	LESSON PL
	Department of Computer Scie
Name of the	COMPUTATIONAL INTELLIGENCE
Subject Code	IT8601
Acad Year	2018-2019

Course Objec

1. To provide a strong foundation on fundamental concepts in Computational Intelligence.
2 To enable Problem-solving through various searching techniques.
3. To apply these techniques in applications which involve perception, reasoning and learning.
4.To apply Computational Intelligence techniques for information retrieval
5. To apply Computational Intelligence techniques primarily for machine learning.

Course Outc

Upon completion of the course, the students will be able to:
1 Provide a basic exposition to the goals and methods of Computational Intelligence.
2 Study of the design of intelligent computational techniques.
3 Apply the Intelligent techniques for problem solving
4 Improve problem solving skills using the acquired knowledge in the areas of, reasoning, natural
5 Understand various Intelligence and Applications

Sl. No.	Topic(s)
UNIT-I	**INTRODUCTION**
1	Introduction to Artificial Intelligence
2	Search-Heuristic Search-A* algorithm
3	Game Playing
4	Markup Languages: XHTML. An Introduction to HTML History
5	Alpha-Beta Pruning-Expert systems
6	Inference-Rules
7	Forward Chaining and Backward Chaining
8	Genetic
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Plann	
Evaluation method	
UNIT II	**KNOWLEDGE REPRESENTATION AND REASONING**
9	Proposition Logic - First Order Predicate Logic
10	Unification – Forward Chaining
11	Backward Chaining - Resolution
12	Knowledge Representation - Ontological Engineering
13	Categories and Objects – Events - Mental Events and Mental Objects
14	Reasoning Systems for Categories - Reasoning with Default Information - Prolog Programr
Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planne	
Evaluation method	
UNIT III	**UNCERTAINTY**
15	Non monotonic reasoning
16	Fuzzy Logic-Fuzzy rules
17	fuzzy inference-Temporal Logic
18	Temporal Reasoning
19	Neural Networks
20	Neuro
21	fuzzy Inference.

Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Plann	
Evaluation method	
UNIT IV	**LEARNING**
22	Probability basics - Bayes Rule and its Applications
23	Bayesian Networks – Exact and Approximate Inference in Bayesian Networks
24	Hidden Markov Models - Forms of Learning
25	Supervised Learning - Learning Decision Trees
26	DOM based XML processing Event-oriented Parsing: SAX-Transforming XML Documents-
27	Regression and Classification with Linear Models - Artificial Neural Networks
28	Nonparametric Models - Support Vector Machines
29	Statistical Learning - Learning with Complete Data
30	Learning with Hidden Variables- The EM Algorithm ,Reinforcement Learning
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Plann	
Evaluation method	
UNIT V	**INTELLIGENCE AND APPLICATIONS**
31	Natural language processing-Morphological Analysis
32	Syntax analysis-Semantic Analysis
33	All applications – Language Models
34	Information Retrieval – Information Extraction Machine Translation – Machine Learning
35	Symbol-Based – Machine Learning: Connectionist – Machine Learning.
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Plann	
Evaluation method web services Creating	
Content Beyond the Syllabus Planned	
1	**1. Explain in detail about Difeerence between ML and AI .2 Explain about IoT**
	Text Books
1	Stuart Russell, Peter Norvig, —Artificial Intelligence: A Modern Approach‖, Third Edition, Pe
2	Elaine Rich and Kevin Knight, —Artificial Intelligence‖, Third Edition, Tata McGraw-Hill, 2010.
	Reference Bo
1	Patrick H. Winston. "Artificial Intelligence", Third edition, Pearson Edition, 2006.
2	Dan W.Patterson, —Introduction to Artificial Intelligence and Expert Systems‖, PHI, 2006.
3	Nils J. Nilsson, —Artificial Intelligence: A new Synthesis‖, Harcourt Asia Pvt. Ltd., 2000.
	Website / URL Re
1	https://www.tutorialspoint.com
2	
	Blooms Lev

Level 1 (L1) : Remembering **Level 2 (L2) : Understanding** **Level 3 (L3) : Applying**	Lower Order Thinking

Mapping syllabus with Bloom's Taxonomy LOT an

Unit No	Unit Name
Unit 1	INTRODUCTION
Unit 2	KNOWLEDGE REPRESENTATION AND REASONING
Unit 3	UNCERTAINTY
Unit 4	LEARNING
Unit 5	INTELLIGENCE AND APPLICATIONS
Total	
Total Percentage	

CO PO Mappi

	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	0
CO2	3	3	3	2	0
CO3	3	3	3	3	2
CO4	3	3	3	3	2
CO5	3	3	3	3	2
Avg	3	3	3	2.5	

Justification for CO-P

CO1	Students get the ability to k
CO2	Students be able to apply the basics co
CO3	Students able to understand t
CO4	Students can analyze c
CO5	Students able to understand the basic c

3	High level	2

Name & Sign of Subject Expert	: G Rama Mohan Reddy
Head of the Department	:CSE

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	Name of the	Mr. G Rama Mohan Reddy
	Year / Sem	III/VI
	Batch	2016-2020

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T / R* Book	Periods Required	Mode of Teaching (BB / PPT / NPTEL / MOOC /	Blooms Level (L1-L6)	CO	PO
T1	2	PPT	L1	CO1	PO1
T1	1	BB	L2	CO1	PO1
T1	1	BB	L1	CO1	PO1-PO2
T1	1	BB	L3	CO1	PO1-PO3
T1	1	BB	L1	CO1	PO1-PO2
T1	1	BB	L3	CO1	PO1-PO2
T1	1	BB	L1	CO1	PO1-PO2
T1	1	BB	L3	CO1	PO1-PO2

ed if any:Quiz

T1	1	BB	L2	CO2	PO1
T1	1	PPT	L2	CO2	PO1-PO2
T1	2	PPT	L3	CO2	PO1-PO3
T1	2	BB	L3	CO2	PO1-PO2
T1	2	PPT	L3	CO2	PO1-PO3
T1	1	PPT	L3	CO2	PO1-PO2

ed if any:Quiz

T1	1	BB	L1	CO3	PO1
T1	1	PPT	L3	CO3	PO1
T1	1	BB	L2	CO3	PO1-PO3
T1	1	PPT	L3	CO3	PO1-PO4
T1	1	BB	L4	CO3	PO1-PO5
T1	2	PPT	L4	CO3	PO1-PO4
T1	2	BB	L4	CO3	PO1-PO6

ed if any: Assignment

T1	1	BB	L1	CO4	PO1
T1	1	BB	L4	CO4	PO1-PO3
T1	1	BB	L4	CO4	PO1-PO3
T1	1	BB	L4	CO4	PO1-PO4
T1	1	BB	L4	CO4	PO1-PO5
T1	1	BB	L4	CO4	PO1-PO5
T1	1	BB	L3	CO4	PO1-PO3
T1	1	BB	L4	CO4	PO1-PO5
T1	1	BB	L3	CO4	PO1-PO3

ed if any:Assignment

T1	1	BB	L3	CO5	PO1
T1	2	BB	L3	CO5	PO1-PO3
T1	2	BB	L4	CO5	PO1-PO5
T1	2	BB	L4	CO5	PO1-PO5
T1	2	PPT	L4	CO5	PO1-PO5

ed if any:Assignment

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earson Education / Prentice Hall of India, 2010.

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ferences

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Fixed Hour Exams	Level 4 (L4) : Analysing		Higher Order Thinking	Projects / Mini Projects
	Level 5 (L5) : Evaluating			
	Level 6 (L6) : Creating			

d HOT

L1	L2	L3	L4	L5	L6	LOT	HOT	Total
5	1	3	0	0	0	9	0	9
0	2	**7**	**0**	**0**	**0**	9	0	9
1	1	**2**	**5**	**0**	**0**	4	5	9
1	0	**2**	**6**	**0**	**0**	3	6	9
0	0	**3**	**6**	**0**	**0**	3	6	9
7	4	17	17	0	0	28	17	45
15.56	8.9	34.00	37.78	0	0	62.22	37.78	100

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PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0	**0**	**0**	**0**	**0**	**0**	**0**	3	2
0	**0**	**0**	**0**	**0**	**0**	**0**	3	2
2	**0**	**0**	**0**	**0**	**0**	**0**	3	2
2	**0**	**0**	**0**	**0**	**0**	**2**	3	2
2	**0**	**0**	**0**	**0**	**0**	**2**	3	2

O mapping

ıow the Search Technics

ncepts of Knowledge Representation

the concepts of Fuzzy Logic

ofLearning Concepts

oncept of Natural language processing

	Moderate level	1	Low level