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P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Third Semester, M. Tech - Computer Science and Engineering (MCSE)
Semester End Examination; Jan. / Feb. - 2021
Advanced Concepts in Information Technology

Time: 3 hrs   Max. Marks: 100

*Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a.	Define binary search tree. Explain optimal binary search trees.	10
b.	What is dynamic programming? Illustrate with an example when dynamic programming technique is useful?	10
2 a.	Explain the general structure and applications of greedy methods.	10
b.	Distinguish between iterative greedy algorithm and recursive greedy algorithm.	10

UNIT - II

3 a.	What is text mining? Explain the text mining process with an example.	10
b.	With an example, explain opinion mining on Tweets.	10
4 a.	Explain the impact of social media on the public with respect to any product.	10
b.	Explain the various challenges of mobile analytics.	10

UNIT - III

5 a.	Define storage virtualization. Identify and explain the factors to be considered for the implementation.	10
b.	Explain storage virtualization on various levels of the storage network.	10
6 a.	Mention the major diffrences between symmetric and asymmetric storage virtualization in the network.	10
b.	Explain file level storage and block level storage and mention the major differences.	10

UNIT - IV

7 a.	Explain the principles of message-passing programming.	10
b.	Explain blocking message passing operations in MPI.	10
8 a.	Explain send and receive operations in the message passing programming paradigm.	10
b.	Define overlapping communication. Explain overlapping communication with computation.	10

UNIT - V

9 a.	Highlight the differences between Data Mining and Machine Learning.	10
b.	Mention the types of Machine Learning. Explain any one Machine Learning technique.	10
10 a.	List and explain the applications of Machine Learning.	10
b.	Explain how Supervised Machine Learning work? Give an example.	10

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