

## **MINUTES**

OF

# 35<sup>th</sup> MEETING OF BOARD OF STUDIES

Date : 27.01.2021 (Wednesday)

Time : 02.30 P.M.

Venue : Via Online Mode (Source: Google Meet)

## Minutes of the 35<sup>th</sup> combined Board of Studies (UG, PG & Research) Meeting held on Wednesday, January 27, 2021 via Online Mode (Google Meet)

#### MEMBERS PRESENT

1.	Dr. A.	Nityananda	Shetty
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2. Prof. M. S. Bhat

3. Prof. Jagannath Nayak

4. Prof. Amba Shetty

5. Prof. K. Swaminathan

6. Dr. K. Rama Chandar

7. Dr. Alwyn Roshan Pais

8. Dr. Shanthi Thilagam

9. Prof. Laxminidhi T.

10. Prof. K.N. Shubhang

11. Dr. Biju R. Mohan

12. Dr. Prasanna B.D

13. Prof. Vijay H. Desai

14. Dr. Kumar G.N

15. Prof. S. Shrikantha

16. Prof. K. Narayan Prabhu

17. Prof. Arun M. Isloor

18. Prof. Shyam S. Kamath

19. Dr. Ajith K.M

20. Dr. S. Pavan Kumar

21. Dr. Prasanna B.D

22. Mr. Mallikarjun Angadi

23. Prof. Ashwin Chaturvedi

24. Prof. Vidya Shetty K.

25. Mr. K. Ravindranath

26. Mr. Harish M. Shetty

27. Ms. Sandhya

28. Dr. A.P. Shashikala

29. Dr. Pradeep Kumar Ramacharla

30. Dr. Jaya Kumar Seelam

... Chairman

... Member

... Representative of HOD, Dept. of Mech

... Member

... Secretary

... Member

... External Member

... External Member

... External Member

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## Minutes of 35<sup>th</sup> BOS meeting held on 27-01-2021 (Wednesday)

The Chairman (BOS) and Dean (Academic) chaired the meeting and welcomed all the members to the 35th BOS meeting.

The minutes of 34th BOS meeting was approved as there were no comments received from the members.

#### ITEM No: 35-BOS-1:

Change of suggested plan of study in the curriculum 2018: Proposal by the Department of Electrical and Electronics Engineering.

The DUGC of the Department of Electrical and Electronics Engineering has proposed the following changes in the Suggested Plan of Study in the curriculum 2018.

1. To shift a core course EE308 (Power Electronics (3-1-0)4] from 3<sup>rd</sup> semester to 4<sup>th</sup> semester in the place of an Elective.

2. To swap a core course EE276 [Digital Electronic Circuits (3-1-3)6] in 3<sup>rd</sup> semester with a core course EE226 (Analog Electronic Circuits (3-1-3)6] in 4<sup>th</sup> semester.

For Senate approval

The BOS resolved to recommend the above change of suggested plan of study in the curriculum 2018.

The details are attached as an ANNEXURE-I, Page No. 1-3

#### **ITEM No: 35-BOS-2:**

Updating the syllabus and changing the L-T-P and credit of EE851 High-Voltage Testing and Measurements (3-0-0) 3, Proposal by the Department of Electrical and Electronics Engineering.

The DPGC of the Department of Electrical and Electronics Engineering has proposed the following

The syllabus of the course EE851 High-Voltage Testing and Measurements with LTP (3-0-0) 3 could be updated by adding topics with relevant standards IS/IEEE keeping in view of the industry requirements. It would help the students in their placement. In order to account for the addition of new topics, the L-T-P/Credit is to be changed to (4-0-0) 4.

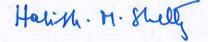
For Senate approval

The BOS resolved to recommend updating the syllabus and changing the L-T-P and Credits.

The details are attached as an ANNEXURE-II, Page No. 4

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#### **ITEM No: 35-BOS-3:**

Proposal to start a new M.Tech programme (online mode) - Proposal by the Department of Mining Engineering:

For Senate approval

The DPGC of the Department of Mining Engineering has proposed to start a new M.Tech programme in Rock Excavation Engineering both in online mode and in regular mode.

The BOS has resolved to recommend starting the new M.Tech programme in online mode and also through regular mode, following the existing regulations.

The details are attached as ANNEXURE-III, Page No. 5 - 19

#### ITEM No: 35-BOS-4:

Introduction of new Elective Courses For M.Tech Programs:

#### **Department of Civil Engineering:**

The DUGC/DPGC/DRPC of the Department of Civil Engineering has proposed to introduce following new Elective (Ele) courses from the academic year 2021-22 onwards in the PG curriculum of the various M. Tech programmes offered by the department.

(a) New elective courses to be introduced in M. Tech (Geo-Technical Engineering) are as follows:

i) CV831	Critical State Soil Mechanics	(3-0-0)3
ii) CV 832	Geotechnical Earthquake Engineering	(3-0-0)3
iii) CV833	Water Geotechnics	(3-0-0)3
iv) CV834	Unsaturated Soil Mechanics	(3-0-0)3

(b) New elective course to be introduced in M. Tech (Transportation Engineering) is as follows:

For Senate approval

Intersection Design and Analysis (3-0-0)3i) CV854

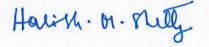
(c) New elective courses to be introduced in M. Tech (Structural Engineering) are as follows:

i) CV800	Design of Cold-Formed Steel Structures	(3-0-0)3
ii) CV819	Non-linear Finite Element Analysis	(3-0-0)3
iii) CV820	Advanced Structural Dynamics	(3-0-0)3

The BOS resolved to recommend the inclusion of above electives in the list of Electives of PG programmes.

The details are attached as an ANNEXURE-IV, Page No. 20 - 23

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ITEM No: 35-BOS-5:

To remove the elective course CV 870: Remote Sensing & GIS Applications listed under M. Tech (Environmental Engineering) curriculum in the Department of Civil Engineering and to permit the student to opt for the similar elective course offered by the Department of Water Resources and Ocean Engineering under M. Tech (Remote Sensing and GIS), proposal from the Department of Civil Engineering:

The DPGC has proposed to remove the elective course CV 870: Remote Sensing & GIS Applications listed under M. Tech (Environmental Engineering) curriculum and to introduce the following new elective course.

For Senate approval

CV870 Advanced Water and Wastewater Treatment (3-0-0)3

The BOS resolved to recommend the removal of the elective, CV 870:Remote Sensing & GIS Applications in the list under M.Tech (Environmental Engineering) curriculum and to introduce a new elective course CV 870: Advanced Water and Wastewater Treatment (3-0-0)3.

The details are attached as an ANNEXURE-V, Page No.23 - 25

ITEM No: 35-BOS-6:

Inclusion of new Elective Course for UG - proposal of Department of Computer Science and Engineering:

The DUGC of the Department of Computer Science and Engineering has proposed to introduce following new Elective Courses for UG (CSE) as follows

(3-1-0)4

i) CS478 Foundation of Cyber-Physical System ii) CS479Introduction to Blockchain and Cryptocurrency (3-0-0)3

The BOS resolved to recommend the inclusion of above electives in the list of Electives of UG programme.

For Senate approval

The details are attached as an ANNEXURE-VI, Page No. 26 - 29

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ITEM No: 35-BOS-7:

Inclusion of new Self-Study Course for Ph.D. Students - proposal Department of Computer Science and Engineering:

of

The DRPC of the Department of Computer Science and Engineering has proposed a Self-Study Course for Ph.D. Students in CSE as follows

i) CS929

Applied Cyber-Physical Systems

(4-0-0)4

For Senate approval

The BOS resolved to recommend the above Self-Study Course for Ph.D. Students.

The details are attached as an ANNEXURE-VII, Page No. 30 - 32

**ITEM No: 35-BOS-8:** 

Inclusion of new Elective Course for PG - proposal of Department of Computer Science and Engineering:

The DPGC of the Department of Computer Science and Engineering has proposed new Elective Courses for PG (CSE, CSE-IS) as follows

i) CS 740

Blockchain Architecture Design

(3-1-0)4

ii) CS739

Cyber - Physical Systems

(3-1-0)4

For Senate approval

For

Senate

approval

The BOS resolved to recommend the inclusion of above electives in the list of Electives of PG (CSE, CSE-IS) programmes.

The details are attached as an ANNEXURE-VIII, Page No. 33 - 37

ITEM No: 35-BOS-9:

Renaming of M.Tech (IT) Elective and inclusion of additional Elective Courses for B.Tech (IT) and M.Tech (IT) - Proposal of Department of Information Technology:

The DUGC/DPGC of the Department of Information Technology has proposed the following

i) Redesigning the existing IT809 Data Mining (3-0-0) 3 to IT809 Data Warehousing and Data Mining (3-0-2) 4.

The BOS resolved to recommend the redesigning of IT809 Data Mining (3-0-0) 3 to IT809 Data Warehousing and Data Mining (3-0-2) 4.

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ii) Additional Elective courses for B. Tech. (IT) and M.Tech. (IT) Programs offered by IT Department.

#### B.Tech (IT)

1. IT466	Fundamentals of 5G	(3-0-2)4
2. IT467	Robotics Process Automation	(3-0-2)4
3. IT468	Ouantum Computing	(3-0-2)4

#### M.Tech

1. IT835	Advanced Data Analytics	(3-0-2) 4
2. IT836	Advanced Topics in 5G	(3-0-2)4
3. IT837	Spatial Database and Applications	(3-0-2) 4
4. IT838	Quantum Cryptography	(3-0-2) 4

The BOS resolved to recommend the inclusion of above electives in the list of electives of UG/PG programmes.

The details are attached as an ANNEXURE-IX, Page No. 38 - 41

ITEM No: 35-BOS-10:

Proposal from the Department of Mathematical and Computational Sciences:

The DUGC/DPGC/DRPC of the Department of Mathematical and Computational Sciences has proposed the following:

i) *Modification in the curriculum of M.Tech (CDS)* - Inclusion of a new core course, MA727, Advanced Data Science (3-0-0) 3 and modification of contents of MA721, MA722, MA725 and MA726. The modification in the credit requirements as follows: Program Core: 26, Electives: 9, MLC: 4 and MP: 12. Total: 51.

The BOS resolved to recommend the inclusion of the above core course, MA 727 and the modification of curriculum and the course requirements of M.Tech (CDS).

ii) Proposal to add an elective course to M.Tech (CDS) - MA870, Graphs in Machine Learning, (3-0-3) 3

For Senate approval

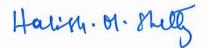
The BOS resolved to recommend the inclusion of above elective course to M.Tech (CDS).

iii) Proposal to modify the contents of the elective course MA851, Numerical Solutions of Partial Differential Equations, of M.Tech (CDS).

The BOS resolved to recommend the modification in the contents of the elective course MAS51.

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- iv) Modifications and changing the credit from 3 to 4 for the existing course MA900.
- v) Modifications and changing the credit from 3 to 4 for the existing course MA934.

The BOS resolved to recommend the modifications and changes in the credits for courses MA900 and MA 934.

vi) Proposal to add a new Course (900 Level): MA946, Discrete Dynamical Systems (4-0-0)4.

The BOS resolved to recommend the inclusion of a new course MA946.

vii) Proposal to request the revision of credits MA110 and MA111 from 3 to 4.

The BOS resolved not to recommend the revision of credits for MA110 and MA111.

The details are attached as ANNEXURE-X, Page No. 42 - 46

#### ITEM No: 35-BOS-11:

Inclusion of Electives - Proposal from Department of Metallurgical and Materials Engineering:

The Department of Metallurgical and Materials Engineering has proposed new Elective Courses for PG students of Process Metallurgy and Materials Engineering as follows

i) Advanced Steels (3-0-0) 3

- ii) Texture in Metals (3-0-0) 3

For Senate approval

The BOS resolved to recommend the inclusion of the above electives in the list of electives for M.Tech programmes in Process Metallurgy and Materials Engineering.

The details are attached as an ANNEXURE-XI, Page No. 47 - 49

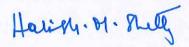
#### ITEM No: 35-BOS-12:

Recognition as Research Guide (Internal) for Ph.D.:

The following Faculty has been recognized as Ph.D. guides after 34th BOS meeting based on the recommendation of the respective DRPC:

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E& C Engg.	Dr. Mandeep Singh	Assistant Professor	IIT Roorkee
Mechanical Engg.	Dr. Khyati Verma	Assistant Professor	IIT Delhi
Mechanical Engg.	Dr. A S Balan	Assistant Professor	IIT Madras
Mechanical Engg.	Dr. P S Suvin	Assistant Professor	IISc. Bangalore
E& C Engg.	Dr. Nikhil K S	Assistant Professor	IIT Madras
E& C Engg.	Dr. Sushil Kumar Pandey	Assistant Professor	IIT Indore
Civil Engg.	Dr. Sridhar G	Assistant Professor	IIT Madras
Metallurgical and	Dr. Selvakumar Murugesan	Assistant Professor	IIT Kharagpur
Materials Engg. Computer Science &	Dr. Ajay Pratap	Assistant Professor	IIT Patna
Engg. Civil Engg.	Dr. Pavan G S	Assistant Professor	IISc. Bangalore
Computer Science &	Dr. Biswajit Bhowmik	Assistant Professor	IIT Guwahati
Engg. Computer Science &	Dr. Sourav Kanti Addya	Assistant Professor	NIT Rourkela
Engg. E & E Engg.	Dr. B Dastagiri Reddy	Assistant Professor	NIT Trichy
E & E Engg.	Dr. Shashidhara Mecha Kotian	Assistant Professor	NITK Surathkal
MACS	Dr. Falguni Roy	Assistant Professor	IIT Kharagpur
MACS	Dr. R Jothi Ramalingam	Assistant Professor	Queensland University of Technology Australia
School of Mgt.	Dr. Rofin T M	Assistant Professor	IIT Kharagpur
Chemistry	Dr.Lakshmi Vellanki	Assistant Professor	IIT Bombay
Chemistry	Dr. Vijayendra S Shetti	Assistant Professor	IIT Bombay
E & E Engg.	Dr. M D Waseem Ahmad	Assistant Professor	IIT Kanpur
E & E Engg.	Dr. Prajof P	Assistant Professor	IIT Bombay
Water Resources &	Dr. Shwetha H R	Assistant Professor	IISc. Bangalore
Ocean Engg. Mechanical Engg.	Dr. Ranjeet Kumar Sahu	Assistant Professor	IIT Madras
Mechanical Engg.	Dr. Arun Kumar Shettigar	Assistant Professor	NITK Surathkal
Mechanical Engg.	Dr. Pramod K	Assistant Professor	IIT Bombay
Mechanical Engg.	Dr. Mruthyunjaya Swamy K B	Assistant Professor	IIT Kharagpur

To Senate for information

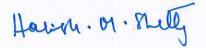
The BOS resolved to ratify the list of faculty who were recognized as Research Guide after 34th BOS meeting based on the respective DRPC recommendations.

ITEM No: 35-BOS-13:

Inclusion of External Additional Guides:

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#### A) Department of Chemistry

The DRPC of the Chemistry has proposed that Dr. P Thomus, Additional Director, CPRI Bangalore be considered for inclusion as an Additional Research Guide for Mr. R R Sivaprakash (197CY501) in the Department of Mechanical Engineering.

For Senate approval

The BOS resolved to consider Dr. P Thomus, Additional Director, CPRI Bangalore for inclusion as an Additional Research Guide for Mr. R R Sivaprakash (197CY501) in the Department of Chemistry.

The details are enclosed as Annexure – XII, Page No. 50 – 58

### B) Department of Mechanical Engineering

i) The DRPC of the Mechanical Engineering has proposed that Dr. Suhas B G, Assistant Professor, BMSCE, Bangalore be considered for inclusion as an Additional Research Guide for Mr. Madan K in the department of Mechanical Engineering.

The BOS resolved not to consider Dr. Suhas B G, Assistant Professor, BMSCE, Bangalore for inclusion as an Additional Research Guide for Mr. Madan K in the Department of Mechanical Engineering.

The details are enclosed as Annexure - XIII, Page No. 59 - 66

ii) The DRPC of the Mechanical Engineering has proposed that Dr. Avdhoot Walunj, Assistant Professor BMSCE Bangalore be considered for inclusion as an Additional Research Guide for Mr. K Ganesh Vijay Rao in the department of Mechanical Engineering.

The BOS resolved not to consider Dr. Avdhoot Walunj, Assistant Professor BMSCE Bangalore for inclusion as an Additional Research Guide for Mr. K Ganesh Vijay Rao in the Department of Mechanical Engineering.

The details are enclosed as Annexure - XIV, Page No. 67 - 78

iii) The DRPC of the Mechanical Engineering has proposed that Dr. Madhusudan Padmanabhan, Scientist-G, Aeronautical Development Agency (Ministry of Defence, Govt of India) Bangalore be considered for inclusion as an Additional Research Guide for Mr. Ashok Kumar S (197ME502) in the department of Mechanical Engineering. The present Additional Guide Dr. T Ram Prabhu, Scientist, DRDO Bangalore has consented to withdraw his guideship.

The BOS resolved to consider Dr. Madhusudan Padmanabhan, Scientist-G, Aeronautical Development Agency (Ministry of Defence, Govt of India) Bangalore for inclusion as an Additional Research Guide for Mr. Ashok Kumar S (197ME502) in the department of Mechanical Engineering.

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The details are enclosed as Annexure - XV, Page No. 79 - 84

C) Department of Metallurgical and Materials Engineering

The DRPC of the Metallurgical and Materials Engineering has proposed that Dr. Mohammad Waseem Akhtar, Assistant Professor, Jamia Millia Islamia, Delhi be considered for inclusion as an Additional Research Guide for Mr. Mohammad Muhiuddin (207148) in the department of Metallurgical and Materials Engineering.

The BOS resolved to consider Dr. Mohammad Waseem Akhtar, Assistant Professor, Jamia Millia Islamia, Delhi for inclusion as an Additional Research Guide for Mr. Mohammad Muhiuddin (207148) in the Department of Metallurgical and Materials Engineering.

The details are enclosed as Annexure - XVI, Page No. 85 - 93

#### D) Department of Water Resources and Ocean Engineering

i) The DRPC of Water Resource and Ocean Engineering has proposed that Dr. Fekadu Fufa Feyessa, Head, Oromiya Urban and Housing Bureau, Addis Ababa, Ethiopia be considered for inclusion as an Additional Research Guide for Mr. Fiseha Befikadu deneke (197AM003) in the department of Water Resource and Ocean Engineering.

The BOS resolved to consider Dr. Fekadu Fufa Feyessa, Head, Oromiya Urban and Housing Bureau, Addis Ababa, Ethiopia for inclusion as an Additional Research Guide for Mr. Fiseha Befikadu deneke (197AM003) in the Department of Water Resource and Ocean Engineering.

The details are enclosed as Annexure - XVII, Page No. 94 - 101

ii) The DRPC of Water Resource and Ocean Engineering has proposed that Dr. Jaya Kumar Seelam, Principal Scientist, NIO Goa be considered for inclusion as an Additional Research Guide for Ms. Swaroopa Gourish Sai Alias Roopa Mangesh Sawant (187AM505) in the department of Water Resource and Ocean Engineering.

The BOS resolved to consider Dr. Jaya Kumar Seelam, Principal Scientist, NIO Goa for inclusion as an Additional Research Guide for Ms. Swaroopa Gourish Sai Alias Roopa Mangesh Sawant (187AM505) in the Department of Water Resource and Ocean Engineering.

The details are enclosed as Annexure - XVIII, Page No. 102 - 118

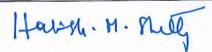
ITEM No: 35-BOS-14:

Inclusion of new Elective Course for UG & PG - proposal of Department of Chemical Engineering:

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The DUGC/DPGC/DRPC of the Department of Chemical Engineering has proposed to introduce following new Elective Courses for UG and PG courses as For follows Senate approval For UG Program 2(2-0-0)i) Process Sustainability 2(2-0-0)ii) Chemical Process Safety For PG Program i) Molecular Simulations 3(3-0-0) The BOS resolved to recommend the inclusion of the above electives in the list of electives of UG & PG programmes.

ITEM No: 35-BOS-15: Changing the course names and inclusion of electives - proposal of Department of Electronics & communication

The details are enclosed as Annexure – XIX Page No. 119 - 122

i) Change in course Name of UG (Department of Electronics & Communication Engg.)

For Senate approval

Changing the course name of the course EC459 Optimization (3-1-0)4 -to-Öptimization and applications.

The BOS resolved to recommend the changing the course name of the course EC459 Optimization (3-1-0)4 -to- Optimization and applications.

ii) Introducing a new UG elective course

EC480 Remote Sensing: Principles, Techniques and Application (3-1-0)4

The BOS resolved to recommend the inclusion of the above elective course in the list of electives for the UG programme.

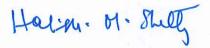
iii) Change in credit requirement for Honors in E&C Engg and inclusion of list of courses for Honors degree in the B.Tech course structure.

The BOS resolved to recommend the change in credit requirement for Honors in E&C Engg. from 20 to 16 credits from the academic year 2021-22. It is also resolved to recommend the inclusion of the proposed list of courses for Honors degree in the B.Tech course structure.

iv) Change in course Name of PG

Changing the course name of the PG course, EC836 Radar Signal Processing (4-0-0)4 - to "Radar Signal Processing and Applications"

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The BOS resolved to recommend the change of the course name of the PG course, EC836 Radar Signal Processing (4-0-0)4 – to "Radar Signal Processing and Applications".

v) Introducing PG elective course for M.Tech in Signal Processing and Machine learning

EC878 Remote Sensing: Techniques, Data Analysis and Applications (4-0-0)

The BOS resolved to recommend the inclusion of the above elective course for M.Tech in Signal Processing and Machine learning

The details are enclosed as Annexure - XX, Page no.123 -125.

The Secretary (BOS) proposed the vote of thanks to the chair and to the members.

(Mr. Harish M. Shetty) Secretary - BOS, NITK

(Prof. A. Nityananda Shetty) Chairman - BOS, NITK