



ST. ALOYSIUS COLLEGE (AUTONOMOUS), JABALPUR

Reaccredited 'A+' Grade by NAAC(CGPA:3.68/4.00)

College with Potential for Excellence by UGC

DST-FIST Supported & STAR College Scheme by DBT

Faculty of Science

Bachelor of Computer Application

BCA III Semester

Paper: Elective - I

Artificial Intelligence

Course Outcomes

CO. No.	Course Outcomes	Cognitive Level
CO 1	Understand the basic structure, operation and characteristics of artificial Intelligence	U, R
CO 2	Be able to design simple algorithms.	U, R, Ap
CO 3	Understand the working on algorithms and games.	U, Ap, C
CO 4	Know about deep learning, neural networks and Natural Language Processing.	An, Ap, C
CO 5	Understand concept of supervised and unsupervised learning methods.	U, Ap, C

Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
Theory	4	40	60	100
Practical	2	40	60	100
Total	6	200		

Evaluation Scheme

	Marks	
	Internal	External
Theory	3 Internal Exams of 20 Marks (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of the Semester)
Practical	3 Internal Exams (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of the Semester)





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Theory

No. of Lectures (in hours per week): 2 Hrs. per week

Total No. of Lectures: 60 Hrs.

Maximum Marks: 60

Units	Topics	No. of Lectures
I	Introduction: Overview of AI, Definition of AI, Aim of AI, Components of AI, Applications of AI, Understanding artificial neural networks, Supervised and unsupervised learning methods, deep learning, Applications of deep learning in image recognition, NLP, etc.	15
II	Knowledge & Reasoning: Knowledge representation issues, representation & mapping, approaches to knowledge representation, issues in knowledge representation.	15
III	Problem: problem characteristics, Types of Problem, Problem Solving Techniques: Special purpose methods and General-Purpose methods, production system, Water-Jug Problem, Tic-Tac-Toe problem, Eight Puzzle Problem, Eight Queen problem.	15
IV	Prolog: AI Programming Languages, Introduction, history, objects, atoms, constants, variables, a deductive database, Relations and facts, clauses and instances, substitution of variables, goals, sub-goals, and predicates, rules, head and body, queries, recursive rules, structures and functions, list, tuples, operators, Family relations.	15

Text Books:

1. A first course in Artificial Intelligence – Deepak Khemani
2. Artificial Intelligence Basics – Tom Taulli.





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List of Practical

1. Addition of two numbers.
2. Find factorial of a number.
3. Calculate average of three numbers.
4. Calculate Simple Interest.
5. Calculate Compound Interest.
6. Calculate area of a circle.
7. Convert Farenheit to Celsius.
8. Print Count-Down.
9. Print Count-Up.
10. To build family tree.
11. Print square of a given number.
12. Query about weather.(Q1. Find cities that are hot in summer. Q2. Find all cities that are warm. Q3. Find all the cities that are hot in summer and warm in winter.)
13. Ask user to enter your name and printout the name.
14. Input a character and print its ASCII value.
15. Create salary structure and query about customer balance.
16. Update the database using query window.
17. Male(albert)
Male(bob)
Male(bill)
Male(Charlie)
Male(dan)
Male(Edward)
Female(alice)
Female(betsy)
Female(Diana)
 - a) Write a query to print list of all males.
 - b) Write a query to print list of all females.
 - c) Write a query to print combination of all males and females.

