

Karnataka ReddyJana Sangha<sup>(R)</sup>**VEMANA INSTITUTE OF TECHNOLOGY**Approved by AICTE-New Delhi, Affiliated to VTU-Belagavi, Recognized by Govt. of Karnataka  
#1, Mahayogi Vemana Road, 3rd Block, Koramangala, Bengaluru - 34.[www.vemanait.edu.in](http://www.vemanait.edu.in)**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING****Course Outcomes & CO-PO-PSO Mapping and Justification****COURSE OUTCOMES**

Subject	Artificial Intelligence and Machine Learning	18CS71
<b>COURSE OUTCOMES:</b>		
CO No.	On completion of this course, students will be able to:	RBT Level / Cognitive Level
18CS71.1	Understand the theory of Artificial intelligence and Machine Learning.	L2 Understand
18CS71.2	Understand the Knowledge representation issues and concept learning.	L2 Understand
18CS71.3	Apply decision tree learning and artificial neural networks.	L3 Apply
18CS71.4	Apply Bayesian learning using bayes theorem, naive bayes classifier and EM Algorithm.	L3 Apply
18CS71.5	Apply Instance based learning and reinforcement learning.	L3 Apply

**CO-PO-PSO MAPPING**

CO No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
18CS71.1	2	2	1	-	-	-	-	-	-	-	-	2	2	-	-
18CS71.2	2	2	1	-	-	-	-	-	-	-	-	2	2	-	-
18CS71.3	2	2	1	-	-	-	-	-	-	-	-	2	2	-	-
18CS71.4	2	2	1	-	-	-	-	-	-	-	-	2	2	-	-
18CS71.5	2	2	1	-	-	-	-	-	-	-	-	2	2	-	-
<b>18CS71</b>	<b>2.0</b>	<b>2.0</b>	<b>1.0</b>	-	-	-	-	-	-	-	-	<b>2.0</b>	<b>2.0</b>	-	-

**CO-PO-PSO JUSTIFICATION**

CO No.	PO/PSO	CL	Justification
18CS71.1	PO1	2	Knowledge of various Artificial Intelligence techniques solving complex engineering problems.
	PO2	2	Principles of mathematics and engineering sciences are used in various aspects of Artificial Intelligence approaches.
	PO3	1	Heuristic search techniques can be used to design solutions to complex engineering problems.
	PO12	2	The student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge.
	PSO1	2	Various learning approaches to acquire skills to design, analyze and develop algorithms and implement those using high-level programming languages.
18CS71.2	PO1	2	Knowledge of various machine learning approaches involves solving complex engineering problems.
	PO2	2	Principles of mathematics and engineering sciences are used in various aspects of machine learning approaches.
	PO3	1	Concepts learning can be used to design and solutions for find-S and candidate elimination algorithm.
	PO12	2	The student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge.
	PSO1	2	Various learning approaches Acquire skills to design, analyze and develop algorithms and implement those using high-level programming languages.
18CS71.3	PO1	2	Knowledge of classifier models' applications helps in solving complex engineering problems.
	PO2	2	Principles of mathematics and engineering sciences are used in various aspects of classifier models.
	PO3	1	Knowledge of theoretical foundations of Decision tree and Artificial Neural network can be used to design and develop solutions for complex engineering problems.
	PO12	2	The student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge
	PSO1	2	Theoretical foundations of Decision tree and Artificial Neural network classifier, acquire skills to design, analyze and develop algorithms and implement them using high-level programming languages
18CS71.4	PO1	2	Knowledge of Bayes theorem and concept learning, Naive Bayes classifier, Bayesian belief networks involves solving complex engineering problems.

	PO2	2	Principles of mathematics and engineering sciences are used in various aspects of Bayesian Learning and EM algorithm.
	PO3	1	Knowledge of theoretical foundations of Bayes theorem and concept learning, Naive Bayes classifier, Bayesian belief networks can be used to design and develop solutions for complex engineering problems.
	PO12	2	The student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge
	PSO1	2	Study of classifier model working acquire skills to design, analyze and develop algorithms and implement them using high-level programming languages
18CS71.5	PO1	2	Understand the concept of Instance Based Learning-K- nearest neighbor learning, Reinforcement Learning.
	PO2	2	Principles of mathematics and engineering sciences are used in general Hypothesis, locally weighted regression, radial basis function.
	PO3	1	Knowledge of theoretical foundations of Reinforcement Learning, Learning Task, Q Learning can be used to design and develop solutions for complex engineering problems.
	PO12	2	The student will become aware of the need for lifelong learning and the continued upgrading of technical knowledge
	PSO1	2	Identification of classifier model application area contribute skills in computing and knowledge engineering domain.

**Prepared By**  
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