Semester-IV

Name of the Course: B.Sc. in Information Technology (Artificial Intelligence) **Subject:** Computer Networks and Computer Networks Lab			
Course Code: BITAI 401, BITAI 491		**Semester: IV**	
Duration:35 hrs		**Maximum Marks: 100+100**	
Teaching Scheme		**Examination Scheme**	
Theory: 3 hrs./week		**End Semester Exam: 70**	
Tutorial: 0		**Attendance : 5**	
Practical: 4 hrs./week		**Continuous Assessment: 25**	
Credit: 3 + 2		**Practical Sessional internal continuous evaluation: 40**	
		Practical Sessional external examination: 60	
Aim:			
Sl. No.			
1.	**Ability to** Learn the flow control and congestion control algorithms		
Objective:			
Sl. No.			
1.	Understand the division of network functionalities into layers.		
2.	Be familiar with the components required to build different types of networks Be exposed to the required functionality at each layer		
3.			
Pre-Requisite:			
Sl. No.			
1.	**Electrical, Electronics**		
2.			
Contents		**Hrs./week**	
Chapter	**Name of the Topic**	**Hours**	**Marks**
01	**FUNDAMENTALS & LINK LAYER 9L** Building a network – Requirements – Layering and protocols – Internet Architecture – Network software – Performance ; Link layer Services – Framing – Error Detection – Flow control	**7**	**14**
02	**MEDIA ACCESS & INTERNETWORKING 9L** Media access control – Ethernet (802.3) – Wireless LANs – 802.11 – Bluetooth – Switching and bridging – Basic Internetworking (IP, CIDR, ARP, DHCP,ICMP)	**7**	**14**
03	**ROUTING 9L** Routing (RIP, OSPF, metrics) – Switch basics – Global Internet (Areas, BGP, IPv6), Multicast – addresses – multicast routing (DVMRP, PIM)	**7**	**14**
04	**TRANSPORT LAYER 9L** Overview of Transport layer – UDP – Reliable byte stream (TCP) –	**7**	**14**

	Connection management – Flow control – Retransmission – TCP Congestion control – Congestion avoidance (DECbit, RED) – QoS – Application requirements		
05	**APPLICATION LAYER 7L** Traditional applications -Electronic Mail (SMTP, POP3, IMAP, MIME) – HTTP – Web Services – DNS – SNMP	**7**	**14**
	Sub Total:	**35**	**70**
	Internal Assessment Examination & Preparation of Semester Examination	**4**	**30**
	Total:	**40**	**100**

Practical:
Skills to be developed:
List of Practical: Sl. No. 1& 2 compulsory & at least three from the rest)
Based on theory

Assignments: Based on theory

List of Books
Text Books:

Name of Author	**Title of the Book**	**Edition/ISSN/ISBN**	**Name of the Publisher**
James F. Kurose, Keith W. Ross,	"Computer Networking – A Top-Down Approach Featuring the Internet", Fifth Edition,		Pearson Education
Nader. F. Mir	Computer and Communication Networks		Pearson Prentice Hall Publishers,

Reference Books:

Ying-Dar Lin, Ren-Hung Hwang, Fred Baker	Computer Networks: An Open Source Approach",		McGraw Hill Publisher
Behrouz A. Forouzan	Data Communication and Networking		Tata McGraw – Hill.

List of equipment/apparatus for laboratory experiments:

Sl. No.	
1.	**Computer**

End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	**Unit**	**Objective Questions** (MCQ only with the	**Subjective Questions**

		correct answer)					
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	**ALL**	**10**	**10**				**70**
B	**ALL**			**5**	**3**	**15**	
C	**ALL**			**5**	**3**	**45**	

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	Chapter	Marks of each question	Question to be set	Question to be answered
A	**ALL**	**1**	**10**	**10**
B	**ALL**	**5**	**5**	**3**
C	**ALL**	**15**	**5**	**3**

Examination Scheme for Practical Sessional examination:

Practical Internal Sessional Continuous Evaluation

Internal Examination:

Continuous evaluation		**40**

External Examination: Examiner-

Signed Lab Assignments	**10**	
On Spot Experiment	**40**	
Viva voce	**10**	**60**

Name of the Course: B.Sc. in Information Technology (Artificial Intelligence) **Subject:** Introduction to Robotics and Introduction to Robotics Lab	
Course code: BITAI 402, BITAI 492	
Teaching Scheme	**Semester: IV**
Theory: 3 hrs./week	**Maximum Marks: 100+100**
Tutorial: 0	**Examination Scheme**
Practical: 4 hrs./week	**End Semester Exam: 70**
Credit: 3 + 2	**Attendance : 5**
	Continuous Assessment: 25
	Practical Sessional internal continuous evaluation: 40
	Practical Sessional external examination: 60

Aim:	
Sl. No.	
1.	**Ability** to understand the limitations of Algorithmic power
2.	
3.	

Objective:	
Sl. No.	
1.	To focus on topics in robotics that relate to modeling, dynamics, and control of robotic manipulators
2.	To understand different algorithm design techniques.

Pre-Requisite:	
Sl. No.	
1	Mathematics, programming knowledge
2	

Contents		**Hrs./week**	
Chapter	**Name of the Topic**	**Hours**	**Marks**
01	Preliminaries, A glimpse on 2D planar position kinematics ,A glimpse on 2D planar velocity kinematics	**6**	**14**
02	Relative position ,The rotation matrix ,The anatomy of a rotation matrix ,Composition of rotations, Parameterizations of rotation	**6**	**14**
03	The similarity transformation , Switching rotation parameterizations ,Rigid body motions ,DenavitHartenberg parameters , DH-example	**6**	**14**
04	Inverse kinematics – theory ,Inverse kinematics – examples , Inverse kinematics – more examples ,Forward kinematics on the Puma	**6**	**10**
05	Angular velocity.Representation of angular velocity ,The Jacobian ,	**6**	**4**

	Jacobian examples , Singularities ,Singularity examples ,Jacobian with forces & accelerations		
06	Newtonian Dynamics , Newtonian dynamics example , Lagrangian dynamics , Lagrangian dynamics example ,Independent joint control , Feedback linearization / computed torque control.	**6**	**14**
	Sub Total:	**36**	**70**
	Internal Assessment Examination & Preparation of Semester Examination	**4**	**30**
	Total:	**40**	**100**

Practical:
Skills to be developed:
List of Practical: Sl. No. 1& 2 compulsory & at least three from the rest)
Based on theory

Assignments: Based on theory

List of Books
Text Books:

Name of Author	**Title of the Book**	**Edition/ISSN/ISBN**	**Name of the Publisher**
McKinnon, Peter. Robotics	everything you Need to know about robotics from beginner to expert.		Peter McKinnon
Ghosal, Ashitava	Robotics: fundamental concepts and analysis.		Oxford university press

Reference Books:

Niku, Saeed B.	Introduction to robotics: analysis, control, applications		John Wiley & Sons,

List of equipment/apparatus for laboratory experiments:

Sl. No.	
1.	
2.	
3.	
4.	
5.	

End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	**Unit**	**Objective Questions** (MCQ only with the correct answer)		**Subjective Questions**			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	**ALL**	**10**					

B **C**	**ALL** **ALL**		**10**	**5** **5**	**3** **3**	**15** **45**	**70**

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	Chapter	Marks of each question	Question to be set	Question to be answered
A	**ALL**	**1**	**10**	**10**
B	**ALL**	**5**	**5**	**3**
C	**ALL**	**15**	**5**	**3**

Examination Scheme for Practical Sessional examination:

Practical Internal Sessional Continuous Evaluation

Internal Examination:

Continuous evaluation		**40**

External Examination: Examiner-

Signed Lab Assignments	**10**	
On Spot Experiment	**40**	
Viva voce	**10**	**60**

Name of the Course: B.Sc. in Information Technology (Artificial Intelligence) **Subject:** Design and Analysis of Algorithms and Design and Analysis of Algorithms Lab	
Course Code: BITAI 403, BITAI 493	**Semester: IV**
Teaching Scheme	**Maximum Marks: 100+100**
Theory: 3 hrs./week	**Examination Scheme**
Tutorial: 0	**End Semester Exam: 70**
Practical:4 hrs./week	**Attendance : 5**
Credit: 3 + 2	**Continuous Assessment: 25**
	Practical Sessional internal continuous evaluation: 40
	Practical Sessional external examination: 60

Aim:	
Sl. No.	
1.	**Ability to** design algorithms for various computing problems
2.	**Ability to** analyze the time and space complexity of algorithms
3.	

Objective:	
Sl. No.	
1.	To understand and apply the algorithm analysis techniques.
2.	To critically analyze the efficiency of alternative algorithmic solutions for the same problem
3.	

Pre-Requisite:	
Sl. No.	
1.	Basic Programming Knowledge
2.	

Contents		**Hrs./week**	
Chapter	**Name of the Topic**	**Hours**	**Marks**
01	INTRODUCTION 9L Notion of an Algorithm – Fundamentals of Algorithmic Problem Solving – Important Problem Types – Fundamentals of the Analysis of Algorithmic Efficiency –Asymptotic Notations and their properties. Analysis Framework – Empirical analysis – Mathematical analysis for Recursive and Non-recursive algorithms – Visualization	**6**	**14**
02	BRUTE FORCE AND DIVIDE-AND-CONQUER 9L Brute Force – Computing an – String Matching – Closest-Pair and Convex-Hull Problems – Exhaustive Search – Travelling Salesman Problem – Knapsack Problem – Assignment problem. Divide and Conquer Methodology – Binary Search – Merge sort – Quick sort – Heap Sort – Multiplication of Large Integers – Closest-Pair and Convex – Hull Problems	**6**	**14**
03	DYNAMIC PROGRAMMING AND GREEDY TECHNIQUE 9L Dynamic programming – Principle of optimality – Coin changing	**6**	**14**

	problem, Computing a Binomial Coefficient – Floyd's algorithm – Multi stage graph – Optimal Binary Search Trees – Knapsack Problem and Memory functions. Greedy Technique – Container loading problem – Prim's algorithm and Kruskal's Algorithm – 0/1 Knapsack problem, Optimal Merge pattern – Huffman Trees.		
04	ITERATIVE IMPROVEMENT 9L The Simplex Method – The Maximum-Flow Problem – Maximum Matching in Bipartite Graphs, Stable marriage Problem.	**6**	**14**
05	COPING WITH THE LIMITATIONS OF ALGORITHM POWER 9L Lower – Bound Arguments – P, NP NP- Complete and NP Hard Problems. Backtracking – n-Queen problem – Hamiltonian Circuit Problem – Subset Sum Problem. Branch and Bound – LIFO Search and FIFO search – Assignment problem – Knapsack Problem – Travelling Salesman Problem – Approximation Algorithms for NP-Hard Problems – Travelling Salesman problem – Knapsack problem.	**12**	**14**
	Sub Total:	**36**	**70**
	Internal Assessment Examination & Preparation of Semester Examination	**4**	**30**
	Total:	**40**	**100**

Practical:
List of Practical: Sl. No. 1& 2 compulsory & at least three from the rest)
Based on theory

Assignments: Based on theory

List of Books
Text Books:

Name of Author	**Title of the Book**	**Edition/ISSN/ISBN**	**Name of the Publisher**
AnanyLevitin	Introduction to the Design and Analysis of Algorithms		Pearson Education
Ellis Horowitz, SartajSahni and SanguthevarRajasekaran	Computer Algorithms/ C++		Second Edition, Universities Press

Reference Books:

Thomas H.Cormen, Charles E.Leiserson, Ronald L. Rivest and Clifford Stein,	Introduction to Algorithms‖,		PHI

List of equipment/apparatus for laboratory experiments:

Sl. No.	

1.	**Computer**

End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	Unit	Objective Questions (MCQ only with the correct answer)		Subjective Questions			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	**ALL**	**10**	**10**				**70**
B	**ALL**			**5**	**3**	**15**	
C	**ALL**			**5**	**3**	**45**	

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	Chapter	Marks of each question	Question to be set	Question to be answered
A	**ALL**	**1**	**10**	**10**
B	**ALL**	**5**	**5**	**3**
C	**ALL**	**15**	**5**	**3**

Examination Scheme for Practical Sessional examination:

Practical Internal Sessional Continuous Evaluation

Internal Examination:

Continuous evaluation		**40**

External Examination: Examiner-

Signed Lab Assignments	**10**	
On Spot Experiment	**40**	
Viva voce	**10**	**60**

Name of the Course: B.Sc. in Information Technology (Artificial Intelligence) **Subject:** Speech Systems and Speech Systems Lab	
Course Code: BITAI 404A BITAI 491A	**Semester: IV**
Teaching Scheme	**Maximum Marks: 100+100**
Theory: 3 hrs./week	**Examination Scheme**
Tutorial: 0	**End Semester Exam: 70**
Practical: 4 hrs./week	**Attendance : 5**
Credit: 3 + 2	**Continuous Assessment: 25**
	Practical Sessional internal continuous evaluation:40
	Practical Sessional external examination:60

Aim:	
Sl. No.	
1.	
2.	
3.	

Objective:	
Sl. No.	
1.	**Ability to apply it in real life scenario.**
2.	
3.	

Pre-Requisite:	
Sl. No.	
1.	**Knowledge of physics, basic programming knowledge**
2.	

Contents		**Hrs./week**	
Chapter	**Name of the Topic**	**Hours**	**Marks**
01	**UNIT I** Basic Concepts: Speech Fundamentals: Articulatory Phonetics – Production and Classification of Speech Sounds; Acoustic Phonetics – acoustics of speech production; Review of Digital Signal Processing concepts; Short-Time Fourier Transform, Filter-Bank and LPC Methods.	**7**	**14**
02	**UNIT II Speech Analysis: Features, Feature Extraction and Pattern Comparison Techniques: Speech distortion measures – mathematical and perceptual – Log Spectral Distance, Cepstral Distances, Weighted Cepstral Distances and Filtering, Likelihood Distortions, Spectral Distortion using a Warped Frequency Scale, LPC, PLP and MFCC Coefficients, Time Alignment and Normalization – Dynamic Time Warping, Multiple Time – Alignment Paths.**	**8**	**14**
03	**Modeling: Hidden Markov Models: Markov Processes, HMMs – Evaluation, Optimal State Sequence – Viterbi Search, Baum-Welch Parameter Re-estimation, Implementation issues.**	**7**	**14**

04	**Speech Recognition: Large Vocabulary Continuous Speech Recognition: Architecture of a large vocabulary continuous speech recognition system – acoustics and language models – ngrams, context dependent sub-word units; Applications and present status.**	**7**	**14**
05	**Speech Synthesis: Text-to-Speech Synthesis: Concatenative and waveform synthesis methods, subword units for TTS, intelligibility and naturalness – role of prosody, Applications and present status.**	**7**	**14**
	Sub Total:	**36**	**70**
	Internal Assessment Examination & Preparation of Semester Examination	**4**	**30**
	Total:	**40**	**100**

Practical:

List of Practical: Sl. No. 1& 2 compulsory & at least three from the rest)
Based on theory
Assignments: Based on theory

List of Books
Text Books:

Name of Author	**Title of the Book**	**Edition/ISSN/ISBN**	**Name of the Publisher**
Lawrence RabinerandBiing-Hwang Juang	Fundamentals of Speech Recognition		Pearson Education,
Daniel Jurafsky and James H Martin	"Speech and Language Processing – An Introduction to Natural Language Processing, Computational Linguistics, and Speech Recognition		Pearson Education,

Reference Books:

Steven W. Smith	The Scientist and Engineer's Guide to Digital Signal Processing		", California Technical Publishing.
Thomas F Quatieri	Discrete-Time Speech Signal Processing – Principles and Practice		Pearson Education.

List of equipment/apparatus for laboratory experiments:

Sl. No.	
1.	**Computer**

End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	**Unit**	**Objective Questions** (MCQ only with the correct answer)		**Subjective Questions**			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	**ALL**	**10**	**10**				**70**
B	**ALL**			**5**	**3**	**15**	
C	**ALL**			**5**	**3**	**45**	

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	**Chapter**	**Marks of each question**	**Question to be set**	**Question to be answered**
A	**ALL**	**1**	**10**	**10**
B	**ALL**	**5**	**5**	**3**
C	**ALL**	**15**	**5**	**3**

Examination Scheme for Practical Sessional examination:

Practical Internal Sessional Continuous Evaluation

Internal Examination:

Continuous evaluation			**40**

External Examination: Examiner-

Signed Lab Assignments	**10**	
On Spot Experiment	**40**	
Viva voce	**10**	**60**

Name of the Course: B.Sc. in Information Technology (Artificial Intelligence) **Subject:** Computer Vision and Computer Vision Lab	
Course Code: BITAI 404B, BITAI 494B	**Semester: IV**
Teaching Scheme	**Maximum Marks: 100+100**
Theory: 3 hrs./week	**Examination Scheme**
Tutorial: 0	**End Semester Exam: 70**
Practical: 4 hrs./week	**Attendance : 5**
Credit: 3 + 2	**Continuous Assessment: 25**
	Practical Sessional internal continuous evaluation:40
	Practical Sessional external examination:60

Aim:	
Sl. No.	
1.	**To** Develop small applications and detect the objects in various applications
2.	
3.	

Objective:	
Sl. No.	
1.	Study the image formation models and feature extraction for computer vision Identify the segmentation and motion detection and estimation techniques
2.	Develop small applications and detect the objects in various applications
3.	

Pre-Requisite:	
Sl. No.	
1.	Should have knowledge of one Programming Language (Java preferably), Practice of SQL (queries and sub queries), exposure to Linux Environment.
2.	

Contents		**Hrs./week**	
Chapter	**Name of the Topic**	**Hours**	**Marks**
01	Human vision	**2**	**6**
02	Image formation: Geometry, Radiometry, and Digitization & Camera calibration	**5**	**10**
03	Image segmentation: Region-based and edge-based & Image processing for feature: Edge detection, line and curve detection	**5**	**10**
04	Image filtering & Shape from X: Shape from shading, photometric stereo	**6**	**6**
05	Image-based modeling and rendering & Motion analysis: Motion detection and optical flow, structure from motion	**6**	**6**
06	Object recognition: Model-based, appearance-based & Object recognition: Invariant features	**5**	**18**
07	Face detection and recognition &Epipolar geometry	**2**	**4**

08	Recent advances and research topics in Computer Vision	**5**	**10**
	Sub Total:	**36**	**70**
	Internal Assessment Examination & Preparation of Semester Examination	**4**	**30**
	Total:	**40**	**100**

Practical:

List of Practical: Sl. No. 1& 2 compulsory & at least three from the rest)

Based on theory

Assignments: Based on theory

List of Books
Text Books:

Name of Author	**Title of the Book**	**Edition/ISSN/ISBN**	**Name of the Publisher**
D. A. Forsyth and J. Ponce	Computer Vision: A Modern Approach		Prentice Hall

Reference Books:

List of equipment/apparatus for laboratory experiments:

Sl. No.	
1.	**Computer**

End Semester Examination Scheme. Maximum Marks-70. Time allotted-3hrs.

Group	**Unit**	**Objective Questions** (MCQ only with the correct answer)		**Subjective Questions**			
		No of question to be set	Total Marks	No of question to be set	To answer	Marks per question	Total Marks
A	**ALL**	**10**	**10**				**70**
B	**ALL**			**5**	**3**	**15**	
C	**ALL**			**5**	**3**	**45**	

- Only multiple choice type question (MCQ) with one correct answer are to be set in the objective part.
- Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.

Examination Scheme for end semester examination:

Group	Chapter	Marks of each question	Question to be set	Question to be answered
A	**ALL**	**1**	**10**	**10**
B	**ALL**	**5**	**5**	**3**
C	**ALL**	**15**	**5**	**3**

Examination Scheme for Practical Sessional examination:			
Practical Internal Sessional Continuous Evaluation			
Internal Examination:			
Continuous evaluation			**40**
External Examination: Examiner-			
Signed Lab Assignments	**10**		
On Spot Experiment	**40**		
Viva voce	**10**		**60**

Name of the Course: B.Sc. in Information Technology (Artificial Intelligence) **Subject:** Natural Language Processing and Natural Language Processing Lab	
Course Code: BITAI 404C, BITAI 494C	**Semester: IV**
Teaching Scheme	**Maximum Marks: 100+100**
Theory: 3 hrs./week	**Examination Scheme**
Tutorial: 0	**End Semester Exam: 70**
Practical: 4 hrs./week	**Attendance : 5**
Credit: 3 + 2	**Continuous Assessment: 25**
	Practical Sessional internal continuous evaluation:40
	Practical Sessional external examination:60

Aim:	
Sl. No.	
1.	After completion of course, students would be able to:
2.	Understand the semantic for language processing.
3.	Apply NLP for language processing.
Objective:	
Sl. No.	
1.	Gain an in-depth understanding of the computational properties of natural languages.
2.	Understanding semantics and pragmatics of English language for processing
3.	How key concepts from NLP are used to describe and analyze language
4	POS tagging and context free grammar for English language.
Sl. No.	
1.	Algorithm Design and Analysis
2.	

Contents		**Hrs./week**	
Chapter	**Name of the Topic**	**Hours**	**Marks**
01	Introduction- Human languages, models, ambiguity, processing paradigms; Phases in natural language processing, applications. Text representation in computers, encoding schemes.	**5**	**10**
02	Linguistics resources- Introduction to corpus, elements in balanced corpus, TreeBank, PropBank, WordNet, VerbNet etc. Resource management with XML, Management of linguistic data with the help of GATE, NLTK	**5**	**10**
03	**III**Regular expressions, Finite State Automata, word recognition, lexicon. Morphology, acquisition models, Finite State Transducer.	**5**	**4**
04	N-grams, smoothing, entropy, HMM, ME, SVM, CRF. Part of Speech	**5**	**4**

	tagging- Stochastic POS tagging, HMM, Transformation based tagging (TBL), Handling of unknown words, named entities, multi word expressions		
05	A survey on natural language grammars, lexeme, phonemes, phrases and idioms, word order, agreement, tense, aspect and mood and 4agreement, Context Free Grammar, spoken language syntax.	**4**	**14**
06	Parsing- Unification, probabilistic parsing, TreeBank. Semantics- Meaning representation, semantic analysis, lexical semantics, WordNet Word Sense Disambiguation- Selectional restriction, machine learning approaches, dictionary based approaches.	**4**	**14**
07	Parsing- Unification, probabilistic parsing, TreeBank. Semantics- Meaning representation, semantic analysis, lexical semantics, WordNet Word Sense Disambiguation- Selectional restriction, machine learning approaches, dictionary based approaches.	**4**	**10**
08	Information Retrieval- Vector space model, term weighting, homonymy, polysemy, synonymy, improving user queries. Machine Translation– Overview.	**4**	**4**
	Sub Total:	**36**	**70**
	Internal Assessment Examination & Preparation of Semester Examination	**4**	**30**
	Total:	**40**	**100**

Name of the Course: B.Sc. in Information Technology (AI) **Subject: Project II**	
Course Code: BITAI 482	**Semester: IV**
Duration: 12Hrs.	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 0	**End Semester Exam: 100**
Tutorial: 0	**Attendance: 0**
Practical: 2 hrs./week	**Continuous Assessment: 0**
Credit: 1	**Practical Sessional internal continuous evaluation: 40**
	Practical Sessional external examination: 60
Contents	
Students will do projects on application areas of latest technologies and current topics of societal relevance.	

Name of the Course: B.Sc. in Information Technology (AI) **Subject:** Technical Seminar and Communication Skill	
Course Code: BITAI 481	**Semester: IV**
Duration: 12Hrs.	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 0	**End Semester Exam: 100**
Tutorial: 0	**Attendance: 0**
Practical: 2 hrs./week	**Continuous Assessment: 0**
Credit: 1	**Practical Sessional internal continuous evaluation: 40**
	Practical Sessional external examination: 60
Contents	
Students will do projects on application areas of latest technologies and current topics of societal relevance.	