



Ref. No. 2024/1104

Date: 10.06.2024

To  
The Joint Registrar (Acad. / Conf),  
Rajiv Gandhi University,  
Rono Hills, Doimukh,  
Arunachal Pradesh - 791112.

**Subject:** Regarding Conducting Board of Studies (BoS) meeting for the Department of Agricultural Engineering under the Faculty of Agricultural Sciences for BSc, M. Tech. and Ph.D. Courses through virtual mode.


Respected Sir,

Concerning Letter No. 2024/366 dated 29<sup>th</sup> May 2024, a BoS meeting has been scheduled on 11-06-2024 at 10.00 am in virtual mode through Google Meet. The following members are in the BoS for the Department of Agricultural Engineering under the Faculty of Agricultural Sciences.

Sl. No.	Name of the Member	Designation
1	Head of the Dept.	Ex-Officio Chairperson
2	Prof. K N Dewangan (External Member)	Professor, Department of Agricultural Engineering, NERIST Nirjuli India.
3	Dr. Rajendra Machavaram (External Member)	Associate Professor, Department of Agricultural and Food Engineering, Indian Institute of Technology Kharagpur (IIT KGP) India.
4	Dr. Sandeep Janghu (Internal Member)	Associate Professor, Department of Food Technology, Rajiv Gandhi University Rono Hills
5	Dr. N R N V Gowripathi Rao (Internal Member)	Assistant Professor, Department of Agricultural Engineering, Rajiv Gandhi University Rono Hills

This is for your kind information and necessary action.


Thank You.

  
10/06/24  
Dr. N R N V Gowripathi Rao  
Assistant Professor  
Department of Agricultural Engineering  
F.A.Sc. RGU, Rono Hills  
Arunachal Pradesh - 791112  
Yours sincerely,

Dr. N R N V Gowripathi Rao

Copy to: 1. Dr. Sandeep Janghu, Dean Incharge, Faculty of Agricultural Sciences

Head of the Department (I/C)  
Department of Agricultural Engineering  
Faculty of Agricultural Sciences  
RGU, Rono Hills - 791110  
Arunachal Pradesh

  
11/06/24



Ref. No. 2024/410

Date: 11.06.2024

Minutes of the First BOS

Department of Agricultural Engineering

The 1<sup>st</sup> Board of Studies Meeting was held on 11-06-2024 via virtual mode from 10.00 am onwards through Google Meet.

The following members were present:

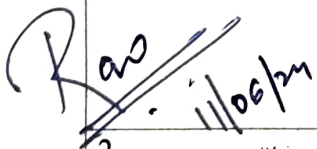
1. Head of the Department
2. Prof K N Dewangan (NERIST- Nirjuli)
3. Dr. Rajendra Machavaram (Associate Professor- IIT KGP)
4. Dr. Sandeep Janghu (Associate Professor- RGU)
5. Dr. N R N V Gowripathi Rao (Assistant Professor- RGU)

The following agenda points were covered during the meeting:

1. Presentation of Syllabus of B.Sc. as per the 5<sup>th</sup> Dean Committee
2. Presentation of Syllabus of MTech as per 5<sup>th</sup> Dean Committee
3. Presentation of Syllabus of Ph.D. as per 5<sup>th</sup> Dean Committee
4. Suggestions and Discussion

The meeting started with opening remarks from Dr. N R N V Gowripathi Rao, welcoming the members and explaining the complete structure of the BSc, MTech, and PhD programs.

Sr. No	Agenda
1	<p>Syllabus of B.Sc. as per the 5<sup>th</sup> Dean Committee</p> <p>The structure of the B.Sc. program was presented to the members and approved as it is by the members. There were no changes in the syllabus. Members stated that it is as per the requirements of the B.Sc. Agriculture program.</p> <p>One suggestion by member Dr. Machavaram is to introduce Agricultural Informatics, if possible, in B.Sc. Second Year (4<sup>th</sup> Semester) or otherwise it is okay as per the 5<sup>th</sup> Dean committee report</p>
2	<p>Presentation of Syllabus of MTech as per 5<sup>th</sup> Dean Committee</p>

  
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The structure of the MTech program was presented to the members.

Members suggested for some minimal changes as follows:

- a. Total first and second semester to be kept as 20 credits each.
- b. Minor optional should be one from the mechanical engineering department such as Computer-Aided Design in M Tech first semester.
- c. Design of Tractor systems to be kept in M Tech first semester.
- d. Testing and evaluation of Agricultural Equipment to be kept in MTech second semester.
- e. Third and fourth semesters are to be kept as Mater Research-I (10 credits) and Master Research- II (20 credits).
- f. Master Seminar (1 credit) to be kept in the Third Semester.

Members accepted the syllabus as per the 5<sup>th</sup> Dean Committee report.

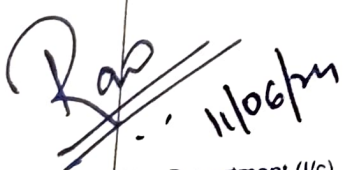
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Presentation of Syllabus of Ph.D. as per 5<sup>th</sup> Dean Committee

Members suggested some minor for changes as follows:

- a. Members suggested the PhD coursework should be completed within one year.
- b. Courses can be selected as per advisory committee members' suggestions to the scholar.
- c. Third semester of PhD to be kept for Comprehensive viva and exam.
- d. Simultaneously the Doctoral Seminar I and II are to be kept in the fourth and Fifth Semester.

The syllabus was approved by the members as it is.

  
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## Members Signatures:

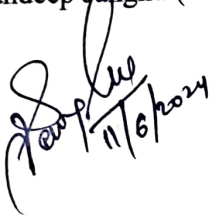
Prof K N Dewangan (NERIST- Nirjuli)



Dr. Rajendra Machavaram (Associate Professor- IIT KGP)



Dr. Sandeep Janghu (Associate Professor- RGU)



Dr. N R N V Gowripathi Rao (Assistant Professor- RGU)

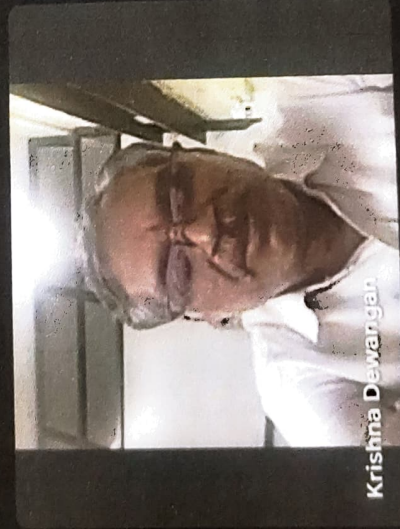


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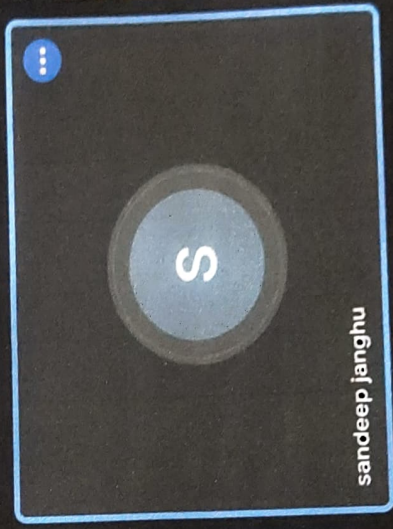




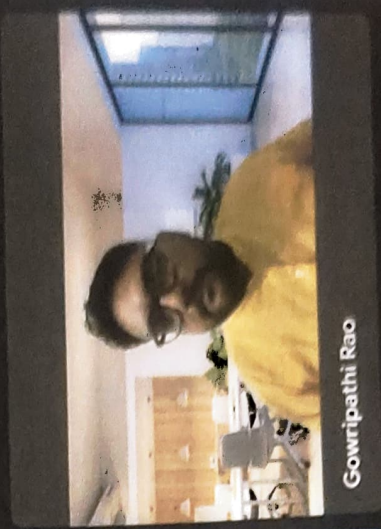
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Krishna Dewangan,



sandeep janghu



Gowripathi Rao

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*Rao* 11/06/20

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 Arunachal Pradesh

Restructured and Revised  
Syllabi of Post-graduate Programmes

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Vol. 4

**Agricultural Engineering**  
– Farm Machinery and Power Engineering

*Rao*  
11/06/24

Head of the Department (I/c)  
Department of Agricultural Engineering  
Faculty of Agricultural Sciences  
RGU, Rono Hills - 791110  
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## Course Title with Credit Load

### M.Tech in Farm Machinery and Power Engineering

#### Major Courses (Requirement: 20 Credits)

Course Code	Course Title	Credit Hours
FMPE 501*	Soil Dynamics in Tillage and Traction	2+1
FMPE 502*	Testing and Evaluation of Agricultural Equipment	2+1
FMPE 503*	Ergonomics and Safety in Farm Operations	2+1
FMPE 504	Design of Tractor systems	2+1
FMPE 505	Design of Farm Machinery-I	1+1
FMPE 506	Design of Farm Machinery-II	2+1
FMPE 507*	Management of Farm Power and Machinery System	2+1
FMPE 511	Principles of Automation and Control	2+1
FMPE 512	Principles of Hydraulic and Pneumatic Systems	2+1
FMPE 513	Applied Instrumentation in Farm Machinery	1+1
FMPE 514	Systems Simulation and Computer Aided Problem Solving in Engineering	0+2
FMPE 515	Computer Aided Design of Machinery	2+0
FMPE 516	Advance Manufacturing Technologies	2+1
FMPE 517	Machinery for Precision Agriculture	2+0
FMPE 518	Machinery for Horticulture and Protected Agriculture	2+0

\*Compulsory Course

#### Minor Courses (Requirement: 08 Credits)

Course Code	Course Title	Credit Hours
PFE 511	Engineering Properties of Biological Materials	2+1
ME 501	Mechatronics and Robotics in Agriculture	2+0
ME-504	Vibrations	2+1
ME-507	Fatigue Design	2+1
ME-515	Computer Aided Design	2+1
REE 503	Biomass Energy Conversion Technologies	2+1
REE 516	Agro Energy Audit and Management	2+1
CE 501	Dimensional Analysis and Similitude	1+1
CE 510	Experimental Stress Analysis	2+1
MATHS 501	Finite Element Methods	1+1
MATHS 502	Numerical Methods for Engineers	2+0
CSE 501	Big Data Analytics	2+1
CSE 502	Artificial Intelligence	2+1
CSE 505	Database Management System	2+1

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*Rao* 11/06/27  
Head of the Department (I/c)  
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**Agricultural Engineering: Farm Machinery and Power Engineering**

Any other course(s) of other department other than course(s) from major can be taken as per recommendations of the student's advisory committee.

**Supporting Courses (Requirement: 06 Credits)**

Course Code	Course Title	Credit Hours
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*STAT 501	Statistical Methods for Research Works	2+1
	Courses from subject matter fields (other than Major and Minor) relating to area of special interest and research problem can be taken as per recommendations of the student's advisory committee.	

\*Compulsory Course

**Common Courses (Requirement: 05 Credits)**

Course Code	Course Title	Credit Hours
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*PGS 501	Library and Information Services	0+1
*PGS 502	Technical Writing and Communications Skills	0+1
*PGS 503	Intellectual Property and its management in Agriculture	0+1
*PGS 504	Basic Concepts in Laboratory Techniques	0+1
*PGS 505	Agricultural Research, Research Ethics and Rural Development Programmes	0+1

\*Compulsory Course

**List of Other Essential Requirements**

Course Code	Course Title	Credit Hours
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FMPE 591	Masters' Seminar	0+1
FMPE 599	Masters' Research	0+30

*Rao*  
11/06/24

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Arunachal Pradesh



## Course Title with Credit Load

### Ph.D. in Farm Machinery and Power Engineering

#### Major Courses (Requirement: 12 Credits)

Course Code	Course Title	Credit Hours
FMPE 601*	Advances in Farm Machinery and Power Engineering	2+1
FMPE 602	Advances in Machinery for Precision Agriculture	2+1
FMPE 603	Energy Conservation and Management in Production Agriculture	3+0
FMPE 604	Mechanics of Tillage in Relation to Soil and Crop	2+1
FMPE 611	Mechanics of Traction and its Application	2+1
FMPE 612*	Farm Machinery Management and Systems Engineering	2+1
FMPE 613	Machinery for Special Farm Operations	2+1
FMPE 614	Ergonomics in Working Environment	17+7
	Total	

#### Minor Courses (Requirement: 06 Credits)

Course Code	Course Title	Credit Hours
REE 615	Energy Planning Management and Economics	3+0
REE 602	Thermo-Chemical Conversion of Biomass	2+1
ME-507	Fatigue Design	2+1
ME-515	Computer Aided Design	2+1
CSE 506	Digital Image Processing	2+1

Any other course (s) of other department other than course(s) from major can be taken as per recommendations of the student's advisory committee.

#### Supporting Courses (Requirement: 05 Credits)

Course Code	Course Title	Credit Hours
*CPE-RPE	Research and Publication Ethics	1+1
	Courses from subject matter fields (other than Major and Minor) relating to area of special interest and research problem can be taken as per recommendations of the student's advisory committee.	

\*Course has been made compulsory by UGC for PhD students. Course Code and its detailed course outline to be adopted in toto as recommended by UGC.



**List of Other Essential Requirements**

Course Code	Course Title	Credit Hours
FMPE 691	Doctoral Seminar-I	0+1
FMPE 692	Doctoral Seminar-II	0+1
FMPE 699	Doctoral Research	0+75

*RAO*  
21/11/2024

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