A L2A001 Pages:1

Reg. No._____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER MCA (LATERAL ENTRY) DEGREE EXAMINATION

APRIL/MAY 2017

RLMCA 202: APPLICATION DEVELOPMENT&MAINTENENCE

Max. Marks: 60 Duration: 3 Hours

PART A

Answer all questions. Each question carries 3 marks

1. Briefly explain the need for Version Control.
2. Explain the ways to fix commits in Git.
3. Explain in detail about conflict handling in Git.
4. What are the best practices for an effective commit stage?
5. What is a test double? Explain its importance in acceptance tests.
6. Why is it necessary to test for non functional requirements?
7. Define orthogonality and its importance in pragmatic projects.
8. What are the best practices that help to deal user requirements?

PART B

Each question carries 6 marks.

9. a. Explain the principles for effective software delivery.

OR

b. Explain the strategy for implementing Continuous integration.

10. a. Explain the utilities in Git that helps in effective repository management.

OR

b. Explain the importance of Merge & Rebase in Git.

11. a. Explain the stages in a Deployment Pipeline.

OR

b. Explain the importance of scripting in deployment phase.

12. a. Explain the factors the guide effective software release.

OR

b. Explain the steps to improve the efficiency of acceptance test stage.

13. a. Explain the pragmatic steps in maintaining a good knowledge portfolio.

OR

b. Explain the basic tools used by pragmatic programmers with their usage strategies.

14. a. Explain the importance of concurrency in design with examples.

OR

b. Explain the importance of refactoring in pragmatic projects.

B **L2B003** **Pages:1**

Reg. No._____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER MCA (LATERAL ENTRY) DEGREE EXAMINATION, MAY 2017

Course Code: RLMCA 204

Course Name: BIG DATA TECHNOLOGIES

Max. Marks: 60 Duration: 3 Hours

PART A

Answer all questions. Each question carries 3 marks.

1. How is analysis of Big Data useful for organizations?
2. What is metadata? What information does it provide? How it helps in a Hadoop environment?
3. Explain Sharding and Replication
4. List the elements used by Hive to organize data?
5. Explain the working of MapReduce
6. What are NewSQL Databases ?
7. When is an IMDG storage device appropriate?
8. When is a Heat Map used?

PART B

Each question carries 6 marks.

9. a. Explain the functioning of ingestion layer Big data architecture.

   Or

   b. How Cloud Computing supports Big Data?

10. a. How Batch Processing can be done with MapReduce ?

    Or

    b. Explain ACID and BASE theorems.

11. a. How does HDFS ensure data integrity in a Hadoop cluster?

    Or

    b. Explain the involvement of Hadoop elements at various stages of Data Processing?

12. a. How MapReduce jobs can be optimized?

    Or

    b. List the main features of MapReduce.

13. a. Explain the types of NoSQL storage devices.

    Or

    b. Briefly explain the In-Memory Storage devices?

14. a. Explain Statistical Analysis and its types?

    Or

    b. How Machine Learning helps in Data Mining?

C **L2C004** **Pages: 2**

Reg. No._____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER MCA (LATERAL ENTRY) DEGREE EXAMINATION, MAY 2017

Course Code: RLMCA206

Course Name: MOBILE COMPUTING

Max. Marks: 60 Marks Duration: 3 Hours

PART A

Answer all Questions. Each question carries 3 Marks.

1. Discuss the Architecture of a Mobile Telecommunication Network using a schematic diagram.
2. Distinguish between Mobile Computing and Wireless networking.
3. Explain advantages of GPRS over GSM.
4. Differentiate Monolithic versus Microkernel design of OS.
5. How is the OS of a mobile phone different from the OS for a desktop? Explain any 3 points in detail.
6. Write a short note on the components of an Android application.
7. Compare the difference between JVM & DVM.
8. Discuss Activity of an Android application with its Life cycle.

PART B

Answer any one Question from each Module. Each question carries 6 Marks.

Module I

9. a. What do you mean by a WLAN? Explain its Architecture with suitable diagram.

Or

b. Compare BLE with Classic Bluetooth.

Module II

10. a. Explain GSM System with its Architecture and Security.

Or

b. Briefly explain how the mobile cellular communication has evolved over different generations of technology.

Module III

11. a. Explain Android Application with Protocol Stack.

Or

b. Give the Comparative study of different mobile OS.

Module IV

12. a. Explain WAP protocol and its Architecture in detail. Discuss the various layers of WAP.

Or

b. What is J2ME? What facilities does it offer to a mobile application developer? Briefly discuss the architecture with suitable diagram.

Module V

13. a. Explain Android Development Environment in detail.

Or

b. Write a short note on:
   a. Eclipse
   b. DDMS

Module VI

14. a. Explain Service with its features and differentiate the Bounded and Unbounded Life Cycles of Service.

Or

b. Write an Android program to register a user using username and mobile no to the application.

***

D **L2D002** **Pages: 2**

Reg. No._____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER MCA (LATERAL ENTRY) DEGREE EXAMINATION, MAY 2017

Course Code: RLMCA208

Course Name: INTRODUCTION TO MACHINE LEARNING

Max. Marks: 60 Duration: 3 Hours

PART A

Answer all questions. Each question carries 3 marks.

1. How uniform distributiondiffers from normal distribution?
2. What are the strengths and weaknesses of K-NN Algorithm?
3. What do you meant by a decision tree?
4. What is correlation?
5. Explain about perceptron.
6. What is deeplearning? How it differs from lazy learning.
7. What is a Support Vector?
8. How Boosting process improves model performance?

PART B

Answer all questions. Each question carries 6 marks.

9. How do machines learn? Explain the steps in detail with the help of relevant diagram.

Or

10. Describe the different measurements of central tendency & measures of spreadwith relevant examples?
11. Explain K-NN Algorithm with an example.Mention its Strengths &Weaknesses.

Or

12. With an example Explain Naive Bayes classification algorithm.
13. What do you meant by decision trees? Explain about the divide and conquer for the construction of decision trees with an example.

Or

14. Explain about Simple Linear Regression &Multiple linear regression. How it differs?

15. With the help of a neat diagram Explain about neural network models.

Or

16. What are activations function? Discuss various types of activation functions.
17. How Classification using hyper planes is possible? What is Maximum Margin Hyperplane?

Or

18. SVMs with nonlinear kernels are extremely powerful classifiers. Discuss the strengths and weaknesses of classification using kernel. What do you meant by a kernel function? List out and define any two commonly used kernel functions.
19. How ensembles learning improves model performance? Explain anyone ensemble based method.

Or

20. How will you evaluate the performance of a model using confusion matrices?

***

E **L2E004** **Pages:2**

Reg. No._____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER MCA (LATERAL ENTRY) DEGREE EXAMINATION, MAY 2017

RLMCA266 : ADVANCED DATABASE SYSTEMS

Maximum Marks : 60 Time : 3 Hours

PART A

Answer all questions. Each question carries 3 marks

1. Which are the functions of a hard disk controller?
2. Classify various ways in which data can be organized.
3. Define a hash function and illustrate its application in DBMS.
4, Employ the technique to arrange the following data in a B-Tree of order 5

   1, 12, 8, 2, 25, 6, 14, 28, 17, 7, 52, 16, 48, 68, 3, 26, 29, 53, 55, 45, 67
5. With a neat diagram, explain the steps in query processing
6. Compare HTML and XML.
7. When it is useful to have replication or fragmentation of data? Explain.
8. What do you mean by BASE properties of a transaction?

PART B

Answer any one question from each module. Each question carries 6 marks

MODULE I

9. Discuss the working of a magnetic disk read – write mechanism.

OR

10 Explain in detail about RAID storage system.

MODULE II

11. Design a multilevel index for employee details and explain its efficiency.

OR

12. Analyze the merits and demerits of any three indexes available.

MODULE III

13. Evaluate the query cost estimates for different selection algorithms.

OR

14. With the help of an example, explain external sort-merge algorithm.

MODULE IV

15. Construct an ER diagram for a hospital management system with a set of doctors and a set of patients. With each patient, a series of various tests and examinations are conducted. On the basis of preliminary report patients are admitted to a particular ward.
Create a suitable database schema for the above ER diagram.

OR

16. Describe the object oriented features of a an object oriented databases.

MODULE V

17. Discover the various distributed database architectures used in the industry.

OR

18. Explain the various commit protocols used in a distributed database.

MODULE VI

19. Differentiate on SQL and NoSQL database.

OR

20. Write short notes on

i) MongoDB ii) HBase iii) Cassandra

***