University of Asia Pacific
Dept. of Computer Science and Engineering
Class Test – 03, Fall–2020
Course Code: CSE 403 (B)   Course Title: Artificial Intelligence and Expert Systems
Total Marks: 20   Time: 40 (30+10) Mins

Answer the following questions:

1. What are the assumptions of Markov Model? Explain.   6

2 The probability of not rain on Sunday is 0.8. The Probability Transition Matrix is given bellow.   14
   Consider the values of the probabilities as follows:

Sunday	Next Day	Probability
rain	rain	A = 1 - B
rain	not rain	B = (Last two digit of ID) / 100
not rain	rain	C = SQRT(Last two digit of ID) / 10
not rain	not rain	D = 1 - C

What is the probability of raining on Monday? For example, if the last two digits of someone's ID is
26 then

B = 26 / 100 = 0.26	C = SQRT(26) / 10 = 0.5
A = 1 – B = 1 – 0.26 = 0.74	D = 1 – C = 1 – 0.5 = 0.5

If the last two digits of someone's ID includes one/two "**zero**" element, then he/she will use "**2**"
instead of "**zero**". For example, if the last two digits of someone's ID is **10**, then B = **12** / 100 and so
on respectively.