Dr. K R Vasuki
Professor and Chairman
Combined Board of Studies for 1st year Bachelor of Engineering,

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Dated: 16.02.2023

To

The Registrar
University of Mysore
Mysore-5.

Sir,

Sub: BOS meeting reg.

BOS meeting in Combined Board of Studies for 1st year Bachelor of Engineering was held on 16.02.2023 at 11.00am at DOS in Mathematics, UOM, Manasagangotri, Mysuru. The members of the Board has modified and approved the scheme of Additional Mathematics-I and Additional Mathematics-II for III and IV semester B.E. courses respectively as per National Education Policy (NEP). I am here with enclosing the copy of proceedings of the same for further needful action.
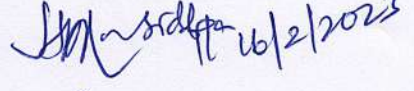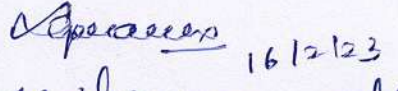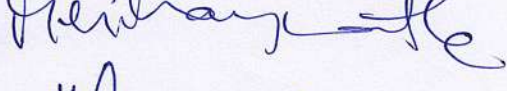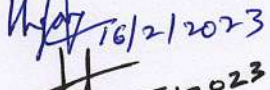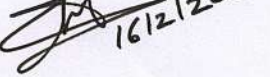
Thanking You.

Yours sincerely,

(Prof. K. R. Vasuki)
Chairman, Combined BoS for 1st year B.E

CHAIRPERSON
BOS FOR 1st YEAR
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Proceedings of the Combined Board of Studies for 1st year Bachelor of Engineering, Mysore University School of Engineering held on February 16, 2022 at 11.00 am at DOS in Mathematics, University of Mysore, Manasagangotri, Mysuru – 570 006

Members Present

1.	Prof. K. R. Vasuki	Chairman
2.	Prof. Lokanath N K	Member
3.	Prof. Revanasiddappa H D	Member
4.	Prof. AnanthapadmanabhaT.	Member
5.	Prof. M. G. Manjunath	Member
6.	Prof. Vijay Sheshadri	Member
7.	Prof. ChethanH K	Member

Members Absent

1.	Dr. MohammedKhaisar	Member
2.	Prof. Mahadeva Prasad M	Member

The Chairperson welcomed the members present in the meeting. The following agenda was taken up for discussion.

Agenda 1: Modification in the scheme of Additional Mathematics-I and Additional Mathematics-II for III and IV semesters B.E. Courses respectively.

The Members of the Board modified the scheme of Additional Mathematics-I (Bridge course for lateral entry students) for III semester B.E courses and Additional Mathematics-II (Bridge course for lateral entry students) for IV semester B.E. courses and approved the same. The Syllabus with new scheme is enclosed in the **Annexure I.** The Board also recommended the implementation of the same from the academic year 2022-23.

Agenda 2: Panel of Examiners for 2023-24.

The Board prepared and approved the Panel of Examiners for the year 2023-24 (**Annexure II**)

The meeting ended with Prof. K.R.Vasuki, The Chairperson, thanking the members for their support and co-operation.

(**Prof. K. R. Vasuki**)
Chairman, Combined BoS for 1st year B.E
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	B. E. Common to all Programmes SEMESTER - III ADDITIONAL MATHEMATICS – I (2:1:0) (A Bridge course for Lateral Entry students under Diploma quota to BE programmes)	
Modules	Course Content	Teaching Hours
Module 1	**Introduction to Complex Variables:** Complex Numbers: Definitions and properties. Modulus and amplitude of a complex number, Argand's diagram, De-Moivre's theorem (without proof). **Vector Algebra:** Scalar and vectors. Addition and subtraction and multiplication of vectors- Dot and Cross products, problems.	8 Hours
Module 2	**Differential Calculus**: Review of successive differentiation-illustrative examples. Maclaurin's series expansions-Illustrative examples. Partial Differentiation: Euler's theorem-problems on first order derivatives only. Total derivatives-differentiation of composite functions. Jacobians of order two-Problems.	8 Hours
Module 3	**Vector Differentiation**: Differentiation of vector functions. Velocity and acceleration of a particle moving on a space curve. Scalar and vector point functions. Gradient, Divergence, Curl-simple problems. Solenoidal and irrotational vector fields-Problems.	8 Hours
Module 4	**Numerical Methods:** Finite differences. Interpolation/extrapolation using Newton's forward and backward difference formulae (Statements only)-problems. Solution of polynomial and transcendental equations – Newton-Raphson and Regula-Falsi methods (only formulae)- Illustrative examples. Numerical integration: Simpson's one third rule and Weddle's rule (without proof) Problems.	8 Hours
Module 5	**Ordinary differential equations (ODE's)**. Introduction-solutions of first order and first-degree differential equations: exact, linear differential equations. Equations reducible to exact and Bernoulli's equation.	8 Hours

Course outcomes: At the end of the course the students will be able to:

• Explain the basic concepts of complex trigonometry, differential calculus and vector differentiation, Numerical methods, Ordinary Differential Equations of first order.
• Apply the above concepts of the syllabus in their respective branches of engineering.
• Analyse the solutions of engineering problems using these concepts.

<u>**Assessment Details (CIE only)**</u>

The weightage of Continuous Internal Evaluation (CIE) is 100%. The student has to obtain a minimum of 40% marks in CIE.

Continuous Internal Evaluation (CIE): The CIE marks for theory part of II-year courses shall be 50.

1. Thirty (30) marks shall be considered to evaluate students in tests. There shall be three tests generally conducted at the end of fifth, tenth and fifteenth week of each semester. Each test shall be conducted for a maximum of 50 marks and the final test marks shall be the average of three tests, proportionately reduced to a maximum of 30 marks.
2. Ten (10) marks shall be prescribed for assignments /written quizzes (one scheduled quiz and one surprize quiz). There shall be at least two assignments and two quizzes. The marks earned in these events shall be averaged to reduce to 10 marks.
3. Ten (10) marks shall be prescribed for open book tests, for self-study or to test problem solving skills. There shall be at least two events. The marks earned in these events shall be averaged to reduce to 10 marks.

Text and Reference Books:

1. S C Chapra and R P Canale, *Numerical Methods for Engineering,* 15th Edition, Tata McGraw Hill
2. Erwin Kreyszig, *Advanced Engineering Mathematics*, Latest edition, Wiley Publications.
3. B.S. Grewal, *Higher Engineering Mathematics*, Latest edition, Khanna Publishers.
4. B.V. Ramana, *Higher Engineering Mathematics*, Latest edition, Tata McGraw Hill.
5. Srimanta Pal & Subodh C. Bhunia: *"Engineering Mathematics"* Oxford University Press, 3rd Reprint, 2016.
6. N.P Bali and Manish Goyal: *"A textbook of Engineering Mathematics"* Laxmi Publications, Latest edition.
7. H. K. Dass and Er. Rajnish Verma: *"Higher Engineering Mathematics"* S. Chand Publication (2014).

CHAIRPERSON
BOS FOR 1ˢᵗ YEAR B.E.
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	B. E. Common to all Programmes	
	SEMESTER – IV	
	ADDITIONAL MATHEMATICS – II (2:1:0)	
	(A Bridge course for Lateral Entry students under Diploma quota to BE programmes)	
Modules	Course Content	Teaching Hours
Module 1	**Integral Calculus:** Review of elementary integral calculus. Reduction formulae for $sin^n x, cos^n x$ (with proof) and $sin^m x cos^n x$ (without proof) and evaluation of these with standard limits-Examples. Double integrals-Simple examples. Beta and Gamma functions- Simple problems	**8 Hours**
Module 2	**Higher order ODE's:** Linear differential equations of second and higher order equations with constant coefficients. Homogeneous /non-homogeneous equations. Inverse differential operators. [Particular Integral restricted to $R(x) = e^{ax}, \sin ax / \cos ax$ for $f(D)y = R(x)$].	**8 Hours**
Module 3	**Laplace Transform:** Definition and Laplace transforms of elementary functions (statements only)-problems. Inverse Laplace Transform: Inverse Laplace transforms by method of partial fractions, Convolution theorem to find the inverse Laplace transforms. Solution of linear differential equations using Laplace transforms.	**8 Hours**
Module 4	**Introduction to Probability:** Introduction. Sample space and events. Axioms of probability. Addition and multiplication theorems. Conditional probability, Bayes's theorem, problems.	**8 Hours**
Module 5	**Linear Algebra:** Introduction - rank of matrix by elementary row operations - Echelon form. Consistency of system of linear equations - Gauss elimination method. Eigen values and Eigen vectors of a square matrix. Problems.	**8 Hours**

Course outcomes: At the end of the course the students will be able to:

• Explain the concepts of integral calculus, Higher order differential equations, Laplace transforms, Probability and Linear Algebra.
• Apply the above concepts of the syllabus in their respective branches of engineering.
• Analyse the solutions of engineering problems using these concepts.

Assessment Details (CIE only)

The weightage of Continuous Internal Evaluation (CIE) is 100%. The student has to obtain a minimum of 40% marks in CIE.

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BOS FOR 1ˢᵗ YEAR B.E.
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1. Erwin Kreyszig, *Advanced Engineering Mathematics*, Latest edition, Wiley Publications.
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4. Srimanta Pal & Subodh C. Bhunia: *"Engineering Mathematics"* Oxford University Press, 3rd Reprint, 2016.
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6. H. K. Dass and Er. Rajnish Verma: *"Higher Engineering Mathematics"* S. Chand Publication (2014).

CHAIRPERSON
BOS FOR 1ˢᵗ YEAR B.E.
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MGM - 06

Panel of Examiners
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Basic Science Board

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