(2½ Hours) [Total Marks: 75]

N.B:

1. Attempt any three questions from each section
2. Answers to the two sections must be written in same answer sheet.
3. Figures to the right indicate full marks.
4. Assume additional data if necessary but state the same clearly.
5. Symbols have their usual meanings and tables have their usual standard design unless stated otherwise.
6. Use of Simple calculators and statistical tables is allowed.

Section I

1	A	What is importance of Artificial Intelligence in Computer Science?	6
	B	Discuss the theory of Fuzzy sets wit example.	6
2	A	Define neurons mathematically.	6
	B	Describe Data Mining technique using K-nearest neighbor	6
3	A	Write a short note on slot and assertion notation	6
	B	Explain minimal Deceptive problem.	6
4	A	How does the predicate logic help for knowledge representation? Explain with example.	6
	B	What is basic flow of control in Lisp?	6
5	A	What is inductive learning ? Explain decision tree with example.	6
	B	State and explain Schema Theorem of Genetics Algorithm.	6

Section II

6	A	Explain the term (a) Thresholding (b) Log Transformation (c) Negative Transformation	6
	B	How image is formed in Human eye?	7
7	A	Write a short note on Sampling and Quantization.	6
	B	What are different fields where image processing are used?	7
8	A	Explain the terms: (a)Smoothing (b) Sharpening	6
	B	Write a short note on DFT	7
9	A	Explain Dilation and Erosion and explain how opening and closing are related with them.	6
	B	What do you mean by Image Segmentation?	7
10	A	What is Structuring Element? What is the use of it in morphological operation?	6
	B	Explain the term Boundary descriptors, Regional descriptors.	7

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