KCE301 Engineering Mechanics (L-T-P 3-1-0) Credit – 4

UNIT - I Introduction to Engineering Mechanics: Force Systems, Basic concepts, Rigid Body equilibrium; System of Forces, Coplanar Concurrent Forces, Components in Space – Resultant-Moment of Forces and its Applications; Couples and Resultant of Force System, Equilibrium of System of Forces, Free body diagrams, Equations of Equilibrium of Coplanar Systems.

Friction: Types of friction, Limiting friction, Laws of Friction, Static and Dynamic Friction; Motion of Bodies, wedge friction, screw jack & differential screw jack; [8 Hours]

UNIT- II Centroid and Centre of Gravity, Centroid of simple figures from first principle, centroid of composite sections; Centre of Gravity and its implications; Area moment of inertia-Definition, Moment of inertia of plane sections from first principles, Theorems of moment of inertia, Moment of inertia of standard sections and composite sections; Mass moment inertia of circular plate, Cylinder, Cone, Sphere, Hook. [8 Hours]

UNIT - III Basic Structural Analysis, Equilibrium in three dimensions; Analysis of simple trusses by method of sections & method of joints, Zero force members, Simple beams and support reactions. [8 Hours]

UNIT - IV Review of particle dynamics- Rectilinear motion; Plane curvilinear motion (rectangular, path, and polar coordinates). Work-kinetic energy, power, potential energy. Impulse-momentum (linear, angular); Impact (Direct and oblique). [8 Hours

UNIT - V Introduction to Kinetics of Rigid Bodies, Basic terms, general principles in dynamics; Types of motion, Instantaneous centre of rotation in plane motion and simple problems; D'Alembert's principle and its applications in plane motion and connected bodies; Work energy principle and its application in plane motion of connected bodies; Kinetics of rigid body rotation

Virtual Work and Energy Method- Virtual displacements, principle of virtual work for particle and ideal system of rigid bodies, Applications of energy method for equilibrium, Stability of equilibrium. [8 Hours]

COURSE OUTCOMES

Course Name: KCE-301**:Engineering Mechanics** **Year of study: 2019-20**

On completion of this course, the students will be able to	
KCE 301.1	understand analytical techniques for analysing forces in statically determinate structures and motion of the bodies.
KCE 301.2	apply theorem of area and mass moment of inertia for simple and composite sections.
KCE 301.3	apply concepts of structural analysis to solve trusses.
KCE 301.4	understand concepts of particle dynamics through work and energy and impulse momentum principles.
KCE 301.5	apply concepts of kinetics to define rigid body rotation.
KCE 301.6	apply principle of virtual work to particle systems and rigid bodies.

Mapping of Course Outcome and Program Outcome

PO / CO	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**
KCE 301.1	3	-	-	-	-	3	-	-	1	-	-	3
KCE 301.2	3	1	-	-	-	3	-	-	1	-	-	3
KCE 301.3	3	3	-	-	-	3	-	-	1	-	-	3
KCE 301.4	2	-	-	-	-	3	-	-	1	-	-	3
KCE 301.5	2	1	-	-	-	3	-	-	1	-	-	3
KCE 301.6	2	1	-	-	-	3	-	-	1	-	-	3
Average	**2.5**	**1.5**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**-**	**3**

Mapping of Course Outcome and Program Specific Outcome

PSO / CO	**PSO 1**	**PSO 2**
KCE 301.1	2	2
KCE 301.2	3	3
KCE 301.3	3	3
KCE 301.4	2	2
KCE 301.5	3	3
KCE 301.6	3	3
Average	**3**	**3**

KCE302 Surveying & Geomatics (L-T-P 3-1-0) Credit – 4

UNIT - I

Introduction to Surveying: Definition, Classification, Principles, Survey stations and Survey lines; Introduction to measurement of distance, direction and elevation; Ranging and it methods, Meridians and Bearings, Methods of leveling, Booking and reducing levels, Reciprocal leveling, distance of visible horizon, Profile leveling and cross sectioning, Errors in leveling; Introduction to methods of plane table surveying; Contouring: Characteristics, methods, uses, computation of areas and volumes. Theodolite survey: Instruments, Measurement of horizontal and vertical angle; Methods of horizontal and vertical control, Triangulation: Figures or systems, Signals, Satellite station, Baseline and its importance, corrections, Trigonometric leveling: Accessible and inaccessible objects. [8 Hours]

UNIT - II

Curves: Elements of simple circular curves, Theory and methods of setting out simple circular curves, Transition curves- types, characteristics and equations of various transition curves; Introduction to vertical curves. [8 Hours]

UNIT - III

Modern Field Survey Systems: Principle and types of Electronic Distance Measurement systems and instruments, Total Station- its advantages and applications; Global Positioning Systems-Segments, working principle, errors and biases. Geographic Information System: Concepts and data types, data models, data acquisition. GIS applications in civil engineering. [8 Hours]

UNIT - IV

Photogrammetric Survey: basic principles, aerial camera, scale of a vertical photograph, relief displacement of a vertical photograph, height of object from relief displacement, flight planning for aerial photography, selection of altitude, interval between exposures, crab and drift, stereoscope and stereoscopic views, parallax equations. Introduction to digital photogrammetry. [8 Hours]

UNIT - V

Remote Sensing: Concepts and physical basis of Remote Sensing, Electromagnetic spectrum, atmospheric effects, image characteristics. Remote sensing systems, spectral signatures and characteristics spectral reflectance curves. Salient features of some of Remote Sensing satellites missions. Digital image processing: Introduction, image rectification and restoration, image enhancement, image transformation, image classification. Applications of remote sensing to civil engineering. [8 Hours]

COURSE OUTCOMES

Course Name: KCE-302**: Surveying & Geomatics** **Year of study: 2019-20**

On completion of this course, the students will be able to	
KCE 302.1	learn the principles and working of conventional surveying instruments, theodolite surveying, levelling, contouring and principles of triangulation systems.
KCE 302.2	apply the principles to set out simple circular curves, transition curves with introduction to vertical curves.
KCE 302.3	understand the concepts of GPS and GIS to analyze GIS data for various applications and applications of EDM in Civil Engineering problems.
KCE 302.4	apply the concept and principles of photogrammetry and stereoscopy to interpret aerial and satellite imagery.
KCE 302.5	understand the concepts of the remote sensing process and its application to Civil Engineering areas.
KCE 302.6	apply the image interpretation and enhancement techniques to extract useful information from digital images

PO / CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
KCE 302.1	3	1	-	1	1	2	-	1	2	-	-	2
KCE 302.2	3	1	-	1	1	2	-	1	2	-	-	2
KCE 302.3	3	1	-	1	3	3	-	1	2	-	-	2
KCE 302.4	3	1	-	1	3	3	-	1	2	-	-	2
KCE 302.5	3	1	-	1	3	3	-	1	2	-	-	2
KCE 302.6	2	1	-	1	2	3	-	1	2	-	-	2
Average	**2.83**	**1.00**	**-**	**1**	**2.17**	**2.67**	**-**	**1.00**	**2.00**	**-**	**-**	**2.00**

Mapping of Course Outcome and Program Outcome

Course Outcome and Program Specific Outcome

PSO / CO	**PSO 1**	**PSO 2**
KCE 302.1	3	3
KCE 302.2	2	2
KCE 302.3	3	3
KCE 302.4	3	3
KCE 302.5	2	2
KCE 302.6	2	2
Average	**2.50**	**2.50**

KCE303 Fluid Mechanics (L-T-P 3-0-0) Credit – 3

UNIT I Fluid and continuum, Physical properties of fluids, Rheology of fluids. Pressure-density height relationship, manometers, pressure on plane and curved surfaces, centre of pressure, buoyancy, stability of immersed and floating bodies, fluid masses subjected to linear acceleration and uniform rotation about an axis. [8 Hours]

UNIT II Types of fluid flows: Continuum & free molecular flows. Steady and unsteady, uniform and non-uniform, laminar and turbulent flows, rotational and irrotational flows, compressible and incompressible flows, subsonic, sonic and supersonic flows, sub-critical, critical and supercritical flows, one, two and three dimensional flows, streamlines, path lines, streak lines, stream tube, continuity equation for 1-D, 2-D and 3-D flows, circulation, stream function and velocity potential function. [8 Hours]

UNIT III Potential Flow: source, sink, doublet and half-body. Equation of motion along a streamline and its integration, Bernoulli's equation and its applications- Pitot tube, orifice meter, venturimeter and bend meter, notches and weirs, momentum equation and its application to pipe bends. resistance to flow, Minor losses in pipe in series and parallel, power transmission through a pipe, siphon, water hammer, three reservoir problems and pipe networks. [8 Hours]

UNIT IV Equation of motion for laminar flow through pipes, Stokes' law, mixing length concept and velocity distribution in turbulent flow over smooth and rough surfaces, Boundary layer thickness, boundary layer over a flat plate, displacement, momentum and energy thickness. Application of momentum equation. Laminar boundary layer, turbulent boundary layer, laminar sub-layer, separation and its control. Vortex Flow: Free & Forced. [8 Hours]

UNIT V Drag and lift, drag on a sphere, aerofoil, Magnus effect, Similarity Laws; geometric, kinematics and dynamic similarity, undistorted and distorted model studies, Dimensional analysis, Buckingham's Pi theorem, important dimensionless numbers and their significance. Introduction to Computational Fluid Dynamics (CFD). [8 Hours]

COURSE OUTCOMES

Course Name: KCE-303**: Fluid Mechanics** **Year of study: 2019-20**

On completion of this course, the students will be able to	
KCE 303.1	learn physical properties and characteristic behaviour of fluids & principles of fluid mechanics.
KCE 303.2	measure pressure exerted by a fluid and perform stability analysis on submerged and floating bodies
KCE 303.3	analyse the performance and behaviour of fluid in motion.
KCE 303.4	perform flow measurements and analyse pipe network problems
KCE 303.5	interpret the behaviour of moving fluid under laminar and turbulent conditions and analyse boundary layer formation on submerged bodies
KCE 303.6	carry out model and dimensional analysis using concept of various forces acting on a moving body and the applications.

Mapping of Course Outcome and Program Outcome

PO / CO	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**
KCE 303.1	3	3	-	-	-	2	-	-	-	-	-	2
KCE 303.2	3	3	-	-	-	2	-	-	-	-	-	2
KCE 303.3	3	3	-	-	-	2	-	-	-	-	-	2
KCE 303.4	3	3	-	-	-	2	-	-	-	-	-	2
KCE 303.5	3	2	1	-	-	2	-	-	-	-	-	2
KCE 303.6	2	2	-	-	-	2	-	-	-	-	-	1
Average	**2.83**	**2.67**	**1.00**	**-**	**-**	**2.00**	**-**	**-**	**-**	**-**	**-**	**1.83**

Mapping of Course Outcome and Program Specific Outcome

PSO / CO	**PSO 1**	**PSO 2**
KCE 303.1	3	3
KCE 303.2	3	3
KCE 303.3	3	3
KCE 303.4	3	3
KCE 303.5	3	3
KCE 303.6	2	2
Average	**2.83**	**2.83**

KCE351 Building Planning & Drawing Lab **(L-T-P 0-0-2) Credit – 1**

Drawing and drafting of following with CAD/BIM software

1. Introduction to the tools and commands of drafting software.
2. Working in layers, blocks, x-ref, drawing layout and print setup.
3. 3D drafting and rendering
4. Planning and drafting of elevation and cross section of door and window
5. Planning and drafting of plan and cross section of Dog legged and open well staircase.
6. Planning and Drawings of Residential building of 1 room set (plan and section).
7. Planning and drawing of 3 room residential building with staircase.
8. Preparation of details general arrangement drawing of 4 room duplex house including planning and drafting

COURSE OUTCOMES

Course Name: KCE-351**: Building Planning and Drawing Lab Year of study: 2019-20**

On completion of this Lab, the students will be able to	
KCE 351.1	learn symbols used in Civil Engineering drawings & drawings of masonry bonds.
KCE 351.2	draw parts of doors, windows and staircases, plumbing and electrical drawings learn to draw plumbing and electrical drawings and their applications.
KCE 351.3	make drawings of residential buildings & layout plans of various Civil Engineering Projects.

Mapping of Course Outcome and Program Outcome

PO / CO	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
KCE 351.1	1	1	1	2	3	1	-	1	-	-	-	1
KCE 351.2	1	1	1	2	3	2	-	1	-	-	-	2
KCE 351.3	1	1	1	2	3	1	-	1	-	-	-	2
Average	**1.00**	**1.00**	**1.00**	**2.00**	**3.00**	**1.33**	**-**	**1.00**	**-**	**-**	**-**	**1.67**

Mapping of Course Outcome and Program Specific Outcome

PSO / CO	**PSO1**	**PSO2**
KCE 351.1	3	1
KCE 351.2	3	2
KCE 351.3	3	2
Average	**3**	**1.67**

KCE352 Surveying & Geomatics Lab (L-T-P 0-0-2) Credit – 1

1. To measure bearings of a closed traverse by prismatic compass and to adjust the traverse by graphical method.
2. To find out reduced levels of given points using Auto/dumpy level.
3. To study parts of a Vernier and electronic theodolite and measurement of horizontal and vertical angle.
4. To measure horizontal angle between two objects by repetition/reiteration method.
5. To determine the height of a vertical structure (e.g. chimney/ water tank etc.) using trigonometrical leveling by taking observations in single vertical plane.
6. To set out a simple circular curve by Rankine's method.
7. Demonstration and working on Electronic Total Station. Measurement of distances, horizontal & vertical angles, coordinates and area of a land parcel.
8. Demonstration and working with Mirror stereoscopes, Parallax bar and Aerial photographs.
9. Visual Interpretation of standard FCC (False colour composite).
10. Digitization of physical features on a map/image using GIS software.
11. Coordinates measurement using GPS.

COURSE OUTCOMES

Course Name: KCE-352**: Surveying & Geomatics Lab** **Year of study: 2019-20**

On completion of this Lab, the students will be able to	
KCE 352.1	develop the application of basic and conventional surveying instruments, their principles and working by prismatic compass, Auto/Dumpy level , Vernier & electronic theodolite to measure bearings, reduced level, horizontal & vertical angles.
KCE 352.2	measure the distance, horizontal and vertical angles by Total Station & learn to measure the area of a land parcel by Total Station.
KCE 352.3	Learn & work with mirror stereoscopes, parallax bar and aerial photographs for extracting useful information using FCC & use GPS to collect point and line data.

Mapping of Course Outcome and Program Outcome

PO **CO**	**PO 1**	**PO 2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO 8**	**PO9**	**PO1 0**	**PO11**	**PO1 2**
KCE 352.1	3	2	-	1	3	1	-	1	2	-	-	2
KCE 352.2	3	2	-	1	3	1	-	1	2	-	-	2
KCE 352.3	3	2	-	1	3	1	-	1	2	-	-	2
Average	**3.00**	**2.0 0**	**-**	**1.00**	**3.00**	**1.00**	**-**	**1.0 0**	**2.00**	**-**	**-**	**2.00**

Mapping of Course Outcome and Program Specific Outcome

PSO CO	**PSO 1**	**PSO 2**
KCE 352.1	3	2
KCE 352.2	2	1
KCE 352.3	2	1
Average	**2.33**	**1.33**

KCE353 Fluid Mechanics Lab (L-T-P 0-0-2) Credit – 1

Note: Students will perform minimum 10 experiments from the following:

1. To verify the momentum equation using the experimental set-up on impact of jet.
2. To determine the coefficient of discharge of an orifice of a given shape. Also to determine the coefficient of velocity and the coefficient of contraction of the orifice mouth piece.
3. To calibrate an orifice meter and study the variation of the co-efficient of discharge with the Reynolds number.
4. To calibrate a Venturimeter and study the variation of the co-efficient of discharge with the Reynolds number.
5. To calibrate a bend meter and study the variation of the co-efficient of discharge with the Reynolds number.
6. Verification of Bernoulli's Theorem
7. To study the transition from laminar to turbulent flow and to determine the lower critical Reynolds number.
8. To study the velocity distribution in a pipe and also to compute the discharge by integrating the velocity profile.
9. To study the variation of friction factor, 'f' for turbulent flow in commercial pipes.
10. To study the boundary layer velocity profile over a flat plate and to determine the boundary layer thickness.
11. To determine Meta-centric height of a given ship model.
12. To determine the head loss for a sudden enlargement, sudden contraction and losses in bend.
13. Flow Visualization -Ideal Flow
14. To make studies in Wind Tunnel (Aerofoil and circular cylinder).

COURSE OUTCOMES

Course Name: KCE-353**: Fluid Mechanics Lab** **Year of study: 2019-20**

On completion of this Lab, the students will be able to	
KCE 353.1	explore fundamental principles of Fluid Mechanics through experimentation to get practical knowledge in calibration of venturi meter, orifice meter and bend meter.
KCE 353.2	learn the application of the variance of the coefficient of discharge with Reynolds Number for venture meter, orifice meter and bend meter & to draw a flow-net using Electric Analogy method and its application part.
KCE 353.3	study the application part of transition from laminar to turbulent flow and to determine lower critical Reynolds Number & velocity distribution in a pipe and variance of friction factor for turbulent flow in commercial pipes.

PO / CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
KCE 353.1	3	2	-	1	-	-	-	1	1	-	-	2
KCE 353.2	3	2	-	1	-	-	-	2	1	-	-	1
KCE 353.3	3	3	-	2	-	-	-	2	1	-	-	2
Average	**3**	**2.33**	**-**	**1.33**	**-**	**-**	**-**	**2.67**	**1.00**	**-**	**-**	**1.67**

Mapping of Course Outcome and Program Outcome

CO		
KCE 353.1	3	2
KCE 353.2	2	2
KCE 353.3	3	2
Average	**2.67**	**2**

Mapping of Course Outcome and Program Specific Outcome

KAS402 Mathematics –III (Integral Transform & Discrete Maths)

Module I

Laplace Transform **(8)**

Laplace transform, Existence theorem, Laplace transforms of derivatives and integrals, Initial and final value theorems, Unit step function, Dirac- delta function, Laplace transform of periodic function, Inverse Laplace transform, Convolution theorem, Application to solve simple linear and simultaneous differential equations.

MODULE II

Integral Transforms **(9)**

Fourier integral, Fourier Transform, Complex Fourier transform, Inverse Transforms, Convolution Theorems, Fourier sine and cosine transform, Applications of Fourier transform to simple one-dimensional heat transfer equations, wave equations and Laplace equations,
Z- Transform and its application to solve difference equations.

Module- III **(8)**

Formal Logic ,Group, Ring and Field: Introduction to First order logic, Proposition, Algebra of Proposition, Logical connectives, Tautologies, contradictions and contingency, Logical implication, Argument, Normal form, Rules of inferences, semi group, Monoid Group, Group, Cosets, Lagrange's theorem , Congruence relation , Cyclic and permutation groups, Properties of groups, Rings and Fields (definition, examples and standard results only)

Module- IV **(10)**

Set, Relation, function and Counting Techniques - Introduction of Sets, Relation and Function, Methods of Proof, Mathematical Induction, Strong Mathematical Induction, Discrete numeric function and Generating functions, recurrence relations and their solution, Pigeonhole principle.

Module- V **(10)**

Lattices and Boolean Algebra: Introduction, Partially ordered sets, Hasse Diagram, Maximal and Minimal element, Upper and Lower bounds, Isomorphic ordered sets, Lattices, Bounded Lattices and , Distributive Lattices.
Duality, Boolean Algebras as Lattices, Minimization of Boolean Expressions, prime Implicants, Logic Gates and Circuits, Truth Table, Boolean Functions, Karnaugh Maps.

COURSE OUTCOMES

Course Name: KAS-402: Engineering Mathematics-III **Year of study: 2019-20**

On completion of this course, the students will be able to	
KAS 402.1	Understand the concept of analytic functions and singularities and apply for the evaluations of definite integrals.
KAS 402.2	Understand the concept of Fourier and Z-transform and apply for solving partial differential equations and difference equations.
KAS 402.3	Remember the concept of statistics, probability and sampling theory. Also apply for analysis of nature of distribution and illustrate the test of significance using t-test and chi square test.
KAS 402.4	Understand the concept of iterative methods and interpolation. Also apply for solving algebraic and transcendental equations.
KAS 402.5	Illustrate the working methods of numerical techniques and apply for solving system of linear equations, numerical integrations and ordinary differential equations.

Mapping of Course Outcome and Program Outcome

PO / CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
KAS 402.1	3	2	-	2	1	-	-	-	-	-	-	1
KAS 402.2	3	2	2	2	2	-	-	-	-	-	-	1
KAS 402.3	3	2	2	-	3	-	-	-	-	-	-	2
KAS 402.4	3	3	3	2	3	-	-	-	-	-	-	3
KAS 402.5	3	2	3	2	1	-	-	-	-	-	-	3
Average	**3.00**	**2.20**	**2.50**	**2.00**	**2.00**	-	-	-	-	-	-	**2.00**

Mapping of Course Outcome and Program Specific Outcome

PSO / CO	**PSO1**	**PSO2**
KAS 402.1	1	1
KAS 402.2	2	2
KAS 402.3	2	2
KAS 402.4	2	2
KAS 402.5	2	2
Average	**1.80**	**1.80**

KAS301 Technical Communication

Unit -1 Fundamentals of Technical Communication:
Technical Communication: Features; Distinction between General and Technical Communication; Language as a tool of Communication; Dimensions of Communication: Reading & comprehension; Technical writing: sentences; Paragraph; Technical style: Definition, types & Methods; The flow of Communication: Downward; upward, Lateral or Horizontal; Barriers to Communication.

Unit - II Forms of Technical Communication:
Technical Report: Definition & importance; Thesis/Project writing: structure & importance; synopsis writing: Methods; Technical research Paper writing: Methods & style; Seminar & Conference paper writing; Expert Technical Lecture: Theme clarity; Analysis & Findings; 7 Cs of effective business writing: concreteness, completeness, clarity, conciseness, courtesy, correctness, consideration, C.V./Resume writing; Technical Proposal: Types, Structure & Draft.

Unit - III Technical Presentation: Strategies & Techniques
Presentation: Forms; interpersonal Communication; Class room presentation; style; method; Individual conferencing: essentials: Public Speaking: method; Techniques: Clarity of substance; emotion; Humour; Modes of Presentation; Overcoming Stage Fear; Audience Analysis & retention of audience interest; Methods of Presentation: Interpersonal; Impersonal; Audience Participation: Quizzes & Interjections.

Unit - IV Technical Communication Skills:
Interview skills; Group Discussion: Objective & Method; Seminar/Conferences Presentation skills: Focus; Content; Style; Argumentation skills: Devices: Analysis; Cohesion & Emphasis; Critical thinking; Nuances: Exposition narration & Description; effective business communication competence: Grammatical; Discourse competence: combination of expression & conclusion; Socio-linguistic competence: Strategic competence: Solution of communication problems with verbal and non-verbal means.

Unit - V Dimensions of Oral Communication & Voice Dynamics:
Code and Content; Stimulus & Response; Encoding process; Decoding process; Pronunciation Etiquette; Syllables; Vowel sounds; Consonant sounds; Tone: Rising tone; Falling Tone; Flow in Speaking; Speaking with a purpose; Speech & personality; Professional Personality Attributes: Empathy; Considerateness; Leadership; Competence.

COURSE OUTCOMES

Course Name: KAS-301**: Technical communication** **Year of study: 2019-20**

On completion of this course, the students will be able to	
KAS 301.1	Students will be enabled to understand the nature and objective of Technical Communication relevant for the work place as Engineers.
KAS 301.2	Students will utilize the technical writing for the purposes of Technical Communication and its exposure in various dimensions.
KAS 301.3	Students would imbibe inputs by presentation skills to enhance confidence in face of diverse audience.
KAS 301.4	Technical communication skills will create a vast know-how of the application of the learning to promote their technical competence.
KAS 301.5	It would enable them to evaluate their efficacy as fluent & efficient communicators by learning the voice-dynamics.

Mapping of Course Outcome and Program Outcome

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**
KAS 301/401.1	-	-	-	-	-	2	-	2	-	3	2	3
KAS 301/401.2	-	-	-	-	-	-	-	-	2	3	-	3
KAS 301/401.3	-	-	-	-	-	-	-	-	2	3	2	3
KAS 301/401.4	-	-	-	-	-	-	-	2	-	3	-	3
KAS 301/401.5	-	-	-	-	-	-	-	2	2	3	-	3
Average	-	-	-	-	-	2	-	**2**		**3**	**2**	**3**

Mapping of Course Outcome and Program Specific Outcome

PSO **CO**	**PSO 1**	**PSO 2**
KAS 301/401.1	-	-
KAS 301/401.2	-	-
KAS 301/401.3	-	-
KAS 301/401.4	-	-
KAS 301/401.5	-	-
Average	-	-