

Minor additions in Text book list were recorded. Importantly, RVCE drawn experience was laid out openly in being critical in terms of handling and awarding marks under Self Study. More so, suggestions were given to include assignments, lab view, seminars, chart preparation, model making etc under Self Study evaluation.

### 3. Engg Chemistry (15CH12/22

{Including discussion on Course outcomes, Text and Reference books, Self Study}

Members under Engg Chemistry had a detailed discussion on the syllabus and all allied aspects of executing the same. The important points as deliberated got recorded as recommendations.

They also expressed that Self Study component must be handled with care and be planned in such a way that they cover latest advances in various fields and as an extension of the syllabus.

D Sandeep shared his thoughts on emphasizing *Standard Solutions* in lab teaching. Dr Anusuya S V, HOD Chemistry also justified the same through couple of experiments as stated in the manual.

Dr Satyanarayana, Professor, RVCE opined that 4 COs could be framed instead 6 CO's, as with the more number of CO's mapping becomes difficult, particularly in Chemistry where different topics are covered under each module.

Towards the end of the meeting, it was advised to establish R and D center of Chemistry which would be an added advantage as engineering students from all the branches can come up with chemistry related problems during their projects.

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**NEW HORIZON COLLEGE OF ENGINEERING  
DEPARTMENT OF BSH  
I BOARD OF STUDIES MEETING  
AGENDA -3  
TITLE OF AGENDA: Syllabus finalization and Approval**

**Minutes:** After holding required detailed discussion of each syllabus, the valued external members of BOS in consonance with respective HODs and faculty members from each division agreed to resolve that the presented syllabus stands approved after incorporating the suggested minor changes/editions.

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**NEW HORIZON COLLEGE OF ENGINEERING  
DEPARTMENT OF BSH  
I BOARD OF STUDIES MEETING  
AGENDA -4  
TITLE OF AGENDA: Discussion on CIE and SEE**

CIE pattern for Engg Maths I & II was appreciative and thus no changes suggested.

Under Engg Physics lab component, it was suggested to give more importance for day to day performance/completion of work. Hence, performance in lab could be awarded 15 marks and Internal Test can carry 10 marks.



Furthermore, for theory, it was suggested to have Self Study topics for evaluating CIE scores.

In Engg Chemistry, it was re-emphasized to ascertain the feasibility of including Self Study. Dr Satyanarayana opined that it takes time for I Year students to get accustomed to the new environment of the college. A point was made under CIE to increase marks for day-to-day completion of experiments/submission of Manual from 10 to 15 and subsequently, reducing Internal Test marks to 10 for the benefit of students.

### RECOMMENDATIONS OF THE BOARD (BS: Mathematics)

Syllabus for each course was discussed in detail and the following recommendation were drafted:

- **Engg. Mathematics 1(15MA11):**

**Module 3:** To mention, No proof for curl and divergence.

**Module 4:** To change the Topic name as Differential equations and applications (Add, Review of Linear and Bernoulli's differential equations)

- **Engg. Mathematics II (15MA21):**

**Module 1:** To change the topic name as Linear Differential Equations of second and Higher order. Towards the end of syllabus, append method of variation of parameters with Constant coefficients.

**Module 2:** To include Formation of PDE at the beginning of PDE.

**Module 3:** To change the topic as Integral Calculus and special functions.

**Module 4:** To mention without proof of properties of Laplace transformations.

- **Discrete Mathematics and Graph Theory (15MCA11):**

**Unit 4:** To change Topic name to Properties of Integers and recurrence relations.

**Unit 7:** To introduce Basic terminology.

- **Numerical Methods (15MCA25):**

**Unit 1:** To introduce, introduction to Errors and approximations.

**Unit 2:** To remove the topic Pivoting.

**Unit 3:** To include Bessel's Formula (central difference by Sterling's and Bessel's formula)

**Unit 4:** Bring the last concept, Power method, in the beginning of the topic.

**Unit 5:** To change the initial concept as approximation of derivatives using Newton's forward and backward interpolation formula.

- **Advanced Mathematics (ME) (15AE/MCM/MD11):**

**Module 1:** should introduce extra concept "Introduction to errors and approximation" in the beginning of the module.

**Module 2:** Should Introduce Evaluation of double integral by Trapezoidal and Simpson's  $1/3^{\text{rd}}$  rule

- **Applied Mathematics (EC) (15LVS/LCS11):**

**Module 1:** Change the topic to, solution of system of linear algebraic equations and Eigen value problems.

**Module 5:** Should introduce, review of basic definitions on Graph Theory in the beginning of the module.

### RECOMMENDATIONS OF THE BOARD (BS: Engg Physics)

Syllabus for Theory (15Phy12/22) was discussed exhaustively and the following recommendations were made:

1. Module 2 can include *dielectric loss and its variations with frequency*
2. Module 3: *Derivations of group velocity* to be included and derivations on relation between  $V_g$  and  $V_p$ ,  $V_g$  and  $V$ , de broglie wavelength can be removed
3. Module 4: A mention on conductivity, mobility and drift velocity can suffice. *Fermi energy and its variation with temperature* can be added
4. Module 5: *Crystal planes* could be discussed; to change the term Spectrometer to Diffractometer, and include *Crystal structure of NaCl/Diamond*

In lab portions, following recommendations were put forward:

'Minimum 10 expts. to be performed' title could be included along with List of expts

Additionally, on list of books:

Engineering Physics by V Rajendran –Tata McGraw Hill can be added in the existing list

Recent trends and developments can be given as assignments under CIE.

### RECOMMENDATIONS OF THE BOARD (BS: Engg Chemistry)

Topics namely *Lead acid batteries* could be added in Module 1, along with *brief introduction of organic coatings* in Module 2 and *combustion technique of synthesis of nano materials* in Module 5. Furthermore, Dr Satyanarayana emphasized removal of *molecular mass of polymers and precipitation technique of nano materials synthesis* in Module 5.

Under the Lab component, it was recommended to include *Estimation of sodium by Flame Photometry* and to increase the marks for day-to-day completion of experiments from 10 to 15 and reduce IA test to 10

It was strongly suggested that Self Study topics be planned including the advances in various fields and as an extension of the syllabus.

Furthermore, external members suggested to have 4 CO's to ease mapping

Towards end of the session, an R and D center for Chemistry was suggested by Dr Satyanarayana , and its advantage for Chemistry faculty and Engineering students from all the branches to take research scholars for PhD which would be the great credit to the organization.

### VOTE OF THANKS BY THE CHAIRMAN-BOS

Chairman BOS- BS & HOD-BSH, Dr.Pratima.Khandelwal took the lead in acknowledging the presence of each of the members. She thanked all members from academic and Research institute along with HODs of each subject and the faculty members under BSO-BS.

She applauded their valuable inputs in deliberation in the meeting and appreciated their contribution of worthy suggestions towards fine tuning the syllabi presented under Autonomous status of NHCE. Thus, Dr Rajanna, K R, Prof & HOD, Dept of Mathematics, AIT and Dr Mani Sankar, Prof & Head, East Point College of Engineering (over Skype, as was in South Korea) were thanked profoundly for discussing all 6 syllabus under Mathematics. Dr Gangadhariya and Dr Vijilius also thanked the said members.

Chairman BOS specially thanked external BOS members for Engg Chemistry, Dr. Sathyanarayana, Professor, Dept of Chemistry, RVCE for his commendable inputs and presence. Elegant presence of Dr. Sandeep Kumar, Professor, Raman Research Institute was also duly acknowledged. Dr Anusuya and her team of teachers also thanked both the members.

Dr Bhavaneswar Babu, Prof and HOD Dept of Physics, RVCE was credited and profoundly thanked for his inputs in finalizing the tabled Engg Physics syllabus. Mrs Revathi joined her in thanking Dr Hariharan, Assoc Prof, Dept of Physics, Sir MVIT.

The presence of alumni member Mr. Jithesh Pamnani (2006-2010 Batch ECE) was greatly acknowledged for his insightful inputs by the Chairman BOS.

**MEMBERS OF THE BOARD OF STUDIES**  
**Structure of Board of Studies - Humanities and Social Sciences (HS) 2015-2016**

Sl No.	Category	Nomination of the Committee	Name of the Person
1	Head of the Dept.	Chairperson	Dr. Pratima Khandelwal, Professor and COE <i>Pratima Khandelwal</i> 21/7/15
2	Faculty Members (Experts) at different level veering different specializations	1	Dr. Lakshminarayana, Director T & P, NHEI PD&SS <i>Lakshminarayana</i> 21/7/15
		2	Mrs Rasajna S V, AP (2), BSH {English & BC} <i>Rasajna S V</i> 21/7/15
		3	Mrs Pranjali Gadwe, AP (1), BSH {CIP} <i>Pranjali Gadwe</i> 21/7/15
3	Subjects Experts from outside the College nominated by Academic Council	1	Mrs Premila Swamy HOD, Humanities Dept Professor- Business Communication/English MSRIT (Autonomous), Bangalore <i>Premila Swamy</i> 21/7/15
		2	Mrs. Indira Ramaswamy Professor in English Dept of Professional Studies Christ University Bangalore
		3	Mrs Chitra B.T. Assistant Professor, Dept. of Industrial Engineering & Management, R.V. College of Engineering (Autonomous), Bangalore <i>B.T. Chitra</i> 21/7/15
5	Expert from outside college, nominated by Vice-Chancellor	Member	VTU Nominee
6	Representative from Industry/corporate sector/ allied area relating to placement nominated by AC	Member	Mr Sudip Majumdar, Consulting Trainer, Bangalore
7	Meritorious alumnus nominated by Principal	Member	Ms Malavikha A (2010-2014 Batch)
8	Co-opted member		Dr Sheelan Mishra, Prof and Head, MBA, NHCE <i>Sheelan</i> 21/7/15