BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(Autonomous Institution Affiliated to VTU, Belagavi)

Scheme of Teaching and Examinations-2022

Outcome-Based Education (OBE)and Choice Based Credit System (CBCS)

(Effective from the academic year 2022-23)

II Semester (Civil Engineering Stream) **Dept CV** **(Physics Cycle)**

Sl. No	Course and CourseCode		Course Title	TD/PSB	Teaching Hours/Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	*ASC (IC)	BMATC201	Mathematics for Civil Engineering-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC (IC)	BPHYC202	Physics for Civil Engineering	PHY	2	2	2	0	03	50	50	100	04
3	ESC	BCIVC203	Engineering Mechanics	Civil Engineering Dept	2	2	0	0	03	50	50	100	03
4	ESC-II	BESCK204E	Introduction to C Programming	Respective Engg Dept	2	0	2	0	03	50	50	100	03
5	ETC-II	BETCK205B	Green Building	Any Dept	3	0	0	0	03	50	50	100	03
6	AEC	BPWSK206	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMC	BKSKK207/ BKBKK207	Samskrutika Kannada/ BalakeKannada	Humanities	1	0	0	0	01	50	50	100	01
8	AEC/SDC	BIDTK258	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	01
				TOTAL	**13**	**8**	**6**	**0**	**19**	**400**	**400**	**800**	**20**

SDA-Skill Development Activities, **TD/PSB**- Teaching Department / Paper Setting Board, **ASC**-Applied Science Course, **ESC**- Engineering Science Courses, **ETC**-Emerging Technology Course, **AEC**- Ability Enhancement Course, **HSMS**-Humanity and Social Science and management Course, **SDC**- Skill Development Course, **CIE** –Continuous Internal Evaluation, **SEE**- Semester End Examination, **IC** – Integrated Course (Theory Course Integrated with Practical Course)

BMATC201 Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers. **** The mathematics subject should be taught by single faculty member per division, with no sharing of the course(subject)module-wise by different faculty**

members.

#- BPHYC202 SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination

ESC or ETC of 03 credits Courses shall have only a theory component (L:T :P:S=3:0:0:0) or **if the nature the of course required experimental learning then the syllabus shall be designed as an Integrated course (L:T:P:S= 2:0:2:0). However, there is no SEE for the practical component.**

All 01 Credit- courses shall have the SEE of 01 hours duration and the pattern of the question paper shall be MCQ

(ESC-II) Engineering Science Courses-II					**(ETC-II) Emerging Technology Courses-II**				
Code	**Title**	**L**	**T**	**P**	**Code**	**Title**	**L**	**T**	**P**
BESCK204A	Introduction to Civil Engineering	3	0	0	BETCK205A	Smart materials and Systems	3	0	0
BESCK204B	Introduction to Electrical Engineering	3	0	0	BETCK205B	Green Buildings	3	0	0
BESCK204C	Introduction to Electronics Engineering	3	0	0	BETCK205C	Introduction to Nano Technology	3	0	0
BESCK204D	Introduction to Mechanical Engineering	3	0	0	BETCK205D	Introduction to Sustainable Engineering	3	0	0
BESCK204E	Introduction to C Programming	2	0	2	BETCK205E	Renewable Energy Sources	3	0	0
					BETCK205F	Waste Management	3	0	0
					BETCK205G	Emerging Applications of Biosensors	3	0	0
					BETCK205H	Introduction to Internet of Things (IoT)	3	0	0
					BETCK205I	Introduction to Cyber Security	3	0	0
					BETCK205J	Introduction to Embedded System	3	0	0
(PLC-II) Programming Language Courses-II									
Code	**Title**	**L**	**T**	**P**					
BPLCK205A	Introduction to Web Programming	2	0	2					
BPLCK205B	Introduction to Python Programming	2	0	2					
BPLCK205C	Basics of JAVA programming	2	0	2					
BPLCK205D	Introduction to C++ Programming	2	0	2					
The course BESCK2O4E, Introduction to C Programming, and all courses under PLC and ETC groups can be taught by faculty of ANY DEPARTMENT									

- The student has to select one course from the ESC-II group.
- Civil Engineering Students shall opt for any one of the courses from the ESC-II group **except,** BESCK204A**-** Introduction to **Civil Engineering**
- The students have to opt for the courses from ESC group without repeating the course in either 1st or 2nd semester
- The students must select one course from either ETC-II or PLC-II group.
- If students study the subject from ETC-I in 1st semester he/she has to select the course from PLC-II in the 2nd semester and vice-versa

BMS Institute of Technology & Management

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Avalahalli, Doddaballapur Main Road, Bengaluru – 560064

II Semester

Course Title:	**Mathematics for Civil Engineering Stream - II**		
Course Code:	**BMATC201**	CIE Marks	50
Course Type (Theory/Practical/Integrated)	Integrated	SEE Marks	50
		Total Marks	100
Teaching Hours/Week (L:T:P:S)	2:2:2:0	Exam Hours	03
Total Hours of Pedagogy	40 hours Theory + 10-12 Lab slots	Credits	04

Course objectives: The goal of the course **Mathematics for Civil Engineering Stream - II** (**BMATC201**) is to

- **Familiarize** the importance of Integral Calculus and Vector Calculus essential for civil engineering.
- **Analyze** Civil engineering problems by applying Partial Differential Equations.
- **Develop** the knowledge of solving civil engineering problems numerically

Teaching-Learning Process

Pedagogy (General Instructions):

These are sample Strategies, which teachers can use to accelerate the attainment of the various course outcomes.

1. In addition to the traditional lecture method, different types of innovative teaching methods may be adopted so that the delivered lessons shall develop students' theoretical and applied mathematical skills.
2. State the need for Mathematics with engineering studies and provide real-life examples.
3. Support and guide the students for self–study.
4. You will also be responsible for assigning homework, grading assignments and quizzes, and documenting students' progress.
5. Encourage the students to group learning to improve their creative and analytical skills.
6. Show short related video lectures in the following ways:
   - As an introduction to new topics (pre-lecture activity).
   - As a revision of topics (post-lecture activity).
   - As additional examples (post-lecture activity).
   - As an additional material of challenging topics (pre-and post-lecture activity).
   - As a model solution of some exercises (post-lecture activity).

Module – 1 : Integral Calculus (8 hours)
Introduction to Integral Calculus in Civil Engineering applications. **Multiple Integrals:** Evaluation of double and triple integrals, evaluation of double integrals by change of order of integration, changing into polar coordinates. Applications to find Area and Volume by double integral. Problems. **Beta and Gamma functions:** Definitions, properties, relation between Beta and Gamma functions. Problems. **Self-Study:** Volume by triple integration, Centre of gravity. **Applications:** Applications to mathematical quantities (Area, Surface area, Volume), Analysis of probabilistic models. **(RBT Levels: L1, L2 and L3)**
Module – 2 : Vector Calculus (8 hours)
Introduction to Vector Calculus in Civil Engineering applications. **Vector Differentiation:** Scalar and vector fields. Gradient, directional derivative, curl and divergence - physical interpretation, solenoidal and irrotational vector fields. Problems. **Vector Integration:** Line integrals, Surface integrals. Applications to work done by a force and flux. Statement of Green's theorem and Stokes' theorem. Problems. **Self-Study:** Volume integral and Gauss divergence theorem. **Applications:** Heat and mass transfer, oil refinery problems, environmental engineering. Analysis of streamlines, velocity and acceleration of a moving particle. **(RBT Levels: L1, L2 and L3)**
Module – 3 : Partial Differential Equations (PDEs) (8 hours)
Importance of partial differential equations for Civil Engineering applications Formation of PDE's by elimination of arbitrary constants and functions. Solution of non-homogeneous PDE by direct integration. Homogeneous PDEs involving derivatives with respect to one independent variable only. Solution of Lagrange's linear PDE. Derivation of one-dimensional heat equation and wave equation. **Self-Study:** Solution of one-dimensional heat equation and wave equation by the method of separation of variables. **Applications:** Design of structures (vibration of rod/membrane) **(RBT Levels: L1, L2 and L3)**
Module – 4 : Numerical Methods -1 (8 hours)
Importance of numerical methods for discrete data in the field of Civil Engineering. Solution of algebraic and transcendental equations: Regula-Falsi and Newton-Raphson methods (only formulae). Problems. Finite differences, Interpolation using Newton's forward and backward difference formulae, Newton's divided difference formula and Lagrange's interpolation formula (All formulae without proof). Problems. N**umerical integration**: Trapezoidal, Simpson's $(1/3)^{rd}$ and $(3/8)^{th}$ rules (without proof). Problems. **Self-Study:** Bisection method, Lagrange's inverse Interpolation**.** **Applications:** Estimating the approximate roots, extremum values, area, volume, and surface

area. Finding approximate solutions to civil engineering problems.
(RBT Levels: L1, L2 and L3)

Module – 5 : Numerical Methods -2 (8 hours)

Introduction to various numerical techniques for handling Civil Engineering applications. Numerical Solution of Ordinary Differential Equations (ODE's): Numerical solution of ordinary differential equations of first order and first degree - Taylor's series method, Modified Euler's method, Runge-Kutta method of fourth order and Milne's predictor-corrector formula (No derivation of formulae). Problems.

Self-Study: Adams-Bashforth method.
Applications: Finding approximate solutions to ODE related to civil engineering fields.
(RBT Levels: L1, L2 and L3)

List of Laboratory experiments (2 hours/week per batch/ batch strength 15)
10 lab sessions + 1 repetition class + 1 Lab Assessment

1	Program to compute surface area, volume and centre of gravity
2	Evaluation of improper integrals
3	Finding gradient, divergent, curl and their geometrical interpretation
4	Verification of Green's theorem
5	Solution of one-dimensional heat equation and wave equation
6	Solution of algebraic and transcendental equations by Regula-Falsi and Newton-Raphson method
7	Interpolation/Extrapolation using Newton's forward and backward difference formulae
8	Computation of area under the curve using Trapezoidal, Simpson's $(1/3)^{rd}$ and $(3/8)^{th}$ rules
9	Solution of ODE of first order and first degree by Taylor's series and Modified Euler's methods
10	Solution of ODE of first order and first degree by Runge-Kutta 4^{th} order and Milne's predictor-corrector methods

Suggested software's: MATHEMATICA/ MATLAB/ PYTHON/ SCILAB

Course outcome (Course Skill Set)
At the end of the course the student will be able to:

CO1	Apply the knowledge of multiple integrals to compute area and volume.
CO2	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, line integral and surface integral.
CO3	Demonstrate partial differential equations and their solutions for physical interpretations.
CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
CO5	Get familiarize with modern mathematical tools namely MATHEMATICA /MATLAB/ PYTHON/ SCILAB

Suggested Learning Resources:

Books (Title of the Book/Name of the author/Name of the publisher/Edition and Year)

Text Books

1. **B. S. Grewal**: "Higher Engineering Mathematics", Khanna Publishers, 44th Ed., 2021.
2. **E. Kreyszig**: "Advanced Engineering Mathematics", John Wiley & Sons, 10th Ed., 2018.

Reference Books

1. **V. Ramana:** "Higher Engineering Mathematics", McGraw Hill Education, 11th Ed., 2017.
2. **Srimanta Pal & Subodh C.Bhunia**: "Engineering Mathematics", Oxford University Press, 3rd Ed., 2016.
3. **N.P Bali and Manish Goyal**: "A Textbook of Engineering Mathematics", Laxmi Publications, 10th Ed., 2022.
4. **C. Ray Wylie, Louis C. Barrett:** "Advanced Engineering Mathematics", McGraw Hill Book Co., New York, 6th Ed., 2017.
5. **Gupta C.B, Sing S.R and Mukesh Kumar:** "Engineering Mathematic for Semester I and II", McGraw Hill Education (India) Pvt. Ltd, 2015.
6. **H.K. Dass and Er. Rajnish Verma:** "Higher Engineering Mathematics", S.Chand Publication, 3rd Ed., 2014.
1. **James Stewart: "**Calculus", Cengage Publications, 7th Ed., 2019.

Web links and Video Lectures (e-Resources):

- http://nptel.ac.in/courses.php?disciplineID=111
- http://www.class-central.com/subject/math(MOOCs)
- http://academicearth.org/
- VTU e-Shikshana Program
- VTU EDUSAT Program

Activity-Based Learning (Suggested Activities in Class)/Practical-Based Learning

- Quizzes
- Assignments
- Seminar

COs and POs Mapping (Individual teacher has to fill up)

COs	POs						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO1	3	2					
CO2	3	2					
CO3	3	2					
CO4	3	2					
CO5					3		

Level 3- Highly Mapped, Level 2-Moderately Mapped, Level 1-Low Mapped, Level 0- Not Mapped

DEPARTMENT OF PHYSICS
Choice Based Credit System (CBCS)
SEMESTER - II

PHYSICS FOR CIVIL ENGINEERING SRTEAM ((2:2:2) 4
(SPECIFIC TO CIVIL STREAM BRANCHES)
(Effective from the academic year 2022 -2023)

Course Code	**BPHYC202**	**CIE Marks**	**50**
Course Type	**Integrated**	**Course Credit**	**4**
Teaching Hours/Week (L:T:P:S)	**2:2:2:0**	**SEE Marks**	**50**
Total Number of contact Hours	**40 hours Theory + 12 lab slots**	**Exam Hours**	**03 + 02**

Course Objectives:
This course will enable students to:

- Elucidate the concepts in oscillations, waves, elasticity and material failures
- Summarize concepts of acoustics in buildings and explain the concepts in radiation and photometry
- Discuss the principles photonic devices and their application relevant to civil engineering.
- Describe the various natural hazards and safety precautions.
- Apply the concepts required for the measurement of physical parameters related to engineering.
- Compare and analyze the results of the experiments.

Preamble: Introduction, Oscillations and shock waves - Applications. Acoustics and spectro-radiometry, Elastic properties, Lasers and Optical fibers -Advanced communications and photonics. Natural Hazardous and safety techniques.

Module – 1

Oscillations and Shock waves

Self-study topics: Basics of Oscillations, Simple Harmonic motion, Differential equation for SHM, Types of springs and their applications, Types of sound waves.

Oscillations: Introduction, Free oscillations of Springs, Stiffness Factor and its Physical Significance, series and parallel combination of springs (Derivation).Theory of damped oscillations (Qualitative), Types of damping (Graphical Approach). Theory of forced oscillations (Derivation), resonance, sharpness of resonance. Engineering applications of oscillations, Numerical Problems.

Shock waves: Introduction, Mach number and Mach Angle, definition and characteristics of Shock waves, Construction and working of Reddy shock tube, Applications of Shock Waves, Numerical problems.

(8 Hours)

Module – 2

Acoustics and Spectro-radiometry

Self-study topics: Basics of sounds and spectrometer, Waves & light properties, Introduction to acoustics.

Acoustics: Introduction, Types of Acoustics, reverberation and reverberation time, absorption power and absorption coefficient, Requisites for acoustics in auditorium, Sabine's formula (derivation), measurement of absorption coefficient, factors affecting the acoustics and remedial measures, Noise and its Measurements, Sound Insulation and its measurements. Impact of Noise in Multi-storied buildings. Numerical problems.

Spectro-radiometry: Introduction, Radiation and Spectral Quantities (Qualitative), Relation between luminescence and radiant quantities, Reflectance and Transmittance, Photometry (cosine law and inverse square law), Radiation dosimetry applications, Numerical problems.

(8 Hours)

Module – 3

Elasticity

Self-study topics: Basics of Elasticity, Stress & Strain Curve, Elastic moduli.

Elasticity: Introduction, Poisson's ratio. Derivations of relation between Y, n and σ and K, Y and σ, limiting values of Poisson's ratio, Strain Hardening and Strain softening, Beams, bending moment (derivation), depression produced in a single cantilever, I-section girder and their Engineering Applications. Factors affecting the elastic properties. Numerical problems.

(8 Hours)

Module – 4

Photonics

Self-study topics: Properties of light, Propagation Mechanism &TIR in optical fiber.

LASER: -Introduction, Properties of a LASER Beam, Interaction of Radiation with Matter, Condition for LASER action, Population Inversion, Metastable State, Requisites of a LASER System, semiconductor LASER, Applications: Road profiling, bridge deflection and speed checker, Numerical Problems.

Optical Fiber: -Introduction, Principle and Construction of Optical Fibers, Acceptance angle and NA, Expression for NA, Modes of Propagation, Types of optical fibers, Attenuation Losses, Bragg's fiber (Qualitative), Applications of Bragg's fibers: Displacement, Pressure and Temperature Sensors, Numerical Problems.

(8 Hours)

Module – 5

Natural hazards and Safety

Self-study topics: Oscillations, Richter scale.

Introduction, Earthquake, (general characteristics, Physics of earthquake, Richter scale of measurement and earthquake resistant measures), Tsunami (causes for tsunami, characteristics, adverse effects, risk reduction measures, engineering structures to withstand tsunami), Landslide (causes such as excess rain fall, geological structure, human excavation etc., types of land slide, adverse effects, engineering solution for landslides). Forest Fires and detection using remote sensing. Fire hazards and fire protection, fire-proofing materials, fire safety regulations and firefighting equipment - Prevention and safety measures. Numerical Problems.

(8 Hours)

Laboratory component

(10 experiments have to be completed from the list of experiments)

List of experiments:

1. Uniform Bending
2. n by Torsional Pendulum
3. Forced Mechanical Oscillations and resonance
4. Series and parallel resonance
5. Fermi Energy of Conductor
6. Spring Constant
7. Resistivity by Four Probe Method

8. Single Cantilever
9. Energy band gap of a given semiconductor.
10. Laser diffraction
11. Rigidity modulus by torsional pendulum
12. Optical Fiber
13. Reddy's Shock tube
14. Study of motion using spread Sheets
15. Application of Statistics using Spread Sheet
16. PHET Interactive Simulations

Course outcomes (COs):

The students will be able to:

CO_1: Apply the principles of oscillations, waves and elasticity in materials.

CO_2: Apply the principles of acoustics and photonics for civil engineering applications.

CO_3: Analyze the optical and material properties for various applications.

CO_4: Evaluate the physical parameters for the related technology.

CO_5: Evaluate and interpret the obtained experimental result (s) related to engineering fields.

Books (Title of the Book/Name of the author/Name of the publisher/Edition and Year)

1. M N Avadhanulu and P G Kshirsagar, "Engineering Physics," S. Chand and company Pvt. Ltd., 11th edition, 2014.
2. R K Gaur & S L Gupta, "Engineering Physics," Dhanpat Rai Publications, 8th edition, 2018.
3. Vibrations and Waves (MIT introductory Physics Series), A P French, CBS, 2003 Edition
4. Timoshenko, S. and Goodier J.N. "Theory of Elasticity", 2nd Edition, McGraw Hill Book Co, 2001.
5. Sadhu Singh, "Theory of Elasticity", Khanna Publishers, 1997
6. Mechanical Properties of Engineered Materials by Wole Soboyejo, CRC Press; 1st edition, 2002
7. Heat & Thermodynamics and Statistical Physics (XVIII-Edition) – Singhal, Agarwal & Satyaprakash – Pragati Prakashan, Meerut, 2006. 4
8. Heat and Thermodynamics (I-Edition) – D.S.Mathur - S. Chand & Company Ltd., New-Delhi, 1991
9. Heat and Thermodynamics,Brijlal& Subramanyam,S. Chand & Company Ltd., New-Delhi.
10. Materials Characterization Techniques-Sam Zhang, Lin Li, Ashok Kumar, CRC Press, First Edition, 2008.
11. Characterization of Materials- Mitra P.K. Prentice Hall India Learning Private Limited.
12. Nanoscience and Nanotechnology: Fundamentals to Frontiers – M.S.Ramachandra Rao & Shubra Singh, Wiley, India Pvt Ltd.
13. Nano Composite Materials-Synthesis, Properties and Applications, J. Parameswaranpillai, N.Hameed, T.Kurian, Y. Yu, CRC Press.
14. Shock waves made simple by Chintoo S Kumar, K Takayama and K P J Reddy: Willey India Pvt. Ltd,Delhi,2014
15. S O Pillai, "Solid State Physics," New Age International publishers, 8th edition, 2017.
16. David Jeffery Griffiths, "Introduction to Electrodynamics", Pearson New International Edition, 4th edition, 2017
17. B B Laud, "Lasers and Non-Linear Optics," New Age International publishers, 3rd edition, 2018.
18. Arthur Beiser, "Concepts of Modern Physics", Tata McGraw-Hill Education, 6th edition, 2010.
19. Resnick, Walker and Halliday "Principles of Physics, Wiley publisher, 10th edition, 2015.
20. Ben G. Streetman, Sanjay Banerjee, "Solid State Electronic Devices" Pearson Prentice Hall, 6th edition, 2010.
21. S. K. Dwivedi, A Textbook of Engineering Physics, I K International Publishing House Pvt. Ltd., 1st edition 2010.
22. C L Arora, "B.Sc. Practical Physics", S CHAND and company Ltd. 1st edition 2010
    Worsnop and Flint, "Advanced physics practical for students", Metuen and Co, London 2005.
    D Chattopadhyay and P C Rakshit, "Advanced course in Practical Physics", New central book agency 8th edition, 2013.

Web links and Video Lectures (e-Resources):

1. Simple Harmonic motion:https://www.youtube.com/watch?v=k2FvSzWeVxQ
2. Shock waves:https://physics.info/shock/
3. Shock waves and theirapplications:https://www.youtube.com/watch?v=tz_3M3v3kxk
4. Stress-strain curves:https://web.mit.edu/course/3/3.11/www/modules/ss.pdf
5. Stress curves:https://www.youtube.com/watch?v=f08Y39UiC-o
6. Fracture in materials:https://www.youtube.com/watch?v=x47nky4MbK8
7. Thermoelecticity:https://www.youtube.com/watch?v=2w7NBuu5w9c&list=PLtkeUZItwHK5y6qy1GFxa4Z4RcmzUaaz6.

B.E CIVIL ENGINEERING
Choice Based Credit System
(CBCS)SEMESTER – II

Engineering Mechanics (3:0:0) 3
(Effective from the academic year 2022-23)

Course Code	BCIVC203	CIE Marks	50
Teaching Hours/Week (L:T:P)	2:2:0	SEE Marks	50
Total Number of Contact Hours	40	Exam Hours	03

Course Objectives:

This course will enable students to:

1. To develop students' ability to analyze the problems involving forces, moments with their applications.
2. To make students to learn the effect of friction on different planes.
3. To develop the student's ability to find out the centre of gravity and moment of inertia andtheir applications.
4. To make the students learn about kinematics and kinetics and their applications.

Module - 1

Resultant of coplanar force system: Basic dimensions and units, Idealizations. Classification of force system, principle of transmissibility of a force, composition of forces, resolution of a force.Free body diagrams, moment, Principle of moments, couple, Resultant of coplanar concurrent force system, Resultant of coplanar non-concurrent force system. Numerical examples.

(8 Hours)

Module - 2

Equilibrium of coplanar force system: Equilibrium of coplanar concurrent force system, Lami'stheorem, Equilibrium of coplanar parallel force system, types of beams, types of loadings, types
of supports. Equilibrium of coplanar non-concurrent force system, support reactions of staticallydeterminate beams subjected to various types of loads, Numerical examples.

(8 Hours)

Module - 3

Friction: Introduction, laws of Coulomb friction, equilibrium of blocks on horizontal plane, equilibrium of blocks on inclined plane, ladder friction Numerical examples.
Centroid of Plane areas: Introduction, Locating the centroid of rectangle, triangle, circle, semicircle, quadrant and sector of a circle using method of integration, centroid of composite areas and simple built-up sections, Numerical examples.

(8 Hours)

Module - 4

Moment of inertia of plane areas: Introduction, Rectangular moment of inertia, polar moment of inertia, product of inertia, radius of gyration, parallel axes theorem, perpendicular axis theorem, moment of inertia of rectangular, triangular and circular areas from the method of
integration, moment of inertia of composite areas and simple built-up sections, Numerical examples. Practical session: Determining the dynamic properties of a vehicle.

(8 Hours)

Module - 5

Kinematics: Linear motion: Introduction, Displacement, speed, velocity, acceleration, acceleration due to gravity, Numerical examples on linear motion Projectiles: Introduction, numerical examples on projectiles.
Kinetics: Introduction, D Alembert's principle of dynamic equilibrium and its application in- plane motion and connected bodies including pulleys, Numerical examples.

(8 Hours)

Course outcomes:

At the end of the course the student will be able to:

CO1: Compute the resultant of a force system and resolution of a force.

CO2: Comprehend the action for forces, moments, and other types of loads on rigid bodies andcompute the reactive forces.

CO3: Analyse the frictional resistance offered by different planes and locate the centroid.CO4: Compute the moment of inertia of sections.

CO5: Analyze the bodies in motion.

Teaching Practice:

- Classroom teaching (chalk and Talk)
- ICT – Power Point Presentation
- Audio & Video Visualization Tools

Text Books

1. Bansal R. K., Rakesh Ranjan Beohar and Ahmad Ali Khan, Basic Civil Engineering Engineeringand Mechanics, 2015, Laxmi Publications.
2. Kolhapure B K, Elements of Civil Engineering and Engineering Mechanics, 2014, EBPB
3. Shesha Prakash M.N and Ganesh. B. Mogaveer, "Elements of Civil Engineering and EngineeringMechanics", PHI Learning, 3rd Revised edition (2014).
4. Bhavikatti, S.S, "Elements of Civil Engineering and Mechanics", New Age InternationalPublisher, 6th edition, 2019.

References:

5. Timoshenko and Young, "Engineering Mechanics", McGraw Hill Publishers, 5th edition 2013.
6. Nelson A, "Engineering Mechanics-Statics and Dynamics", Tata McGraw Hill Education PrivateLtd, 1st edition, 2009.
7. Russell C Hibbeler and Ashok Gupta (2010), Engineering Mechanics: Statics and Dynamics(11th Edition), Published by Pearson Education Inc., Prentice Hall.
8. Beer, Johnston, Cornwell and Sanghi (2013) Vector Mechanics for Engineers: Statics andDynamics, 10th Edition, McGraw-Companies, Inc., New York.

CO-PO Mapping

COURSE / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	2	3												2
CO2	2	3												3
CO3	2	3												3
CO4	2	3												2
CO5	2	3												2
Average	2	3												2.4

B.E COMPUTER SCIENCE AND ENGINEERING
Choice Based Credit System (CBCS)
SEMESTER – II

ESC – II: Introduction to C Programming (2:0:2) 3
(Effective from the academic year 2022-2023)

Course Code	**BESCK204E**	CIE Marks	50
Teaching Hours/Week (L:T:P)	2:0:2	SEE Marks	50
Total Number of Contact Hours	26(L) + 26(T)	Exam Hours	03

Course Objectives:

1. Elucidate the basic architecture and functionalities of a computer.
2. Apply programming constructs of C language to solve the real-world problems.
3. Explore user-defined data structures like arrays, structures, and pointers in implementing solutions to problems.
4. Design and Develop Solutions to problems using modular programming constructs such as functions and procedures.

Module – I

Introduction to C: Introduction to computers, input and output devices, designing efficient programs. Introduction to C, Structure of C program, Files used in a C program, Compilers, Compiling and executing C programs, variables, constants, Input/output statements in C.

Textbook: Chapter 1.1-1.9, 2.1-2.2, 8.1 – 8.6, 9.1-9.14 **(6 Hours)**

Module – II

Operators in C, Type conversion and typecasting.

Decision control and Looping statements: Introduction to decision control, Conditional branching statements,iterative statements, nested loops, break and continue statements, goto statement.

Textbook: Chapter 9.15-9.16, 10.1-10.6 **(6 Hours)**

Module – III

Functions: Introduction using functions, Function definition, function declaration, function call, return statement, passing parameters to functions, scope of variables, storage classes, recursive functions.

Arrays: Declaration of arrays, accessing the elements of an array, storing values in arrays, Operations on arrays,Passing arrays to functions.

Textbook: Chapter 11.1-11.13, 12.1-12. **(6 Hours)**

Module – IV

Two dimensional arrays, operations on two-dimensional arrays, two-dimensional arrays to functions, multidimensional arrays.

Applications of arrays and introduction to strings: Applications of arrays, case study with sorting techniques.

Introduction to strings: Reading strings, writing strings, summary of functions used to read and write characters.Suppressing input using a Scan set.

Textbook: Chapter 12.7-12.12 **(6 Hours)**

Module – V

Strings: String taxonomy, operations on strings, Miscellaneous string and character functions, arrays of strings.

Pointers: Understanding the Computer's Memory, Introduction to Pointers, Declaring Pointer Variables

Structures: Introduction to structures.

Textbook:Chapter13.1-13.6,14.1-14.3,15.1 **(6 Hours)**

List of Laboratory experiments (2 hours/week per batch/ batch strength 36)

1	C Program to find Mechanical Energy of a particle using E = mgh+1/2 mv2.
2	C Program to convert Kilometers into Meters and Centimeters.
3	C Program To Check the Given Character is Lowercase or Uppercase or Special Character.
4	Program to balance the given Chemical Equation values x, y, p, q of a simple chemical equation of the type: The task is to find the values of constants b1, b2, b3 such that the equation is balanced on both sides and it must be the reduced form.
5	Implement Matrix multiplication and validate the rules of multiplication.
6	Compute sin(x)/cos(x) using Taylor series approximation. Compare your result with the built-in library function. Print both the results with appropriate inferences.
7	Sort the given set of N numbers using Bubblesort.
8	Write functions to implement string operations such as compare, concatenate, string length. Convince the parameter passing techniques.
9	Implement structures to read, write and compute average-marks and the students scoring above and below the average marks for a class of N students.
10	Develop a program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of N real numbers.

Suggested software's : gcc compiler, Ubuntu Operating System

Course Outcomes

At the end of the course the student will be able to:

CO1. Elucidate the basic architecture and functionalities of a computer and recognize the hardware parts.

CO2. Apply programming constructs of C language to solve the real-world problem.

CO3. Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting.

CO4. Explore user-defined data structures like structures, unions and pointers in implementing solutions.

CO5. Design and Develop Solutions to problems using modular programming constructs using functions.

Text books:

1. Computer fundamentals and programming in c, "Reema Thareja", Oxford University, Second edition, 2017.

References:

1. E. Balaguruswamy, Programming in ANSI C, 7th Edition, Tata McGowan-Hill.
2. Brian W. Kernighan and Dennis M. Ritchie, The 'C' Programming Language, Prentice Hall of India.

Web links and Video Lectures (e-Resources):

1. Elearning.vtu.ac.in/econtent/courses/video/BS/15PCD23.html
2. https://nptel.ac.in/courses/106/105/106105171/ MOOC courses can be adopted for more clarity inunderstanding the topics and verities of problem solving methods.

BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(An Autonomous Institute under VTU, Belagavi, Karnataka-590018)
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B.E CIVIL ENGINEERING
Choice Based Credit System (CBCS)
SEMESTER – II

Green Buildings (3:0:0) 3
(Effective from the academic year 2022-23)

Course Code	BETCK205B	CIE Marks	50
Teaching Hours/Week (L:T:P)	3:0:0	SEE Marks	50
Total Number of Contact Hours	40	Exam Hours	03

Course Objectives:

This course will enable students to:

1. Understand the Definition, Concept and Objectives of the terms cost effective construction and green building
2. Apply cost effective techniques in construction
3. Apply cost effective Technologies and Methods in Construction
4. Understand the Problems due to Global Warming
5. State the Concept of Green Building
6. Understand Green Buildings

Module - 1 (8 Hours)

Introduction to the concept of cost effective construction -Uses of different types of materials and their availability -Stone and Laterite blocks- Burned Bricks- Concrete Blocks- Stabilized Mud Blocks- LimePoszolana Cement- Gypsum Board- Light Weight Beams- Fiber Reinforced Cement Components- Fiber Reinforced Polymer Composite- Bamboo- Availability of different materials- Recycling of building materials – Brick- Concrete- Steel- Plastics - Environmental issues related to quarrying of building materials.

Module - 2 (8 Hours)

Environment friendly and cost effective Building Technologies - Different substitute for wall construction Flemish Bond - Rat Trap Bond – Arches – Panels - Cavity Wall - Ferro Cement and Ferro Concrete constructions – different pre cast members using these materials - Wall and Roof Panels – Beams – columns - Door and Window frames - Water tanks - Septic Tanks - Alternate roofing systems - Filler Slab - Composite Beam and Panel Roof -Pre-engineered and ready to use building elements - wood products - steel and plastic - Contributions of agencies - Costford - Nirmithi Kendra - Habitat.

Module - 3 (8 Hours)

Global Warming – Definition - Causes and Effects - Contribution of Buildings towards Global Warming - Carbon Footprint – Global Efforts to reduce carbon Emissions Green Buildings – Definition - Features- Necessity – Environmental benefit - Economical benefits - Health and Social benefits - Major Energy efficient areas for buildings – Embodied Energy in Materials Green Materials - Comparison of Initial cost of Green V/s Conventional Building - Life cycle cost of Buildings.

Module - 4 (8 Hours)

Green Building rating Systems- BREEAM – LEED - GREEN STAR -GRIHA (Green Rating for Integrated Habitat Assessment) for new buildings – Purpose - Key highlights - Point System with Differential weight age. Green Design – Definition - Principles of sustainable development in Building Design - Characteristics of Sustainable Buildings – Sustainably managed Materials-Integrated Lifecycle design of Materials and Structures (Concepts only)

Module - 5 (8 Hours)

Utility of Solar Energy in Buildings - Utility of Solar energy in buildings concepts of Solar Passive Cooling and Heating of Buildings. Low Energy Cooling. Case studies of Solar Passive Cooled and Heated Buildings.

Green Composites for Buildings Concepts of Green Composites - Water Utilisation in Buildings, Low Energy Approaches to Water Management. Management of Solid Wastes. Management of Sullage Water and Sewage. Urban Environment and Green Buildings. Green Cover and Built Environment.

Course outcomes:

At the end of the course the student will be able to:

CO1 Select different building materials for construction
CO2 Apply effective environmental friendly building technology
CO3 Analyze global warming due to different materials in construction CO4 Analyse buildings for green rating
CO5 Use alternate source of energy and effective use water

Teaching Practice:

- Classroom teaching (chalk and Talk)
- ICT – Power Point Presentation
- Audio & Video Visualization Tools

Text Books

1. HarharaIyer G, Green Building Fundamentals, Notion Press
2. Dr. Adv. HarshulSavla, Green Building: Principles & Practices

References (e-sources):

1. https://www.youtube.com/watch?v=THgQF8zHBW8
2. https://www.youtube.com/watch?v=DRO_rIkywxQ

CO-PO Mapping

COURSE / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	2	2				2	2						2	
CO2	2	2				2	2						2	
CO3	2	2				2	2						2	
CO4	2	2				2	2						2	
CO5	2	2				2	2						2	
Average	2	2				2	2						2	

Department of Humanities and Social Sciences

Choice Based Credit System (CBCS)

SEMESTER –II

Professional Writing skills in English (1:0:0) 1

(Common to all Branches) (Effective from the academic year 2022-2023)

Course Code	BPWSK206	CIE Marks	50
Teaching Hours/Week (L: T:P)	1:0:0	SEE Marks	50
Total Number of Lecture Hours	15	Exam Hours	01

Course objectives: This course will enable students to

1. Identify the Common Errors in Writing and Speaking English.
2. Improve their technical writing and Presentation skills for employment.
3. Acquire Employment and Workplace communication skills.
4. Learn about Techniques of Information Transfer through presentation in different level.

Module – 1

Preamble: Importance of English grammar, Vocabulary and Communication skills enhancing the employability skills of Engineering graduates.

Identifying Common Errors in Spoken and Written English: Common Errors identification in Parts of Speech, Use of Verbs and Phrasal Verbs, Auxiliary Verbs and their forms, Subject Verb Agreement (identification of common errors), Words Confused\Misused, Error identification in Sequence of Tenses.

3 hours

Module – 2

Nature and Style of Sensible Writing: Organizing Principles of Paragraphs in Documents, Writing Introduction and Conclusion, Importance of proper Punctuation, Precise Writing, Techniques in Essay Writing, Sentence agreements and correction activities, Misplaced Modifiers, Word order, Errors dueto the confusion of words.

3 hours

Module – 3

Practises of Technical Reading and Writing: Introduction to Technical Writing Process, Report Writing, Significance of Reports, Types of Reports. Introduction to Technical Proposal Writings, Types and characteristics. Scientific Writing Process. Grammar- Voices and Reported Speech,Spotting errors and Sentence Improvement. Cloze test and Theme Detection-Exercises. **3 hours**

Module -4

Professional Communication for Employment: Listening comprehension, Types of Listening, Listening Barriers, Improving Listening Skills. Reading Comprehension, Tips for Effective Reading,Job Applications, Types of Official\employment\business Letters, Bio-Data vs Resume, Profile, CV writing, Emails, Blog writing and Memo **3 hours**

Module – 5

Professional communication at Workplace: Group Discission and Professional Interviews, Intra and interpersonal Communication Skills at Workplace, Non-Verbal Communication Skills and its importance in GD and Interview, Presentation skills and formal Presentations by Students, Strategiesof Presentation skills. **3 hours**

Course outcomes: The students will be able to:

1. Understand and identify the Common Errors in Writing and Speaking.
2. Enhance Technical writing and Presentation skills.
3. Exhibit Employment and Workplace communication skills.
4. Analyze and apply various Techniques of Information Transfer through presentation. indifferent level

Textbooks

1. "Professional Writing Skills in English" published by Fillip Learning – Education (ILS),Bangalore – 2022.
2. "Functional English" (As per AICTE 2018 Model Curriculum) (ISBN-978-93-5350-047-4)Cengage learning India Pvt Limited [Latest Edition 2019]

References

1. Gajendra Singh Chauhan, Technical Communication, Cengage Learning India Pvt Limited,Latest Revised Edition, 2019
2. N.P. Sudharshana and C. Savitha, English for Engineers, Cambridge University Press ,2018.
3. Meenakshi Raman and Sangeetha Sharma, Technical Communication – Principles andPractice, Oxford University Press, Third Edition 2017.

All Engineering Departments
Choice Based Credit System (CBCS)
SEMESTER - II

Innovation and Design Thinking (0:2:0)1
(Common to all Branches)
(Effective from the academic year 2022 -2023)

Course Code	BIDTK258	CIE Marks	50
Teaching Hours/Week (L:T:P)	0:2:0	SEE Marks	50
Total Number of Lecture Hours	26	Exam. Hours	01

Course objectives:

This course will enable students to:

1. Demonstrate the fundamental concept of design thinking for product and service development.
2. Illustrate empathetic design for potential customers.
3. Develop and examine the problem-solving techniques for innovative products and services.
4. Demonstrate the fundamental concept of innovation for product and service development.
5. To discuss the methods of implementing design thinking in the real world.

Module – 1

Introduction to Design Thinking: Introduction, Importance of design thinking, what is design thinking**:** principles of design thinking, the process of design thinking**,** double-diamond model. The Philosophy of Design thinking, rules of design thinking.

Frame work of Design Thinking: Aesthetics and creativity as design thinking mechanisms, Psychological and neural bases of creativity, a definition and framework of design thinking.

How to understand the problem: How to analyse problems, Search field determination.

Understanding of the problem: The blind spot of knowledge and awareness, Problem analysis: PESTEL-Analysis.

Case studies on PESTEL-Analysis. (5 Hours)

Module – 2

How to Observe: Observation Phase, Empathetic design, Tips for observing, Method for Empathetic Design: Behavioural Mapping and Tracking, Empathy Map, Heuristic Evaluation, Customer Journey**.**

How to Define the Problem: Point-of-view phase, Characteristics of target group, Persona, Jobs-to-be done, Means-end approach.

Ideate Phase: The creative process, success factor for creative process. brainstorming: rules and tips for brain storming, mind mapping, rules for mind mapping, synectics.

Case studies on Empathetic design. (5 Hours)

Module – 3

Evaluation of ideas: Checklists/Proc-Cons lists, assessment areas of innovations, PPCO method,

SWOT analysis for ideas, theory of inventive problem solving(TRIZ), principle of evolution, innovation checklist, resource analysis.

Real-Time Design Interaction: Introduction, improving design process instrumentation, real-time design research instrument.

Collaboration in digital space: Creativity across distances, analysing design thinking working modes, evaluating existing tool for remote collaboration and digital whiteboard.

Case studies on SWOT analysis. (5 Hours)

Module – 4

Innovation Process: Model Unified innovation process model for engineering designers and managers, Feedback pathways and gates: designer and reviewer initiated.

Strategic innovations: Design thinking approach: - Growth, predictability, strategic foresight, change, sense making, value redefinition, extreme competition, experience design standardization, creative culture, rapid prototyping, strategy and organization and business model design.

Innovation Culture*:* Nested view of design thinking and practice, national culture and design practice, method, Insights: culture and design, methodological insights.

(5 Hours)

Module – 5

Prototype and Testing: Prototype phase, storyboarding, storytelling, test phase, tips for prototype testing, tips for interviews, tips for survey, requirements for space and materials, Agility for design thinking, the Scrum guide, how to conduct workshop, MVP and prototyping.

Efficacy of prototyping*:* The efficacy of prototyping under time constraints, introduction, method, materials and design task, participants, procedure, results, participant creations. interviews.

Business process modelling: Introduction, process models mediate communication, research question and iterating ideas.

(5 Hours)

Course Outcomes: The students will be able to:

1. Demonstrate the concept of Design thinking for real world problems.
2. Illustrate empathy, define and ideate for design thinking problems.
3: Describe evaluation of ideas, design interaction and collaborations.
4: Discuss innovation process & culture and strategic innovations.
5: Illustrate prototyping and business process modelling for products and services.

Textbooks:

1. Christian Mueller-Roterberg, Handbook of Design Thinking, Tips & Tools for how to design thinking, Kindle Direct Publishing, 2018.
2. A Nil Hasso Plattner, Christoph Meinel and Larry Leifer, Design Thinking: Understand – Improve – Apply, Springer, 2011.

References:

3. Idris Mootee, Design Thinking for Strategic Innovation: What They Can't Teach You at Business or Design School, John Wiley & Sons 2013.
4. Jeanne Liedtka , Andrew King , Kevin Bennett, Solving Problems with Design Thinking - Ten Stories of What Works ,Columbia Business School Publishing, 2013.
5. Gavin Ambrose Paul Harris, Basics of Design Thinking, AVA Publishing, Switzerland, 2009.

Web links and Video Lectures (e-Resources):

1. www.tutor2u.net/business/presentations/. /productlifecycle/default.html
2. https://docs.oracle.com/cd/E11108_02/otn/pdf/. /E11087_01.pdf
3. www.bizfilings.com › Home › Marketing › Product Development
4. https://www.mindtools.com/brainstm.html
5. https://www.quicksprout.com/. /how-to-reverse-engineer-your-competit
6. www.vertabelo.com/blog/documentation/reverse-engineering
6. https://support.microsoft.com/en-us/kb/273814
7. https://support.google.com/docs/answer/179740?hl=en
8. https://www.youtube.com/watch?v=2mjSDIBaUlM
7. thevirtualinstructor.com/foreshortening.html
8. https://dschool.stanford.edu/.../designresources/.../ModeGuideBOOTCAMP2010L.pdf
9. https://dschool.stanford.edu/use-our-methods/ 6. https://www.interactiondesign.org/literature/article/5-stages-in-the-design-thinking-process
10. http://www.creativityatwork.com/design-thinking-strategy-for-innovation/ 49 8.
11. https://www.nngroup.com/articles/design-thinking/ 9.
12. https://designthinkingforeducators.com/design-thinking/ 10.
13. www.designthinkingformobility.org/wp-content/.../10/NapkinPitch_Worksheet.pdf
14. NPTL : Design Thinking - A Primer - Course (nptel.ac.in)

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

http://dschool.stanford.edu/dgift/

Department of Humanities and Social Sciences
Choice Based Credit System (CBCS)
SEMESTER – I/II

ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ Samskrutika Kannada (1:0:0):1

(Effective from the academic year 2022-2023)

ವಿಷಯ ಸಂಕೇತ Course Code	BKSKK107/207	ನಿರಂತರ ಆಂತರಿಕ ಮೌಲ್ಯಮಾಪನದ ಅಂಕಗಳು CIE Marks	**50**
ಒಂದು ವಾರಕ್ಕೆ ಬೋಧನಾ ಅವಧಿ Teaching hours/Week (L: T:P)	**1:0:0**	ಸೆಮಿಸ್ಟರ್ ಅಂತ್ಯದ ಪರೀಕ್ಷೆಯ ಅಂಕಗಳು SEE Marks	**50**
ಒಟ್ಟು ಬೋಧನಾ ಅವಧಿ Total Number of contact hours	**15**	ಪರೀಕ್ಷೆಯ ಅವಧಿ Exam Hours	**01**

Course Objectivies: **ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು:**

1. **ಪದವಿ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಿರುವುದರಿಂದ ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.**
2. **ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.**
3. **ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಮೂಡಿಸುವುದು.**
4. **ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವನ್ನು ಹಾಗೂ ಅವರುಗಳು ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.**
5. **ಸಂಸ್ಕೃತಿಕ, ಜನಪದ ಹಾಗೂ ಪ್ರವಾಸ ಕಥನಗಳ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.**

ಘಟಕ–1

ಕನ್ನಡ ಸಂಸ್ಕೃತಿ ಮತ್ತು ಭಾಷೆ ಕುರಿತಾದ ಲೇಖನಗಳು:

ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ – ಹಂಪ ನಾಗರಜಯ್ಯ

ಕರ್ನಾಟಕ ಏಕೀಕರಣ: ಒಂದು ಅಪೂರ್ವ ಚರಿತ್ರೆ–ಜಿ. ವೆಂಕಟಸುಬ್ಬಯ್ಯ

ಆಡಳಿತ ಭಾಷೆಯಾಗಿ ಕನ್ನಡ–ಡಾ.ಎಲ್.ತಿಮ್ಮೇಶ ಮತ್ತು ಪ್ರೊ.ವಿ.ಕೇಶವಮೂರ್ತಿ **3 ಗಂಟೆಗಳು**

ಘಟಕ–2

ಆಧುನಿಕ ಪೂರ್ವದ ಕಾವ್ಯ ಭಾಗ:

ವಚನಗಳು–ಬಸವಣ್ಣ, ಅಕ್ಕಮಹಾದೇವಿ, ಆಯ್ದಕ್ಕಿ ಮಾರಯ್ಯ, ಜೇಡರದಾಸಿಮಯ್ಯ, ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮ

ಕೀರ್ತನೆಗಳು–ಅದರಿಂದೇನು ಫಲ ಇದರಿಂದೇನು ಫಲ–ಪುರಂದರದಾಸರು ತಲ್ಲಣಿಸದಿರು ಕಂಡ್ಯ ತಾಳು ಮನವೇ–ಕನಕದಾಸರು

ತತ್ವಪದಗಳು: ಸಾವಿರ ಕೊಡಗಳ ಸುಟ್ಟು – ಶಿಶುನಾಳ ಶರೀಫ **3 ಗಂಟೆಗಳು**

ಘಟಕ–3

ಆಧುನಿಕ ಕಾವ್ಯ ಭಾಗ:

ಡಿ.ವಿ.ಜಿ.ಯವರ ಮಂಕು ತಿಮ್ಮನ ಕಗ್ಗದಿಂದ ಆಯ್ದ ಕೆಲವು ಭಾಗಗಳು.

ಕುರುಡು ಕಾಂಚಾಣ: ದಾ. ರಾ. ಬೇಂದ್ರೆ ಹೊಸ ಬಾಳಿನ ಗೀತೆ: ಕುವೆಂಪು **3 ಗಂಟೆಗಳು**
ಘಟಕ–4
ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯ: ಡಾ.ಸರ್.ಎಂ.ವಿಶ್ವೆಶ್ವರಯ್ಯ:ವ್ಯಕ್ತಿ ಮತ್ತು ಐತಿಹ್ಯ–ಎ.ಎನ್.ಮೂರ್ತಿರಾವ್ ಕರಕುಶಲ ಕಲೆಗಳು ಮತ್ತು ಪರಂಪರೆಯ ವಿಜ್ಞಾನ–ಕರೀಗೌಡ ಬೀಚನಹಳ್ಳಿ **3 ಗಂಟೆಗಳು**
ಘಟಕ–5
ಸಂಸ್ಕೃತಿಕ, ಜನಪದ ಕಥೆ ಮತ್ತು ಪ್ರವಾಸ ಕಥನ: ಯುಗಾದಿ: ವಸುಧೇಂದ್ರ ಮೆಗಾನೆ ಎಂಬ ಗಿರಿಜನ ಪರ್ವತ: ಹಿ.ಚಿ.ಬೋರಲಿಂಗಯ್ಯ **3 ಗಂಟೆಗಳು**
Course outcome (course skills set) ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ (BKSKK107/207) ಪಠ್ಯ ಕಲಿಕೆಯ ನಂತರ ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ: 1. ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಕುರಿತು ಅರಿವು ಮೂಡಿರುತ್ತದೆ. 2. ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಕುರಿತು ಹೆಚ್ಚಿನ ಓದಿಗೆ ಮತ್ತು ಜ್ಞಾನಕ್ಕೆ ಸ್ಫೂರ್ತಿ ಮೂಡುತ್ತದೆ. 3. ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯತ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗಡೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಹೆಚ್ಚಾಗುತ್ತದೆ. 4. ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯ ಹಾಗೂ ಅವರುಗಳ ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ತಿಳಿದುಕೊಂಡು ನಾಡಿನ ಇನ್ನಿತರ ವ್ಯಕ್ತಿಗಳ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳಲು ಕೌತುಕತೆ ಹೆಚ್ಚಾಗುತ್ತದೆ. 5. ಸಾಂಸ್ಕೃತಿಕ, ಜನಪದ ಹಾಗೂ ಪ್ರವಾಸ ಕಥನಗಳ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.
Textbook: ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ ಡಾ.ಹಿ.ಚಿ ಬೋರಲಿಂಗಯ್ಯ ಮತ್ತು ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ, ಪ್ರಸಾರಾಂಗ ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ

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Department of Humanities and Social Sciences
Choice Based Credit System (CBCS)
SEMESTER – I/II

ಬಳಕೆ ಕನ್ನಡ Balake Kannada (Kannada for Usage) (1:0:0):1

(Common to all Branches)
(Effective from the academic year 2022-2023)

Course Code	BKBKK107/207	CIE Marks	50
Teaching Hours/Week (L: T:P)	1:0:0	SEE Marks	50
Total Number of Lecture Hours	15	Exam Hours	01

ಬಳಕೆ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು (Course Learning Objectives):

- **To Create awareness regarding the necessity of learning local language for comfortable and healthy life.**
- **To enable learners to Listen and understand the Kannada language properly.**
- **To speak, read and write Kannada language as per requirement.**
- **To train the learners for correct and polite conservation.**

Module – 1

Introduction, Necessity of learning a local language. Methods to learn the Kannada language.
Easy learning of a Kannada Language: A few tips. Hints for correct and polite conversation, Listening and Speaking Activities.Key to Transcription.**ವೈಯಕ್ತಿಕ, ಸ್ವಾಮ್ಯಸೂಚಕ/ಸಂಬಂಧಿತ ಸರ್ವನಾಮಗಳು ಮತ್ತು ಪ್ರಶ್ನಾರ್ಥಕ ಪದಗಳು.** Personal Pronouns, Possessive Forms, Interrogative words. **3 hours**

Module – 2

ನಾಮಪದಗಳ ಸಂಬಂಧಾರ್ಥಕ ರೂಪಗಳು, ಸಂದೇಹಾಸ್ಪದ ಪ್ರಶ್ನೆಗಳು ಮತ್ತು ಸಂಬಂಧವಾಚಕ ನಾಮಪದಗಳು Possessive forms of of nouns, dubitive question and Relative noun. **ಗುಣ, ಪರಿಮಾಣ ಮತ್ತು ವರ್ಣಬಣ್ಣ ವಿಶೇಷಣಗಳು, ಸಂಖ್ಯಾವಾಚಕಗಳು** Qualitative, Quantitative and Colour Adjectives, Numerals. **ಕಾರಕ ರೂಪಗಳು ಮತ್ತು ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು – ಸಪ್ತಮಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯ (ಅ, ಅದು, ಅವು, ಅಲ್ಲಿ)** Predictive Forms, Locative Case. **3 hours**

Module – 3

ಚತುರ್ಥಿ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯದ ಬಳಕೆ ಮತ್ತು ಸಂಖ್ಯಾವಾಚಕಗಳು Dative cases and Numerals. **ಸಂಖ್ಯಾಗುಣವಾಚಕಗಳು ಮತ್ತು ಬಹುವಚನ ನಾಮರೂಪಗಳು** Ordinal numerals and Plural makers. **ನ್ಯೂನ/ನಿಷೇದಾರ್ಥಕ ಕ್ರಿಯಾಪದಗಳು ವ ಿತ್ತು ವರ್ಣ ಗುಣವಾಚಕಗಳು** Defective /Negative Verbs and Colour Adjectives**.** **3 hours**

Module – 4

ಅಪ್ಪಣೆ/ಒಪ್ಪಿಗೆ, ನಿರ್ದೇಶನ, ಪ್ರೋತ್ಸಾಹ ಮತ್ತು ಒತ್ತಾಯ ಅರ್ಥರೂಪ ಪದಗಳು ಮತ್ತು ವಾಕ್ಯಗಳು Permission, Commands, encouraging and urging words (Imperative words and sentences). **ಸಾಮಾನ್ಯ ಸಂಭಾಷಣೆಗಳಲ್ಲಿ ದ್ವಿತೀಯ ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ಸಂಭವನೀಯ ಪ್ರಕಾರಗಳು** Accusative Cases and Potential Forms used in General Communication. **"ಇರು ಮತ್ತು ಇರಲ್ಲ" ಸಹಾಯಕ ಕ್ರಿಯಾಪದಗಳು, ಸಂಭಾವ್ಯಸೂಚಕ ಮತ್ತು ನಿಷೇಧಾರ್ಥಕ ಕ್ರಿಯಾ ಪದಗಳು** Helping verbs "iru and iralla" Corresponding Future and Negation Verbs. **ಹೋಲಿಕೆ (ತರತಮ), ಸಂಬಂಧಸೂಚಕ ಮತ್ತು ವಸ್ತು ಸೂಚಕ ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ನಿಷೇದಾರ್ಥಕ ಪದಗಳ ಬಳಕೆ** Comparitive, Relationship, Identification and Negation words. **3 hours**

Module – 5

ಕಾಲ ಮತ್ತು ಸಮಯದ ಹಾಗೂ ಕ್ರಿಯಾ ಪದಗಳ ವಿವಿಧ ಪ್ರಕಾರಗಳು, Different types of tense, time and verbs.
ದ್, ತ್, –ತು, –ಇತು, –ಆಗಿ, –ಅಲ್ಲ, –ಗ್, –ಕ್, ಇದೆ, ಕ್ರಿಯಾ ಪ್ರತ್ಯಯಗಳೊಂದಿಗೆ ಭೂತ, ಭವಿಷ್ಯತ್ ಮತ್ತು ವರ್ತಮಾನ ಕಾಲ ವಾಕ್ಯ ರಚನೆ Formation of Past, Future and Present Tense Sentences with Verb Forms. **ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮತ್ತು ರಾಜ್ಯದ**

ಬಗ್ಗೆ ಕುರಿತಾದ ಇತರೆ ಮಾಹಿತಿಗಳು Karnataka state and general information about the state. ಕನ್ನಡ ಭಾಷೆ ಮತ್ತು ಸಾಹಿತ್ಯ Kannada Language and Literature. ಭಾಷೆ ಕಲಿಯಲು ಏನನ್ನು ಮಾಡಬೇಕು ಮತ್ತು ಮಾಡಬಾರದು Do's and Dont's in Learning a Language **3 hours**

ಬಳಕೆ ಕನ್ನಡ ಪಠ್ಯ ಕಲಿಕೆಯಿಂದ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಆಗುವ ಅನುಕೂಲಗಳು ಮತ್ತು ಫಲಿತಾಂಶಗಳು: **Course outcomes:**

At the end of the Course, The Students will be able to

1. Understand the necessity of learning of local language for comfortable life.
2. Listen and understand the Kannada language properly.
3. Speak, read and write Kannada language as per requirement.
4. Communicate (converse) in Kannada language in their daily life with Kannada speakers.
5. Speak in polite conservation

Textbook:

ಬಳಕೆ ಕನ್ನಡ

ಲೇಖಕರು: ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ

ಪ್ರಸಾರಾಂಗ, ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ