PG/IIIS/COS-303/19

M.Sc. 3rd Semester Examination, 2019

COMPUTER SCIENCE

PAPER—COS-303

Full Marks : 50

Time : 2 hours

Answer **all** questions

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer any *four* questions : 2 × 4

   (*a*) What do you mean by pattern recognition ?

   (*b*) Write the purposes of feature selection.

   (*c*) What is classification ?

   (*d*) Write applications of pattern recognition.

(*e*) What is a good cluster ?

(*f*) What is training set ?

(*g*) Write advantages of decision tree.

(*h*) What is SVM ?

2. Answer any *four* questions : 4 × 4

(*a*) What is cluster analysis ? Write its applications. 2 + 2

(*b*) Describe the partitioning approach in clustering. 4

(*c*) Describe the components of pattern recognition. 4

(*d*) Explain feature extraction procedure. 4

(*e*) Compare and Construst Bagging and Boosting. 4

(*f*) What is supervised learning ? Compare supervised and unsupervised learning. 2 + 2

(*g*) Describe Naive Bayessian classification. 4

(*h*) Explain Nearest Neighbor estimation. 4

3. Answer any *two* questions : 8 × 2

(*a*) Describe K-NN method for classification. Write its advantages. 6 + 2

(*b*) Write applications of SVM. Describe its functionalities. 2 + 6

(*c*) Explain with help of an example the working principle of decision tree. 8

(*d*) Write short notes (any *two*) : 4 × 2

(*i*) Fuzzy and Non-Fuzzy

(*ii*) Unsupervised Learning

(*iii*) Decision Function

(*iv*) Linear Classifier.

[*Internal Assessment* : 10 Marks]