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MCA
(SEM IV) THEORY EXAMINATION 2021-22
PATTERN RECOGNITION

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If you require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief. 2*10 = 20**

Qno	Questions	CO
(a)	What is the concept of Pattern recognition?	1
(b)	Differentiate between Learning and Adaptation process.	1
(c)	What do you mean by Classifiers?	2
(d)	How decision making process affect the pattern recognition process?	2
(e)	Name various Estimation techniques.	3
(f)	List the different type of estimation techniques.	3
(g)	What do you mean by density estimation rule?	4
(h)	Define Nonparametric techniques.	4
(i)	Define the clustering process.	5
(j)	Define unsupervised learning.	5

SECTION B**2. Attempt any three of the following: 10*3 = 30**

Qno	Questions	CO
(a)	Explain the Chi Square test with example.	1
(b)	Illustrate the Bayesian Decision Theory techniques.	2
(c)	Discuss the Principal component analysis process with example.	3
(d)	Write in brief about the fuzzy classification and its techniques.	4
(e)	Explain the Error partitioned clustering technique with proper example.	5

SECTION C**3. Attempt any one part of the following: 10*1 = 10**

(a)	Explain different pattern recognition approaches.	1
(b)	Illustrate the design principle of pattern recognition system.	1

4. Attempt any one part of the following: 10 *1 = 10

(a)	How Statistical pattern recognition helped for the correct recognition explain with example?	2
(b)	How discriminant function works explain with example.	2

5. Attempt any one part of the following: 10*1 = 10

(a)	Write in brief about the Hidden Markov Model.	3
(b)	Explain fisher linear discriminant analysis.	3

6. Attempt any one part of the following: 10*1 = 10

(a)	Illustrate the Nearest Neighbor rule with example.	4
(b)	Explain the parzen windows concept with example.	4

7. Attempt any one part of the following: 10*1 = 10

(a)	Discuss the Cluster validation techniques in brief.	5
(b)	Explain the Agglomerative Hierarchical Clustering with example.	5