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BICSE-018

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

00063

Term-End Examination

December, 2016

BICSE-018 : PATTERN RECOGNITION

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any **seven** questions. All questions carry equal marks.*

1. Classify images on the basis of the following :

   (a) Colour

   (b) Dimension

   (c) Data types

   (d) Attributes

   Briefly discuss each identified class of image, along with its contents. What is the role of pattern recognition in image analysis ? *10*

2. What is the role of Edge linking algorithms in pattern recognition ? Explain the Edge relaxation algorithm for edge linking. How does it differ from Graph theoretic algorithm ? *10*

3. Describe any ***two*** of the following. Use suitable examples in your description : *5+5=10*

(a) Detection of discontinuities

(b) Combined detection method

(c) Snake methods

4. What are syntactic classifiers ? How do syntactic classifiers recognize the object ? What are the phases of implementation of syntactic classifiers ? *10*

5. Discuss any ***two*** of the following : *5+5=10*

(a) Boundary descriptors

(b) Boundary merging techniques

(c) Study of shape by region analysis

6. Elaborate your understanding for the terms 'Fuzzyfication' and 'De-fuzzyfication'. What is the role of these two terms in pattern recognition ? Give suitable examples. *10*

7. Briefly discuss any ***two*** of the following : *5+5=10*

(a) Laplacian and its role in pattern recognition

(b) Fuzzy methods for pattern recognition

(c) Feature detection

8. Give the details of adaptive classification of fuzzy grammar. *10*

9. List the areas of application of pattern recognition. Explain the pattern recognition techniques for any two application areas. *10*

10. Write short notes on any ***two*** of the following. Give suitable examples for each : *5+5=10*

    (a) Regular Patterns

    (b) Feature Selection

    (c) Irregular Patterns