07th January 2022

Guidelines (as per LOCF)

Artificial Intelligence (BHCS13) Discipline Specific Core Course - (DSC)

B.Sc. (Hons) Computer Science-VI Sem

UNIT	Chapters	Reference
1	**Chapter 1: 1.1, 1.4** **Chapter 2: (complete)**	**2**
2	**Chapter 4 (complete)** **Chapter 7: (Complete)**	**3**
3	**Chapter 5: 5.1, 5.2, 5.3, 5.6** **Chapter 6: 6.1, 6.2**	**3**
4	**Chapter 2: 2.1, 2.2, 2.3** **Chapter 3: 3.2 up to 3.2.2, 3.3 up to 3.3.2, 3.5, 3.6**	**1**
5	**Chapter 12: 12.1, 12.2, 12.3**	**1**
	Chapter 1: 1.1, 1.2, 1.3, 1.4, 1.5 **Chapter 2: 2.1, 2.2** **Chapter 3: 3.1, 3.2, 3.4** **Chapter 5: 5.1, 5.2, 5.3** **Chapter 6: 6.7.2**	**4**
6	**Chapter 12: 12.1, 12.2, 12.3, 12.4 up to pg 247** (upto recursive transition network)	**3**
7	1. **https://interestingengineering.com/ethics-of-ai-benefits-and-risks-of-artificial-intelligence-systems** 2. **https://interestingengineering.com/ethics-of-ai-benefits-and-risks-of-artificial-intelligence-systems** 3. **https://law-campbell.libguides.com/ld.php?content_id=58542260**	**Online Resources**

References

1. Rich, E. & Knight, K. (2012). *Artificial Intelligence*. 3rd edition. Tata McGraw Hill.
2. Russell, S.J. & Norvig, P. (2015) *Artificial Intelligence - A Modern Approach*. 3rd edition. Pearson Education
3. Patterson, D.W. (2015). *Introduction to Artificial Intelligence and Expert Systems.* 1st edition. Pearson Education.
4. Bratko, I. (2011). *Prolog Programming for Artificial Intelligence*. 4th edition. Pearson Education

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Lab/ Practical Questions based on Artificial Intelligence (BHCS13)

1. Write a prolog program to calculate the sum of two numbers.
2. Write a Prolog program to implement max(X, Y, M) so that M is the maximum of two numbers X and Y.
3. Write a program in PROLOG to implement factorial (N, F) where F represents the factorial of a number N.
4. Write a program in PROLOG to implement generate_fib(N,T) where T represents the Nth term of the fibonacci series.
5. Write a Prolog program to implement GCD of two numbers.
6. Write a Prolog program to implement power (Num,Pow, Ans) : where Num is raised to the power Pow to get Ans.
7. Prolog program to implement multi (N1, N2, R) : where N1 and N2 denotes the numbers to be multiplied and R represents the result.
8. Write a Prolog program to implement memb(X, L): to check whether X is a member of L or not.
9. Write a Prolog program to implement conc (L1, L2, L3) where L2 is the list to be appended with L1 to get the resulted list L3.
10. Write a Prolog program to implement reverse (L, R) where List L is original and List R is reversed list.
11. Write a program in PROLOG to implement palindrome (L) which checks whether a list L is a palindrome or not.
12. Write a Prolog program to implement sumlist(L, S) so that S is the sum of a given list L.
13. Write a Prolog program to implement two predicates evenlength(List) and oddlength(List) so that they are true if their argument is a list of even or odd length respectively.
14. Write a Prolog program to implement nth_element (N, L, X) where N is the desired position, L is a list and X represents the Nth element of L.
15. Write a Prolog program to implement maxlist(L, M) so that M is the maximum number in the list.
16. Write a prolog program to implement insert_nth (I, N, L, R) that inserts an item I into Nth position of list L to generate a list R.
17. Write a Prolog program to implement delete_nth (N, L, R) that removes the element on Nth position from a list L to generate a list R.
18. Write a program in PROLOG to implement merge (L1, L2, L3) where L1 is first ordered list and L2 is second ordered list and L3 represents the merged list.