Hall Ticket Number :										

Code: 4P2B53

R-14

M C A V Semester Regular Examinations NOV/DEC 2016

Object Oriented Modelling and Design with UML

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Explain about architecture of the UML? 6M
   b) What is software development life cycle? explain it briefly. 6M

OR

2. a) What are the principles of modelling? Explain it in detail 6M
   b) Explain about object oriented modelling ? 6M

UNIT–II

3. a) Write briefly about the concept of Package? 6M
   b) What is relationships? explain common modeling techniques of relationships? 6M

OR

4. a) What is a class? explain the common modelling techniques of a class? 6M
   b) Explain the concept of advanced relationships in structural modelling ? 6M

UNIT–III

5. a) Write briefly about interaction diagrams and its relationships? 6M
   b) Write briefly about usecases? 6M

OR

6. a) Explain briefly about activity diagrams? 6M
   b) Write a short note on common modelling technique of usecase diagrams? 6M

UNIT–IV

7. a) Write a short note common modelling techniques of Events and Signals? 6M
   b) Explain briefly about the concept state diagrams? 6M

OR

8. a) Write about terms and conditions of Processes and Threads? 6M
   b) List and explain about Terms and Concepts of State machines? 6M

UNIT–V

9. a) Write briefly about the concept of Component diagrams? 6M
   b) Explain briefly about the common modelling techniques of Deployment diagrams? 6M

OR

10 a) Write briefly about the concept of Deployment? 6M
   b) Explain about common modelling techniques of Components? 6M

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Hall Ticket Number :										

Code: 4P2B54

R-14

M C A V Semester Regular Examinations Nov/Dec 2016

Open Source Software

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) What is open source software? Briefly explain its applications 6M
   b) What Is Free Software? What are good examples of Open Source 6M

OR

2. a) List and explain various Examples of Open Source Systems 6M
   b) "Open Source Licensing Is Simpler and Less Expensive". Justify it 6M

UNIT–II

3. a) Explain about Directory Services in detail 6M
   b) Explain about UNIX Mail Systems 6M

OR

4. a) What are the various Contents of the Operating System? Explain 6M
   b) Explain major community-supported distribution vendors 6M

UNIT–III

5. a) Explain briefly various important open source server applications 6M
   b) What are the Open Source Database Choices? Explain briefly 6M

OR

6. a) What are the Limitations to Desktop Linux Adoption 6M
   b) Compare and contrast Microsoft Office to Open Office 6M

UNIT–IV

7. a) What are the Languages Used to Develop Open Source Products? Explain briefly 6M
   b) Why Open Source Is Cross-Platform? Explain applications of Cross-Platform? 6M

OR

8. a) How to Managing Performance and Scalability? Explain 6M
   b) What are the various Development Platform Choices For corporate development today 6M

UNIT–V

9. a) Illustrates the implementation roles of system implementation 6M
   b) How to Interact with the Open Source Community? Explain 6M

OR

10. a) What are the various types of open source system costs? Explain briefly 6M
    b) List and explain various Types of Licenses 6M

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Hall Ticket Number :										

Code: 4P2B5A

R-14

M C A V Semester Regular Examinations NOV/DEC 2016

Big Data

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. What is the Four V's of Big data? Discuss about it. 12M

OR

2. Discuss about Big Data analytics applications in detail. 12M

UNIT–II

3. How Big Data Business Intelligence and Analytics promote mobile application development? Discuss. 12M

OR

4. Discuss about Hadoop's parallel world components. 12M

UNIT–III

5. What are the data transformation phases in Big Data? Discuss. 12M

OR

6. Discuss about MapReduce framework for parallel and distributed processing. 12M

UNIT–IV

7. What is Pseudo-distribution execution mode in HDFS? Discuss. 12M

OR

8. Distinguish and explain the different Hadoop daemons. 12M

UNIT–V

9. Write a detailed note on Big Data convergence. 12M

OR

10 Write a short note on each component of Advanced Analytic platform. 12M

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Hall Ticket Number :										

Code: 4P2B5D

R-14

M C A V Semester Regular Examinations NOV/DEC 2016

Information Security

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Describe the relationship between security mechanisms and attacks. 4M
   b) What is Denial of service? What is DDoS? How these attacks are carried out and what are the solutions for it? 8M

OR

2. a) Consider a desktop publishing system used to produce documents for various organizations.
      i. Give an example of a type of publication for which confidentiality of the stored data is the most important requirement.
      ii. Give an example of a type of publication in which data integrity is the most important requirement.
      iii. Give an example in which system availability is the most important requirement. 6M
   b) How hashing is used in providing security? Explain. 6M

UNIT–II

3. a) Why do some block cipher modes of operation only use encryption while others use both encryption and decryption? 6M
   b) Explain the basic arithmetical and logical functions used in SHA. 6M

OR

4. a) What is the significance of key distribution? How keys are distributed in classical cryptography and quantum cryptography. 6M
   b) Make a comparison between the message authentication and a one way hash function. 6M

UNIT–III

5. a) Consider a Diffie- Hellman key exchange with a common prime q=11 and primitive root α = 2.If user has a public key $Y_a = 9$, what is A's private key X_A. 6M
   b) List and explain the essential characteristics of public key cryptography. 6M

OR

6. a) List and explain the threats associated with a direct digital signature scheme. 6M
   b) In PGP, can an e-mail message use two different public key algorithms for encryption and signing? How is this defined in a message sent from Alice to Bob? 6M

UNIT–IV

7. a) What are the roles of the Oakley key determination protocol and ISAKMP in IPsec? 6M
   b) Explain in detail how payment processing is done in SET. 6M

OR

8. a) Briefly explain the scenario of IP security and its Policy. 6M
   b) Explain various web security threats in detail. 6M

UNIT–V

9. a) List and briefly define three classes of intruders. 6M
   b) How proxy configuration is done in SNMP? Explain. 6M

OR

10. a) Compare the various generations of firewalls. Comment on the security achieved and the ease of implementation of the various generations of firewalls. 6M
    b) How does the virus protect itself from being detected by antivirus software? Explain. 6M

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Hall Ticket Number :										

Code: 4P2B52

R-14

M C A III Semester Regular Examinations NOV/DEC 2016

.Net Technologies

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Explain about .NET platform 7M
   b) Write short notes on Just In Time compiler. 5M

OR

2. a) Explain in detail about Common Language Runtime (CLR). 6M
   b) Explain about Automatic Memory Management. 6M

UNIT–II

3. a) Write short notes on C# Classes. 5M
   b) Explain about Exception Handling. 7M

OR

4. a) Explain about Operator Overloading with example. 6M
   b) Explain about Inheritance with example. 6M

UNIT–III

5. a) Explain the Architecture of ADO.NET 7M
   b) Write short notes on Data Set. 5M

OR

6. a) Write short notes on Command Object. 6M
   b) Write short notes on Data-Binding. 6M

UNIT–IV

7. a) Explain about Cookies with example. 4M
   b) Describe briefly about Crystal Reports. 8M

OR

8. a) Write short notes on Session in ASP.NET. 4M
   b) Describe briefly about Web User Controls 8M

UNIT–V

9. a) What is UDDI? Write differences between WSDL and UDDI. 6M
   b) Write the steps involved to call a Web Service from a browser. 6M

OR

10. a) What is Web Service? Explain about different types of Web Services. 8M
    b) Write short notes on AJAX. 4M

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Hall Ticket Number :										

Code: 4P2B51

R-14

M C A III Semester Regular Examinations NOV/DEC 2016

Research Methodology

Max. Marks: 60 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. Distinguish between basic and applied research. Give examples

OR

2. What are the different types of Research? Explain them in brief.

UNIT–II

3. What are the essential differences among nominal, ordinal, interval and ratio scales? How do these differences affect the statistical analysis techniques we can use?

OR

4. You have been asked to develop an index of student morale in your department.
   a. What constructs or concepts might you employ?
   b. Choose several of the major concepts, and specify their dimensions
   c. Select observable indicators that you might use to measure these dimensions
   d. How would you compile these various dimensions into a single index?
   e. How would you judge the reliability and/or validity of these measurements?

UNIT–III

5. Define data and give some examples of data. Distinguish between primary and secondary data.

OR

6. Your task is to interview a representative sample of attendees for the large concert venue where you work. The new season schedule includes 200 life concerts featuring all types of musicians and musical groups. Since neither the number of attendees nor the descriptive characteristics are known in advance, you decide on non-probability sampling. Based on past seating configurations, you can calculate the number of tickets that will be available for each of the 200 concerts. Thus collectively, you will know the number of possible attendees for each type of music. From attendance research conducted at concerts held by Glacier Symphony during the previous two years, you can obtain gender data on attendees by type of music. How would you conduct a reasonably reliable non probability sample?

UNIT–IV

7. Discriminant analysis is a statistical technique useful in situations where individuals are objects in a sample are to be classified into two or more mutually exclusive and exhaustive groups on the basis of a set of predictor variables. Elucidate the statement and identify the situations where discriminant analysis can be used. Give the limitations of discriminant analysis

OR

8. What is correlation coefficient? Discuss the role of Correlation Coefficient in management decision making?

UNIT–V

9. There is a special challenge to presenting statistical data while some of these data may be incorporated in the text, most statistics should be placed in tables, charts or graphs. The choice of a table, chart or graph depends on the specific data and presentation purpose.

OR

10. Assume a research topic of your choice and give the complete format of its research report

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