

Department of Mechanical Engineering

MINUTES of 14th Meeting of the Board of Studies held on
19th December, 2020 at 10.00 a.m. (through Online mode)
Google meet Link: meet.google.com/jkd-irvd-avr

Venue: Seminar Hall, Department of Mechanical Engineering,
National Engineering College

National Engineering College, K.R.Nagar, Kovilpatti – 628 503

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

www.nec.edu.in

Department of Mechanical Engineering

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14th Board of Studies Meeting
Department of Mechanical Engineering

Venue: Seminar Hall, Department of Mechanical Engineering,
National Engineering College

Date & Time: 19.12.2020 & 10.00 a.m.

Through Online Mode

Google Meet Link: meet.google.com/jkd-irvd-avr

AGENDA

BoS / MECH14.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Mechanical Engineering
BoS / MECH14.2	:	Confirmation of the Minutes of the 13 th meeting of Board of Studies in the department of Mechanical Engineering held on May 23,2020 and Action taken report of 13 th meeting of Board of Studies
BoS / MECH14.3	:	Business brought forward by the Chairman, Board of studies
	14.3.1	Inclusion of introduction to AI based additional open elective courses in B.E Mechanical Engineering Programme under R2019 1. Foundations of Artificial Intelligence – 3 Credit 2. Essentials of Machine Learning – 3 Credit 3. Artificial Intelligence in Predictive Maintenance – 1 credit 4. Artificial Intelligence in Intelligent Manufacturing – 1 credit 5. Artificial Intelligence in Production Management – 1 credit
	14.3.2	Change of Course Name

	14.3.3	<p>Syllabus for Open Elective Courses – II in B.E. Mechanical Engineering programme under Regulation 2019.</p> <ol style="list-style-type: none"> 1) Testing and Calibration of Instruments 2) Digital Electronics for Engineers 3) Instrumentation and Control 4) Microprocessor, Microcontroller and Applications 5) Electrical Drives and Control
	14.3.4	<p>Syllabus for Open Elective Courses – III in B.E. Mechanical Engineering programme under Regulation 2019.</p> <ol style="list-style-type: none"> 1) Computer Graphics and Virtual Reality 2) Mobile Application and Development 3) Object Oriented Programming 4) Programming in Python 5) Fundamentals of Java Programming 6) Programming for Robotics 7) Fundamentals of Artificial Intelligence 8) Simulation and Modelling
	14.3.5	<p>Syllabus for Professional Elective Courses (Thermal Module) in B.E. Mechanical Engineering Programme under Regulation 2019.</p>
	14.3.6	<p>Syllabus for Professional Elective Courses (Design Module) in B.E. Mechanical Engineering Programme under Regulation 2019.</p>
	14.3.7	<p>Syllabus for Additional Open Elective Courses in M.E. Energy Engineering programme under Regulation 2019</p> <ol style="list-style-type: none"> 1) Material Testing and Characterization Techniques 2) Micro Manufacturing 3) Non-destructive Testing and Evaluation 4) Polymers and Composite Materials 5) Surface Engineering
	14.3.8	<p>Offering courses for Open Elective Courses to Civil, CSE and EEE Programmes under Regulation 2019.</p> <p>Civil</p> <ol style="list-style-type: none"> 1. Project Management and Finance 2. Product Design and Development

		<p>3. Energy Engineering</p> <p>CSE</p> <ol style="list-style-type: none"> 1. Design Thinking 2. Fundamentals of Robotics 3. Nanotechnology <p>EEE</p> <ol style="list-style-type: none"> 1. Power Plant Engineering 2. Mechatronics
	14.3.9	Inclusion of 2 credit course on “Innovation through Design Thinking”.
	14.3.10	Formal approval for handling one or two descriptive courses in R-2105 and R-2019 through online mode by NEC faculty
	14.3.11	The discussion and approval of NEC Innovation and Startup Policy (NEC ISP) – 2020.
	14.3.12	Commercialized a Product Developed through NewGen IEDC and EDII Tamil Nadu.
BoS / MECH14.4	:	Suggestions given by the BOS Members
BoS / MECH14.5	:	Any other items

National Engineering College, K.R.Nagar, Kovilpatti – 628 503
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F. No. 1-1/NEC/ MECH

19th December, 2020

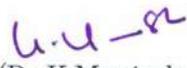
Dear Sir/Madam,

Sub: Minutes of the 14th Meeting of the Board of studies in the Mechanical Engineering - Reg.

Kindly find attached herewith the Minutes of the 14th Meeting of Board of studies of the Mechanical Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628503 held on 19th December 2020 at 10.00 a.m. (through Online mode) in Seminar Hall, Department of Mechanical Engineering, National Engineering college. Hard copy of the Minutes is also being sent to you by speed post.

It is requested that comments on the Minutes, if any, may please be sent by email at hodmech@nec.edu.in or by post, at the earliest. If no comments are received, within ten days, the Minutes shall be taken as confirmed. With Kind Regards,

Yours Sincerely


(Dr.K.Manisekar)

Department of Mechanical Engineering

MINUTES OF THE MEETING

The 14th Meeting of the Board of studies of the Mechanical Engineering was held on 19th December 2020 at 10.00a.m. through online mode (Google Meet Link: meet.google.com/jkd-ivrd-avr) in the Seminar Hall, Department of Mechanical Engineering, National Engineering College, K.R.Nagar, Kovilpatti – 628 503

1. The following members were present

1.	Dr.K.Manisekar, Professor & Head	Chairman
2.	Dr. D.Ravindran, Professor	Internal Members
3.	Dr.S.Iyah Raja, Asso. Professor	
4.	Dr.D.Venkat Kumar, Asso. Professor	
5.	Dr. M.Kathiresan, Asso. Professor	
6.	Dr. R.Harichandran, Asso. Professor	
7.	Dr.I. Sankar, Asst.Professor (S.G)	
8.	Dr.D. Vignesh Kumar, Asst. Prof. (S.G)	
9.	Mr.P.Ramanan, Asst. Professor (S.G)	
10.	Dr.F.Michael Thomas Rex, Asst. Prof. (S.G)	
11.	Dr. P. Hariharasakthisudhan, Asst. Prof. (S.G)	
12.	Mr. R.Vignesh Kumar, Asst. Professor	
13.	Mr. C.Suresh Kumar, Asst. Professor	
14.	Mr.S.S.Ananthan, Adjunct Faculty	
15.	Mr. M.Vivekanandan, Adjunct Faculty	
16.	Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai-600 025	University Nominee
17.	Dr. R. Velraj Professor / Institute for Energy Studies, CEG, Anna University, Chennai	Academic Experts
18.	Dr.-Ing. M. Duraiselvam Professor / Production Engineering, National Institute of Technology, Trichy	
19.	Mr. R. Kanda Subburaj Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	Industrial Expert related to

20.	Mr. S. Suresh Senior Vice President and Business Head (EM), Wheels India Limited, Padi, Chennai	Placement
21.	Dr. K. Murugan Scientist –E, Centre for Engineered Coatings (CEC), ARCI, Hyderabad – 500 005, Telangana	Meritorious Alumnus Nominated by the Principal
22.	Dr.A.Arockiarajan Professor / Applied Mechanics, Indian Institute of Technology, Chennai	Special Invitees
23.	Mr.P.Muniyandi Principal Scientific Officer Bharat Earth Movers Limited New Thippasandra, Bengaluru – 56007	
24.	Mr.P.S.Sriram Vice President – Operations (Plant – Head) Daimler india commercial vehicles, Chennai.	
25.	Mr. Vinoth Kumar. M Plant Head, Interplex Electronics India Pvt. Ltd., Chennai	
26.	Mr. T. Anandhavel, II Year Student	Student Members
27.	Mr. C. Surya, III Year Student	
28.	Mr. J. Sam Joebin, III Year Student	
29.	Mr. M. Pradheep, IV Year Student	

BoS / MECH14.1	:	WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF MECHANICAL ENGINEERING
		The Chairman, BOS of the Mechanical Engineering welcomed and introduced the members of 14 th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.
BoS / MECH 14.2	:	TO CONFIRM THE MINUTES OF THIRTEENTH BOS MEETING HELD ON 23 rd May, 2020

		The minutes of the Thirteenth Board of Studies meeting held on 23 rd May, 2020 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 13 th Academic council. (Enclosed in Annexure – I)
BoS / MECH 14.3.1	:	TO CONFIRM AND APPROVE the introduction to AI based additional open elective courses in B.E Mechanical Engineering Programme under R-2019 (Enclosed in Annexure – II)
		RESOLVED TO APPROVE the introduction to AI based additional open elective courses in B.E. Mechanical Engineering Programme under R-2019
BoS / MECH 14.3.2	:	TO CONFIRM AND APPROVE the change of course name in B.E. Mechanical Engineering Programme under R-2019 (Enclosed in Annexure – III)
		RESOLVED TO APPROVE the change of course name in B.E. Mechanical Engineering Programme under R-2019
BoS / MECH 14.3.3	:	TO CONFIRM AND APPROVE the syllabus of Open Elective Courses – II in B.E. Mechanical Engineering programme under R-2019. (Enclosed in Annexure – IV)
		RESOLVED TO APPROVE the syllabus of Open Elective Courses – II in B.E. Mechanical Engineering programme under R-2019.
BoS / MECH 14.3.4	:	TO CONFIRM AND APPROVE the syllabus of Open Elective Courses – III in B.E. Mechanical Engineering programme under R-2019. (Enclosed in Annexure – V)
		RESOLVED TO APPROVE the syllabus of Open Elective Courses – III in B.E. Mechanical Engineering programme under R-2019.
BoS / MECH 14.3.5	:	TO CONFIRM AND APPROVE the syllabus of Professional Elective Courses (Thermal Module) in B.E. Mechanical Engineering Programme under R-2019. (Enclosed in Annexure – VI)
		RESOLVED TO APPROVE the syllabus of Professional Elective Courses (Thermal Module) in B.E. Mechanical Engineering Programme under R-2019.

BoS / MECH 14.3.6		TO CONFIRM AND APPROVE the syllabus of Professional Elective Courses (Design Module) in B.E. Mechanical Engineering Programme under R-2019. (Enclosed in Annexure – VII)
		RESOLVED TO APPROVE the syllabus of Professional Elective Courses (Design Module) in B.E. Mechanical Engineering Programme under R-2019.
BoS / MECH 14.3.7		TO CONFIRM AND APPROVE the syllabus of Open Elective Courses in M.E. Energy Engineering programme under R-2019 (Enclosed in Annexure – VIII)
		RESOLVED TO APPROVE the syllabus of Open Elective Courses in M.E. Energy Engineering programme under R-2019
BoS / MECH 14.3.8		TO CONFIRM AND APPROVE offering Open Elective Courses to Civil, CSE and EEE Programmes under Regulation 2019. (Enclosed in Annexure – IX)
		RESOLVED TO APPROVE offering Open Elective Courses to Civil, CSE and EEE Programmes under R-2019.
BoS / MECH 14.3.9		TO CONFIRM AND APPROVE a 2-credit course on “Innovation through Design Thinking”. (Enclosed in Annexure – X)
		RESOLVED TO APPROVE a 2-credit course on “Innovation through Design Thinking”.
BoS / MECH 14.3.10		TO CONFIRM AND APPROVE the conduct of one or two descriptive courses in fully online mode handled by NEC faculty
		RESOLVED TO approve the conduct of one or two descriptive courses in fully online mode handled by NEC faculty
BoS / MECH 14.3.11		TO CONFIRM AND APPROVE NEC Innovation and Startup Policy (NEC ISP) - 2020. (Enclosed in Annexure – XI)
		DISCUSSED AND RECOMMENDED subject to the approval of the Academic council and the University.
BoS / MECH 14.4	:	Suggestions Given by the Members
14.4.1	:	The introduction to AI based additional Open Elective Courses may be offered to the students from 3 rd year

		onwards.
14.4.2	:	Pitot tube, Anemometer and National standards for Calibration may be incorporated in the syllabus of open elective course "Testing and Calibration of Instruments".
14.4.3	:	The following topics may be included in the syllabus of open elective course – III (Computational Skills). Augmented Reality, Database Management System, Back end programming.
14.4.4	:	Advanced topics may be incorporated in "Internal Combustion Engines" course.
14.4.5		Body design, Hybrid electric vehicle, Indian standards for emission, testing standards, safety in automobiles topics may be included in the programme elective course, "Automobile Engineering"
14.4.6		A new course "Hybrid Electric Vehicles" may be introduced as programme elective.
14.4.7		Latest electrical and electronics may be incorporated in "Automotive Electronics".
14.4.8		The content of Unit 2 in Refrigeration and Airconditioning course may be revised.
14.4.9		Introduction about safety regulations, crashworthiness, ARI can be added in Vehicle systems design course.
14.4.10		Design for welding and welded assembly can be added in the course "Design for Manufacture, Assembly and Environments".
14.4.11		The content of the Material Testing and Characterization techniques course and Surface Engineering course may be revised.
14.4.12		NEC Innovation and Startup Policy is recommended subject to the approval of the Academic council and the University.
14.4.13		The members of BOS appreciated the efforts taken by the department for developing Innovative Agro Tech Product by K.R.Innovation Centre through NewGen IEDC and EDII Tamil Nadu.

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately about this online teaching and learning process.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- a) Inclusion of Introduction to AI based additional Open Elective Courses for III-year B.E. Mechanical Engineering Programme under R-2019.
- b) Change of Course Name
- c) Syllabus of new open elective courses (Group-II and Group-III) in B.E. Mechanical Engineering Programme under R-2019
- d) Syllabus of new professional elective courses (Thermal and Design Module) in B.E. Mechanical Engineering Programme under R-2019
- e) Syllabus of new open elective courses in M.E. Energy Engineering Programme under R-2019
- f) Syllabus of open elective courses offering for Civil, CSE and EEE Programmes under R-2019
- g) Inclusion of 2 credit course on "Innovation Through Design Thinking"
- h) to conduct of one or two descriptive courses in fully online mode handled by NEC faculty
- i) NEC Innovation and Startup Policy (NEC ISP) - 2020

Dr. D.Ravindran, Professor / Mechanical Engineering thanked all the members for their kind cooperation and the meeting came to an end.

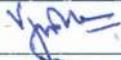
Members Present Online

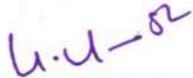
Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai-600 025	<i>University Nominee</i>
Dr. R. Velraj, Professor & Director, Institute for Energy Studies, CEG, Anna University, Chennai-600025	<i>Academic Experts</i>

Dr.-Ing. M. Duraiselvam, Professor, Department of Production Engineering, NIT, Trichy	
Dr. A.Arockiarajan Professor, Department of Applied Mechanics, Indian Institute of Technology, Chennai	
Dr. K. Murugan, Scientist –E, Centre for Engineered Coatings (CEC), ARCI, Hyderabad – 500 005, Telangana	<i>Meritorious Alumnus</i>
Mr. R. Kanda Subburaj, Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	<i>Industrial Experts</i>
Mr.P.Muniyandi, Principal Scientific Officer, Controllerate of Quality Assurance, Bharat Earth Movers Ltd, Bengaluru	
Mr. Vinoth Kumar. M, Plant Head, Interplex Electronics India Pvt. Ltd., Chennai	
Mr.P.S.Sriram, Director (Industrial), Alstom Transport India Ltd., Chennai.	

Members Present

Chairman	
Dr.K.Manisekar, Professor & Head	<i>ku-82</i>
Internal Members	
Dr. D.Ravindran, Professor	<i>through online</i>
Dr.S.Iyah Raja, Asso. Professor	<i>[Signature]</i>
Dr.D.Venkat Kumar, Asso. Professor	<i>D.V. [Signature]</i>
Dr. M.Kathiresan, Asso. Professor	<i>through online</i>
Dr. R.Harichandran, Asso. Professor	<i>R.H. [Signature]</i>
Dr.I. Sankar, Asst. Professor (S.G)	<i>through online</i>
Dr.D. Vignesh Kumar, Asst.Professor (S.G)	<i>[Signature]</i>
Mr.P.Ramanan, Asst Professor (S.G)	<i>P.Ram. [Signature]</i>
Dr.F.Michael Thomas Rex, Asst. Professor (S.G)	<i>[Signature]</i>
Dr. P. Hariharasakthisudhan, Asst. Professor (S.G)	<i>[Signature]</i>

Mr. R.Vignesh Kumar, Asst. Professor	
Mr. C.Suresh Kumar, Asst. Professor	
Mr.S.S.Ananthan, Adjunct Faculty	through Online
Mr. M.Vivekanandan, Adjunct Faculty	through online
<i>Student Members Nominated by the HOD</i>	
Mr. T. Anandhavel, II Year Student	through Online
Mr. C. Surya, III Year Student	through online
Mr. J. Sam Joebin, III Year Student	through online.
Mr. M. Pradheep, IV Year Student	through online


CHAIRMAN
BOARD OF STUDIES

ANNEXURE - I

Action taken for Minutes of 13thBoS Meeting

As per BOS Committee suggestion,

1. The limitations of digital manufacturing and machine learning concepts were included in the syllabus of one credit course "Digital Manufacturing".
2. All kind of standards was incorporated into the syllabus of one credit course "Codes and Standards".
3. The syllabus of open elective course "Laser Technology" was revised.
4. Engineering applications of Nano Technology was incorporated in the syllabus of open elective course "Fundamentals of Nano science".
5. FTIR analysis and mechanical testing of polymers were included in the syllabus of open elective course "Polymer Science and Technology".

h.y - SL
18/12/2020
Chairman
Board of Studies

14th BOARD OF STUDIES MEETING – DEPARTMENT OF MECHANICAL ENGINEERING ON 19.12.2020

Mechanical Engineering (2020-12-18 at 20:23 GMT-8)

The image is a screenshot of a Google Meet video recording. The main content area displays a presentation slide with the text "You're presenting to everyone" and a "Stop presenting" button. To the right of the slide is a grid of participant avatars, including K. Manickar, Sree Arjun, Karupiah Marag..., K. Karthikeyan M., Sri Sam Jordan, Sree Pan Sun, Sri D. Vignesh K..., Sree Raj Samal..., Sri Praveen..., and P. Pradeep Kumar. The top of the meeting interface shows a "REC" indicator, the text "You are presenting", and the time "12:24 PM". The bottom of the screen features a Windows taskbar with various application icons and a system tray showing the time "12:04 PM 12/19/2020". At the very bottom, there is a video player control bar with a play button, a volume icon, and a progress indicator showing "2:25:41 / 2:46:13".

14th BOARD OF STUDIES MEETING – DEPARTMENT OF MECHANICAL ENGINEERING ON 19.12.2020

BoS Meeting - Mechanical Engineering (2020-12-18 at 20:23 GMT-8)

REC You are presenting 10:26 AM Presentation (You) You

meet.google.com/jkl-ivd-avr

You're presenting to everyone
Stop presenting

Karupplah Murug... ssa adjunct Dural selvam K Manisekar
SRI PAN-SUN vivick adjunct Pachamali Manly... Kandasubburaaj R...
Arockiasan A B... ANANDHAVEL T 019 Sam Jobin VELRAJ RAMALL

BoS Meeting - Mechanical En... 26:05 10:26 AM 12/19/2020

28:05 / 2:46:13