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Assignment – 1
(Based on Unit I and Unit II)
MCA-III Semester

Course Code: MCA 203   **Course Name: Artificial Intelligence and Machine Learning**

1.	Distinguish between Artificial Intelligence and Machine Learning.	CO1	BTL4
2.	Explain Travelling Salesmen problem. How can a real function be maximized or minimized?	CO1	BTL6
3.	Compose a pseudocode for Means End Analysis (MEA).	CO1	BTL6
4.	Breath First Search (BFS) has been implemented using queue data structure. Refer following diagram: Solve and identify, possible order of visiting the nodes in the graph above.	CO2	BTL6
5.	What is the logical translation of the following statement? "None of my friends are perfect." Provide explanation. (A) $\exists x(F(x) \land \neg P(x))$ (B) $\exists x(\neg F(x) \land P(x))$ (C) $\exists x(\neg F(x) \land \neg P(x))$ (D) $\neg \exists x(F(x) \land P(x))$	CO1	BTL6
6.	Identify rule of inference which is used in following arguments. "If it hailstoday, the local office will be closed. The local office is not closed today. Thus, it did not hailed today." (A) Modus tollens	CO1	BTL3

	(B) Conjunction		
	(C) Hypothetical Syllogism		
	(D) Simplification		
7.	Distinguish between Monotonic and Non-Monotonic Reasoning.	CO2	BTL6
8.	Translate the following English sentences to Propositional Logic. Propositions: (R)aining, Liron is (S)ick, Liron is (H)ungry, Liron is (HA)appy, Liron owns a (C)at, Liron owns a (D)og (A) It is raining if and only if Liron is sick (B) If Liron is sick then it is raining, and vice versa (C) It is raining is equivalent to Liron is sick (D) Liron is hungry but happy (E) Liron either owns a cat or a dog	CO1	BTL3