Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
Information Security [IT-801]
Branch- IT

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions.
2. All question carry equal marks.
3. Answer should be precise & to be point only.
4. Assume suitable data if necessary & state them clearly.

Q.1 (a) Compare output feedback mode with cipher feedback mode.
(b) Explain the basic principles of information security.

Q.2 (a) With help of a block diagram explain DES encryption algorithm.
(b) Discuss the various types of cryptanalysis attacks.

Q.3 (a) Write the difference between conventional encryption and public key encryption. (b) Write short notes on RSA.

Q.4 (a) Explain hash function in detail.
(b) Describe Diffie Hellman key exchange algorithm.

Q.5 (a) Give a overview of transport mode and tunnel mode?
(b) Explain secure socket layer.

Q.6 (a) Discuss various alert codes of TLS.
(b) Explain IP security.

Q.7 (a) Explain cross site scripting and phishing attacks. How can you overcome to cross site scripting?
(b) Explain various types of software threats in detail.

Q.8 Write a short notes (Any four)-
i) Intrusion detection
ii) Packet filters
iii) URL
iv) Web security problem
v) Cookies

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
Soft Computing [IT-802T]
Branch- IT

Time: 3:00 Hrs **Max Marks 70**

Note : i. Attempt any five questions out of eight.
ii. All question carry equal marks.
iii. Answer should be precise & to be point only.

iv. Assume suitable data if necessary & state them clearly.

Q.1 (a) What is meant by an activation function in an artificial neuron model? Describe the various activation functions that are employed and compare their merits and demerits.
(b) Explain artificial neural network architecture? With its applications.

Q.2 (a) Explain perceptron network training with and without bias by taking suitable examples.
(b) Explain unsupervised learning mechanism in contrast with a supervised learning mechanism.

Q.3 (a) Compare the similarities and difference between single layer and multilayer perceptrons and also discuss in what aspects multilayer perceptrons are advantageous over single layer perceptrons.
(b) Discuss the application of neural network in data compression.

Q.4 (a) Explain radial basis function network in brief.
(b) Explain linear separability using an example IS XOR gate linear separable.

Q.5 (a) Explain the architecture of ART with diagram.
(b) Discuss how a neural network may be trained for a pattern recognition task.

Q.6 (a) Describe the self organizing map architecture and explain Kohonen model.
(b) What are crisp relations? How are they different from fuzzy relations? Explain various properties of crisp relation and fuzzy relation?

Q.7 (a) Explain neuro genetic hybrid and fuzzy genetic hybrid system.
(b) What is fuzzy quantifier? Explain.

Q.8 (a) Explain various types of crossover and mutation techniques.
(b) Explain genetic algorithm in terms of individual, gene, fitness, population, encoding selection, crossover, mutation.

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
Image Processing [IT-831]
Branch- IT

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. All question carry equal marks.
3. Answer should be precise & to be point only.
4. Assume suitable data if necessary & state them clearly.

Q.1 (a) Define digital image. Differentiate photopic and scotopic vision.
(b) What is simultaneous contrast?

Q.2 (a) Define sampling and quantization. Define arithmetic coding.
(b) What are the three types of discontinuity in digital image?

Q.3 (a) Give the relation for Rayleigh noise.
(b) What is maximum filter and minimum filter?

Q.4 (a) What is global, local and dynamic or adaptive threshold?
(b) How effectiveness of quantization can be improved?

Q.5 (a) Specify the properties of 2D Fourier transform.
(b) What is data redundancy? Explain three basic data redundancy.

Q.6 (a) Discuss the various image representation approaches.
(b) Specify the objective of image enhancement technique. What is contrast stretching?

Q.7 (a) What is JPEG? What are the coding systems in JPEG?
(b) Explain the basic elements of digital image processing.

Q.8 (a) What is image restoration? Draw and explain the basic block diagram of the restoration process. Give two areas where restoration process can be applied.
(b) What is image segmentation? Explain edge detection in details.

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
Data Mining & Warehousing [IT-841T]
Branch- IT

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions.
2. All question carry equal marks.
3. Answer should be precise & to be point only.
4. Assume suitable data if necessary & state them clearly.

Q.1 (a) How is a data warehouse different from a database? How are they similar to each other?
(b) Describe three data warehouse models -the enterprise warehouse, the data mart and the virtual warehouse.

Q.2 (a) Discuss system development life cycle of a data warehouse. What factors should be considered while designing a data warehouse?
(b) Describe star schema and snowflake schema with examples.

Q.3 (a) Why most data warehouse system support index structure? Discuss methods to index OLAP data.
(b) Discuss typical OLAP operations in brief.

Q.4 (a) Define OLAP. What are the four different types of OLAP server from implementation point of view? Explain briefly.
(b) Discuss various issues in data mining.

Q.5 (a) What do you mean by data reduction? What are the strategies of the data reduction?
(b) Discuss the latest trends in association rule mining.

Q.6 (a) What do you mean by association rule mining? Give an example of market basket analysis from the real world.
(b) Specify the objective of image enhancement technique. What is contrast stretching?

Q.7 (a) What are the requirements of clustering in data mining?
(b) What is hierarchical clustering? Differentiate agglomerative and divisive hierarchical clustering.

Q.8 Explain briefly (Any three):

(i) Text mining (ii) Web usage mining

(iii) Spatial mining (iv) Web structure mining