



RISE Krishna Sai Gandhi Group of Institutions::Ongole (Autonomous)

(Approved by AICTE-New Delhi, Affiliated to JNTUK, Kakinada)

Accredited by NAAC & Recognized under UGC 2(f)

NH-16, Valluru-523272, Ongole, Prakasam District, A.P

DEPARTMENT OF SCIENCE & HUMANITIES

Minutes of Board of Studies Meeting (LA&C)

Date: 28/09/2024

The First External Board of Studies Meeting for Mathematics of the Department Science and Humanities was held online on 28.09.2024 at 11:00 AM via Google Meet platform to finalize course structure for the first and second semesters of RG24 (Autonomous) regulation as well as finalizing the syllabus for first semester. The following members were present:

S.No.	Name of the Member	Designation	Position	Signature
1	Mrs. P Sridevi	Head of The Department	Chairman	
2	Dr. K Sobhan Babu	Prof. & HOD, JNTUK UCEN.	University Nominee and External BoS Member	
3	Dr. G Charan Kumar	Asst. Professor, Dept Of Mathematics, KLU University.	Subject Expert 1 and External BoS Member	Approved via E-mail
4	Dr. Venkata Kalyani	Asst. Professor, Dept of Mathematics, Vignan University.	Subject Expert 2 and External BoS Member	Approved via E-mail
5	Mrs. M Prasanthi	Associate Manager, Accenture.	Industry member	Approved via E-mail
6	Mrs. A Anuradha	Assoc. Professor	Associate Professor, Faculty Member	
7	Mrs. K Sravanthi	Asst. Professor	Assistant Professor, Faculty Member	
8	Ms.D.Spandana	Pursuing M.S., USA	Alumni Member	Approved via E-mail

At the onset of the meeting, the Chairman of BoS, Mrs. P Sridevi, welcomed all the members and introduced members to the External Subject Experts. The meeting began with the presentation of course structure by the chair for semesters I-I and I-II under RG24 regulations. She then presented the syllabus of Linear Algebra & Calculus of I-I under RG24 regulations prepared by the internal BOS members.



RISE Krishna Sai Gandhi Group of Institutions::Ongole (Autonomous)

(Approved by AICTE-New Delhi, Affiliated to JNTUK, Kakinada)

Accredited by NAAC & Recognized under UGC 2(f)

NH-16, Valluru-523272, Ongole, Prakasam District, A.P

Resolutions in Meeting

Agenda:

1. Discussion and approval of I B.Tech Course Structure.
2. Discussion and approval of the syllabus of Linear Algebra and Calculus.

Resolutions:

In the 1st BoS Meeting was held on 28th Sept, 2024 and the following are resolved.

1. Presented the Course Structure and got the approval from the BoS members.
2. Presented the syllabus of Linear Algebra and Calculus and got the approval from the BoS members and finalized syllabus for the I Semester based on university regulations. It is in detail in Annexure-I.

Encl: Annexure –I

General Comments

- Dr. K Sobhan Babu Garu formally recommended the removal of one topic Directional Derivatives from UNIT-IV (Partial differentiation and Applications) in Linear Algebra and Calculus.

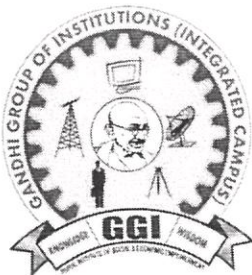
Subject expert comments

- All the BoS members in Mathematics endorsed Dr. K Sobhan Babu Garu's suggested modification, and there were no further suggestions.

The meeting closed with Vote of Thanks by one of the BoS Member Mrs. A. Anuradha.

RISE KRISHNA SAI GANDHI GROUP OF INSTITUTIONS

(AUTONOMOUS)



I B.TECH. – COURSE STRUCTURE – RG24

(Applicable from the Academic Year 2024-25 onwards)

Group-A Branches: CSE

Group-B Branches: ECE & CSE (DS)

B.TECH. – I Year I Semester (for Group-A Branches)

S.No	Category	Course Title	L	T	P	Credits
1	BS&H	Communicative English	2	0	0	2
2	BS&H	Chemistry	3	0	0	3
3	BS&H	Linear Algebra & Calculus	3	0	0	3
4	ES	Basic Civil & Mechanical Engineering	3	0	0	3
5	ES	Introduction to Programming	3	0	0	3
6	BS&H	Communicative English Lab	0	0	2	1
7	BS&H	Chemistry Lab	0	0	2	1
8	ES	Engineering Workshop	0	0	3	1.5
9	ES	Computer Programming Lab	0	0	3	1.5
10	BS&H	Health and wellness, Yoga and Sports	0	0	1	0.5
Total Credits			14	00	11	19.5

B.TECH. – I Year I Semester (for Group-B Branches)

S.No	Category	Course Title	L	T	P	Credits
1	BS&H	Engineering Physics	3	0	0	3
2	BS&H	Linear Algebra & Calculus	3	0	0	3
3	ES	Basic Electrical & Electronics Engineering	3	0	0	3
4	ES	Engineering Graphics	1	0	4	3
5	ES	Introduction to Programming	3	0	0	3
6	ES	IT Workshop	0	0	2	1
7	BS&H	Engineering Physics Lab	0	0	2	1
8	ES	Electrical & Electronics Engineering Workshop	0	0	3	1.5
9	ES	Computer Programming Lab	0	0	3	1.5
10	BS&H	NSS/NCC/Scouts & Guides/Community Service	0	0	1	0.5
Total Credits			13	00	15	20.5

B.TECH. – I Year II Semester (for Group-A Branches)

S.No	Category	Course Title	L	T	P	Credits
1	BS&H	Engineering Physics	3	0	0	3
2	BS&H	Differential Equations & Vector Calculus	3	0	0	3
3	ES	Basic Electrical & Electronics Engineering	3	0	0	3
4	ES	Engineering Graphics	1	0	4	3
5	Professional Core	Data Structures	3	0	0	3
6	ES	IT Workshop	0	0	2	1
7	BS&H	Engineering Physics Lab	0	0	2	1
8	ES	Electrical & Electronics Engineering Workshop	0	0	3	1.5
9	Professional Core	Data Structures Lab	0	0	3	1.5
10	BS&H	NSS/NCC/Scouts & Guides/Community Service	0	0	1	0.5
Total Credits			13	00	15	20.5

B.TECH. – I Year II Semester (for Group-B Branches)

S.No	Category	Course Title	L	T	P	Credits
1	BS&H	Communicative English	2	0	0	2
2	BS&H	Chemistry	3	0	0	3
3	BS&H	Differential Equations & Vector Calculus	3	0	0	3
4	ES	Basic Civil & Mechanical Engineering	3	0	0	3
5	Professional Core	Network Analysis	3	0	0	3
6	BS&H	Communicative English Lab	0	0	2	1
7	BS&H	Chemistry Lab	0	0	2	1
8	ES	Engineering Workshop	0	0	3	1.5
9	Professional Core	Network Analysis Lab	0	0	3	1.5
10	BS&H	Health and wellness, Yoga and Sports	0	0	1	0.5
Total Credits			14	00	11	19.5



RISE Krishna Sai Gandhi Group of Institutions::Ongole **(Autonomous)**

(Approved by AICTE-New Delhi, Affiliated to JNTUK, Kakinada)

Accredited by NAAC & Recognized under UGC 2(f)

NH-16, Valluru-523272, Ongole, Prakasam District, A.P

LINEAR ALGEBRA & CALCULUS **(Common to All Branches of Engineering)**

Course Objectives:

- To equip the students with standard concepts and tools at an intermediate to advanced level mathematics to develop the confidence and ability among the students to handle various real-world problems and their applications.

Course Outcomes: At the end of the course, the student will be able to

CO1: Develop and use of matrix algebra techniques that are needed by engineers for practical applications.

CO2: Utilize mean value theorems to real life problems.

CO3: Familiarize with functions of several variables which is useful in optimization. CO4: Learn important tools of calculus in higher dimensions.

CO5: Familiarize with double and triple integrals of functions of several variables in two dimensions using Cartesian and polar coordinates and in three dimensions using cylindrical and spherical coordinates.

UNIT I Matrices

Rank of a matrix by echelon form, normal form. Cauchy–Binet formulae (without proof). Inverse of Non- singular matrices by Gauss-Jordan method, System of linear equations: Solving system of Homogeneous and Non-Homogeneous equations by Gauss elimination method, Jacobi and Gauss Seidel Iteration Methods.

UNIT II Eigenvalues, Eigenvectors and Orthogonal Transformation

Eigenvalues, Eigenvectors and their properties, Diagonalization of a matrix, Cayley-Hamilton Theorem (without proof), finding inverse and power of a matrix by Cayley-Hamilton Theorem, Quadratic forms and Nature of the Quadratic Forms, Reduction of Quadratic form to canonical forms by Orthogonal Transformation.

UNIT III Calculus

Mean Value Theorems: Rolle's Theorem, Lagrange's mean value theorem with their geometrical interpretation, Cauchy's mean value theorem, Taylor's and Maclaurin theorems with remainders (without proof), Problems and applications on the above theorems.

UNIT IV Partial differentiation and Applications (Multi variable calculus)

Functions of several variables: Continuity and Differentiability, Partial derivatives, total derivatives, chain rule, Taylor's and Maclaurin's series expansion of functions of two variables. Jacobians, Functional dependence, maxima and minima of functions of two variables, method of Lagrange multipliers.



RISE Krishna Sai Gandhi Group of Institutions::Ongole (Autonomous)

(Approved by AICTE-New Delhi, Affiliated to JNTUK, Kakinada)
Accredited by NAAC & Recognized under UGC 2(f)

NH-16, Valluru-523272, Ongole, Prakasam District, A.P

UNIT V Multiple Integrals (Multi variable Calculus)

Double integrals, triple integrals, change of order of integration, change of variables to polar, cylindrical and spherical coordinates. Finding areas (by double integrals) and volumes (by double integrals and triple integrals).

Textbooks:

1. Higher Engineering Mathematics, B. S. Grewal, Khanna Publishers, 2017, 44th Edition
2. Advanced Engineering Mathematics, Erwin Kreyszig, John Wiley & Sons, 2018, 10th Edition.

Reference Books:

1. Thomas Calculus, George B. Thomas, Maurice D. Weir and Joel Hass, Pearson Publishers, 2018, 14th Edition.
2. Advanced Engineering Mathematics, R. K. Jain and S. R. K. Iyengar, Alpha Science International Ltd., 2021 5th Edition (9th reprint).
3. Advanced Modern Engineering Mathematics, Glyn James, Pearson publishers, 2018, 5th Edition.
4. Advanced Engineering Mathematics, Micheael Greenberg, , Pearson publishers, 9th edition
5. Higher Engineering Mathematics, H. K Das, Er. Rajnish Verma, S. Chand Publications, 2014, Third Edition (Reprint 2021)



SH HOD <shhod@risekrishnasaigandhi.edu.in>

LA&C BoS Minutes

2 messages

SH HOD <shhod@risekrishnasaigandhi.edu.in>
To: "ksobhanjntu@gmail.com" <ksobhanjntu@gmail.com>

Mon, Sep 30, 2024 at 2:24 PM

Dear Professor,

I hope you are doing well.

Please find attached the minutes from the recent Board of Studies (BoS) meeting held on 28/9/2004. I kindly request your approval of these minutes via email. If there are any corrections or suggestions, please share them.

Your prompt response will be appreciated. If you approve the minutes as they are, a simple reply stating your approval will suffice.

Thank you for your cooperation.

Thank you for your time and attention.

 **LA&C BoS MoM.pdf**
967K

Sobhan Babu <ksobhanjntu@gmail.com>
To: SH HOD <shhod@risekrishnasaigandhi.edu.in>

Mon, Sep 30, 2024 at 2:28 PM

Dear Madam
Greetings.

As per your mail, the minutes of the meeting are approved.

[Quoted text hidden]



SH HOD <shhod@risekrishnasaigandhi.edu.in>

LA&C BoS Minutes of meeting - Approval reg.

Dr.Charan Kumar GANTEDA <charankumarganteda@gmail.com>

Mon, Sep 30, 2024 at 2:53 PM

To: SH HOD <shhod@risekrishnasaigandhi.edu.in>

Dear Professor,
Greetings of the day
Kindly Consider this mail as my approval for the syllabus that has been shared.
Thanking you

Kind Regards
Dr.G.Charan Kumar

On Mon, Sep 30, 2024, 13:43 SH HOD <shhod@risekrishnasaigandhi.edu.in> wrote:

[Quoted text hidden]



SH HOD <shhod@risekrishnasaigandhi.edu.in>

LA&C BoS Minutes of meeting - Approval reg.

kalyani uppuluri <u.v.kalyani@gmail.com>

Mon, Sep 30, 2024 at 2:38 PM

To: SH HOD <shhod@risekrishnasaigandhi.edu.in>

Respected BOS members

I approve the minutes of BOD meeting.

THANK YOU

Dr.U.V.Kalyani

[Quoted text hidden]



SH HOD <shhod@risekrishnasaigandhi.edu.in>

LA&C BoS Minutes of meeting - Approval reg.

Prasanthi Muppalaneni <muppalaneniprasanthi@gmail.com>

Mon, Sep 30, 2024 at 2:16 PM

To: SH HOD <shhod@risekrishnasaigandhi.edu.in>

Cc: ksb.maths@jntukucen.ac.in, kalyani uppuluri <u.v.kalyani@gmail.com>, Charankumar Ganteda <charankumarganteda@gmail.com>, Spandana <spandana3007@gmail.com>

Approved.

Regards,
Prasanthi

[Quoted text hidden]



SH HOD <shhod@risekrishnasaigandhi.edu.in>

LA&C BoS Minutes of meeting - Approval reg.

Spandana <spandana3007@gmail.com>

Mon, Sep 30, 2024 at 7:31 PM

To: SH HOD <shhod@risekrishnasaigandhi.edu.in>

Cc: ksb.maths@jntukucen.ac.in, kalyani uppuluri <u.v.kalyani@gmail.com>, Charankumar Ganteda <charankumarganteda@gmail.com>, "muppalaneniprasanthi@gmail.com" <muppalaneniprasanthi@gmail.com>

Approved

Best Regards,
Spandana Dirisala
[Quoted text hidden]