BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)

Information Technology

B.Tech.Sem - V :SUMMER : 2023

SUBJECT : ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Day : Thursday | Time : 10:00 AM-01:00 PM

Date : 11-05-2023 | S-24731-2023 | Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Assume suitable data if necessary.
4) Use of non-programmable calculator is allowed.

Q.1 Explain the terms artificial intelligence, machine learning and deep learning. Write applications specific to deep learning. **(10)**

OR

Q.1 Which parameters should be considered for selection of supervised and unsupervised leaning models. Justify your answer with example. **(10)**

Q.2 Explain principal component analysis algorithm in detail. **(10)**

OR

Q.2 Explain multi dimensionality algorithm and its applications. **(10)**

Q.3 Explain the concepts of precision and recall with formulae and example. **(10)**

OR

Q.3 Explain the significance of hyperplane in support vector machine algorithm. **(10)**

Q.4 Explain the need of Huber loss and quantile loss functions with formulae and terms involved. **(10)**

OR

Q.4 When lasso regression and ridge regression algorithms are used over linear regression. Explain with formulae and example. **(10)**

Q.5 Explain the importance of hyper-parameters. How it improves efficiency of an algorithm? **(10)**

OR

Q.5 How efficiency of supervised learning models is improved? **(10)**

Q.6 What is the need of Bagging and boosting? **(10)**

OR

Q.6 Explain the working of random forest algorithm. **(10)**

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BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)

Information Technology

B.Tech.Sem - V :SUMMER : 2023

SUBJECT : COMPUTER ARCHITECTURE & ORGANIZATION

Day : Friday | Time : 10:00 AM-01:00 PM

Date : 12-05-2023 | S-24732-2023 | Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Use of **non-programmable calculator** is allowed.
4) Draw neat and labeled diagrams **wherever** necessary.
5) Assume suitable data **wherever** necessary.

Q.1 Discuss in detail the current trends in the field of computer architecture. **(10)**

OR

Write short notes on: i) Cloud Computing ii) Quantum Computers **(10)**

Q.2 What are the various components of VHDL? Explain with examples. **(10)**

OR

What are the various features of VHDL? Explain. Also list different applications of VHDL. **(10)**

Q.3 Explain the detailed block diagram of hardwired control unit. **(10)**

OR

Write microinstructions for : i) ADD R1,[R2] ii) JNZ X **(10)**

Q.4 Explain the cache read and write operations with suitable diagrams. **(10)**

OR

Explain the direct mapped cache organization with neat diagram. Give its advantages and disadvantages. **(10)**

Q.5 Explain the shared memory architecture with suitable figure. What are its advantages? **(10)**

OR

Explain in detail the dataflow architecture with suitable diagram. **(10)**

Q.6 What are the different types of hazards? Explain in detail with examples. **(10)**

OR

Explain the concept of dynamic scheduling with suitable diagram/example. **(10)**

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