KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

PhD Entrance Examinations, 2022

PART B

Computer Science

Full Marks: 50

Time: 1 hr 30 minutes

A) Answer any two from the following questions. 2X15=30

Q1 a. Write a program in C/?C++ to check whether a given sequence of number is in ascending order or not. 5

b. Write a program/function in C/C++ to create a binary search tree . 5

c. Create a red/black tree for the following numbers. 5

12,45,67,10,20,30,40,60,15,20

Q2. What is Artificial Neuron? How to create Artificial neural network(ANN) ? What kind of classification problem is possible using ANN? What are the role of activation function in ANN? Define at least 3 activation function. 3+3+4+2+3=15

Q3 a. Differentiate between machine learning and deep learning 5

b.Write a program to read two binary files which contains some sorted numbers(ascending) and store the numbers into another one file. The generated output should be in ascending order. 10

B) Answer any two from the following questions. 2X10=20

Q4. What is scheduling? Explain different scheduling techniques. 10

Q5. a. Create a AVL tree for the following numbers. 5

12,45,67,10,20,30,40,60,15,20

b. Delete the node 30 5

Q6 Describe the working principle of the Genetic Algorithm. Describe the working of the genetic operators with examples. Compare the candidate selection procedures Binary tournament selection and Ranked based selection. 10

*****