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BCACAC 314

**Credit Based Fifth Semester B.C.A. Degree  
Examination, Oct./Nov. 2016  
(New Syllabus) (2014 – 15 Batch Onwards)  
JAVA PROGRAMMING**

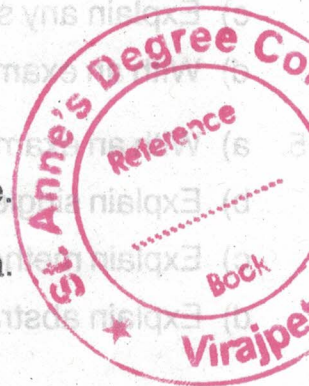
Time : 3 Hours

Max. Marks : 100

**Note : Answer any ten questions from Part – A and answer one full question from each Unit in Part – B.**

**PART – A**

1. a) What is Byte code ? (10x2 = 20)
- b) What is the size of character data type in Java ? Why ?
- c) Define Stream. Name any two predefined stream variables.
- d) Define array. Write the syntax for declaring one dimensional array with an example.
- e) What is constructor ? Give example.
- f) Differentiate method overloading and method overriding.
- g) What is Package ? Write any two benefits of using package.
- h) What is Exception ? List any two built-in exceptions in Java.
- i) How to set priority to a thread ? Give example.
- j) What is an Applet ? Name two types of applets.
- k) Write the limitations of AWT controls with respect to SWING controls.
- l) Differentiate components and Containers.



P.T.O.



## PART - B

## Unit - I

2. a) Explain any six features of Java.  
b) Write a note on scope and lifetime of variable.  
c) Explain different variation of for loop with syntax and example. (6+6+8)
3. a) List and explain primitive data types available in Java.  
b) Differentiate character stream and byte stream. With an example explain the process of reading a string from the keyboard.  
c) With the syntax and example explain :  
i) Type conversion in expression  
ii) Use of break and continue  
iii) Increment and decrement operators. (6+5+9)

## Unit - II

4. a) With the syntax and example explain the declaration and initialization of one dimensional array with suitable example.  
b) With an example explain recursion.  
c) Explain any six string methods with syntax and example.  
d) With an example explain the use of super with example. (5+4+6+)
5. a) With an example explain command line argument.  
b) Explain single level inheritance with example.  
c) Explain method overriding with example.  
d) Explain abstract class with example. (6+6+4+)

## Unit - III

6. a) Explain the different access modifier keywords.  
b) Define Exception handling. With an example explain the exception handling mechanism.  
c) Define Synchronization. With an example explain how the threads are synchronized in multithreading environment using synchronized method. (6+8+)

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**BCACAC 315**

**Credit Based V Semester B.C.A. Degree Examination, Oct./Nov. 2016  
(New Syllabus) (2014-2015 Batch Onwards)  
DISTRIBUTED COMPUTING**

Time : 3 Hours

Max. Marks : 100

**Note :** Answer **any ten** questions from **Part A** and **any one full** question from **each Unit** in **Part B**.

**PART – A**

1. a) What do you mean by network service and network applications in distributed computing? **(10×2=20)**
- b) Write any four top level domain names.
- c) What is the difference between program and process?
- d) Write the diagram of architecture of distributed applications.
- e) What do you mean by Object Request Broker? Explain.
- f) Explain secure socket API.
- g) What are iterative and concurrent servers?
- h) Write the toolkits of Distributed Object System.
- i) Write the different types of reliable multicasting systems.
- j) What are the layers used in client side architecture of java RMI?
- k) What do you mean by polling and call back?
- l) Why RMI security manager is used?

**PART – B**

**Unit – I**

2. a) What are the different forms of computing? Explain any three.
- b) Explain how can we achieve concurrent programming in a process? Explain its two types.
- c) Explain synchronous send and synchronous receive operation for event synchronization. **(7+7+6)**



P.T.O



3. a) With an example explain Event Diagram and Sequence Diagram.  
b) Explain the four operations of an Archetypal IPC Program Interface.  
c) What are the strengths and weakness of distributed computing ? Explain. (7+6+7)

### Unit – II

4. a) What is message system paradigm ? Explain its two types.  
b) With a neat diagram explain connectionless datagram socket API.  
c) What do you mean by distributed object paradigms ? Explain RMI and ORB. (7+6+7)
5. a) Explain different trade-offs of Distributed Computing paradigm.  
b) What do you mean by stream-mode socket API ? Explain with a neat diagram.  
c) Explain the network service paradigm and mobile agent paradigm with neat diagrams. (6+6+8)

### Unit – III

6. a) Explain client-server distributed computing paradigm with a neat diagram.  
b) With a neat diagram explain the software architecture for a client server application.  
c) Explain the different operations involved in an archetypal multicast API. (7+7+6)
7. a) Explain the following :  
i) FIFO Multicasting  
ii) Casual-Ordering Multicasting  
iii) Atomic Order Multicasting  
b) Briefly explain any three client-server paradigm issues.  
c) Write a note on connection oriented Echo client-server. (6+9+5)

### Unit – IV

8. a) Explain the steps for building an RMI application.  
b) Explain an Archetypal Distributed Object Architecture.  
c) What are the steps involved in testing and debugging of RMI application ? (8+6+6)
9. a) Explain the steps for building an RMI application with client callback.  
b) With a neat diagram explain the java RMI architecture. (12+8)

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BCACAC 311

**Credit Based Fifth Semester B.C.A. Degree  
Examination, October/November 2016  
(New Syllabus) (2014 – 15 Batch Onwards)  
SOFTWARE ENGINEERING**

Time : 3 Hours

Max. Marks : 100

**Note:** Answer any ten questions from Part – A and one full question from each Unit of Part – B.

**PART – A**

(10×2=20)

1. a) Expand SCM and SEPG.
- b) What are the different types of metrics ? When they are used ?
- c) Define software process.
- d) What is data dictionary ?
- e) What is functional abstraction ?
- f) What is validation ?
- g) What is detailed design ?
- h) What is unit testing ?
- i) Define coupling.
- j) What is black box testing ?
- k) Define fault and failure.
- l) What is Apache JMeter ? Why it is used ?



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P.T.O



PART - B

Unit - I

2. a) Explain software problem.
  - b) Explain any three characteristics of software process.
  - c) Explain the working of the waterfall model with the help of a diagram. (6+7)
3. a) Explain different phases of phased development process.
  - b) Explain the working of an iterative enhancement model with the help of a diagram.
  - c) Briefly explain the various activities of software configuration management process. (8+5)

Unit - II

4. a) Explain the data flow diagram with an example.
  - b) Explain the various characteristics of an SRS.
  - c) List and explain the various levels of cohesion. (6+7)
5. a) Explain the activities of requirement process with a proper diagram.
  - b) Explain the general structure of an SRS document.
  - c) Explain the various factors that affect coupling.
  - d) Write a note on design heuristics. (7+5+4)

Unit - III

6. a) Explain the verification methods of a detailed design.
- b) What are the activities that are undertaken during critical design review ?
- c) Explain internal documentation. (8+7)

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7. a) Explain PDL with suitable example.
- b) Explain symbolic execution of data.
- c) Explain static analysis and its uses.
- d) Write a note on top down and bottom up approaches in coding.

(6+5+5+4)

**Unit – IV**

8. a) Explain equivalence class partitioning.
- b) Explain test case and test criteria.
- c) Write the important features of Test Director.
9. a) Explain data flow-based testing with suitable example.
- b) Write a note on adaptive and preventive maintenance.
- c) Write a note on Silk Test.

(7+6+7)

(6+8+6)



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BCACAC 312

**Credit Based Fifth Semester B.C.A. Degree Examination, Oct./Nov. 2016**  
**LINUX ENVIRONMENT**  
**(New Syllabus) (2014-15 Batch Onwards)**

Time : 3 Hours

Max. Marks : 100

**Note : Answer any ten questions from Part – A and any one full question from each Unit in Part – B.**

**PART – A**

1. a) What do. and .. in a directory mean ? (10×2=20)
- b) What is the function of process control subsystem of the kernel architecture ?
- c) Write a short note on special files.
- d) What is the function of the disk driver ?
- e) Define a socket.
- f) Define the term 'line discipline' in terminal driver.
- g) Write a note on Linux kernel.
- h) Write a note on X Window system.
- i) Define Dolphin and Nautilus.
- j) What is Live USB ?
- k) What are the various types of Linux packages ?
- l) What is meant by intranet ?



**PART – B**

**Unit – I**

2. a) Explain the high-level architecture of UNIX system with a neat diagram.
- b) Write a note on allocation of disk blocks. Explain with example.
- c) Explain bread algorithm. (6+7+7)
3. a) Discuss UNIX file system with diagram.
- b) List out the contents of the super block.
- c) Explain the buffer header with a neat diagram. (6+6+8)

P.T.O

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## Unit – II

4. a) Write a note on network communications.  
b) Define and explain the function of open system call.  
c) Explain the terminal driver. (6+7+7)
5. a) Explain with syntax the following system calls.  
i) Create                      ii) Write                      iii) Pipe  
b) With syntax explain the link and unlink system calls.  
c) Write a note on :  
i) Streams                      ii) Process tracing. (6+6+8)

## Unit – III

6. a) Discuss the various forms of software.  
b) Write a note on Linux files and folders.  
c) With diagram, explain the components of GNOME Desktop Startup Screen. (6+6+8)
7. a) How can we create files and folders in LINUX ?  
b) Discuss about Linux opportunities.  
c) Explain applications available in Linux Desktop Environments. (6+6+8)

## Unit – IV

8. a) How can we configure computer network in LINUX ? Explain with example.  
b) Explain websites with its structure.  
c) Write a note on the following :  
i) Disk partitions  
ii) Monitoring the system. (6+6+8)
9. a) Write a note on Ubuntu software center tool.  
b) Write the uses of the following internet applications in LINUX :  
i) Bluefish                      ii) CheckGmail                      iii) Chromium  
iv) Evolution                      v) Elinks                      vi) Filezilla  
c) How can we write the contents to CD/DVD in LINUX ? (6+6+8)

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**BCACAC 3**

**Credit Based Fifth Semester B.C.A. Degree  
Examination, October/November 2016  
(New Syllabus) (2014-2015 Batch Onwards)  
WEB DEVELOPMENT IN .NET**

Time : 3 Hours

Max. Marks :

**Note : Answer any ten questions from Part – A and any one full question from each Unit of Part – B.**

**PART – A**

1. a) What are lists ? Name the different types of lists.
- b) Define <IMG> tag with two attributes.
- c) What is WAI-ARIA ? What is its purpose ?
- d) How do you create canvas in HTML 5 give an example ?
- e) Name any four validation web controls.
- f) Differentiate between value type and reference type.
- g) What is thread ? Write the different thread states.
- h) How do we invoke methods in C# ?
- i) Write any four characteristics of ASP.NET.
- j) Expand the terms : UDDI, SOAP, WSDL, XML.
- k) Explain boxing and unboxing with example.
- l) What is delegate ? Why it is used ?

(10x2)



**PART – B**

**Unit – I**

2. a) Explain any five text formatting tags.
- b) Explain with example, how tables are created in HTML ?
- c) With an example, explain how rectangles and arcs can be drawn in HTML
- d) Write a note on video on web.

(5)

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3. a) What are forms ? Explain any four input type used to design a form in HTML file.
- b) What are style sheets ? Explain the different types of style sheets.
- c) Write a note on Working Offline.
- d) Explain any three CSS 3 properties with suitable examples. (5+6+4+5)

**Unit – II**

4. a) Write the purpose and explain any two properties of the following controls :
- i) TextBox
- ii) Radio Button
- b) Explain the following validators with example :
- i) Required FieldValidator
- ii) RangeValidator
- c) Explain any five ADO.NET objects.
- d) Write any three differences between XML and HTML. (4+5+5+6)
5. a) Explain the architecture of ASP.NET.
- b) Explain the purpose of any 5 web server controls.
- c) Explain the following controls :
- i) AccessDataSource
- ii) SqlDataSource.
- d) Explain the building blocks of XML documents. (5+5+5+5)

**Unit – III**

6. a) Explain the different value types used in C#.
- b) With an example, explain command line arguments.
- c) Explain the implicit conversion in C# with an example.
- d) Write a short note on WSDL. (5+5+5+5)
7. a) What is Operator ? List the different types, explain any 4 types.
- b) What is Caching ? Explain the different techniques of caching.
- c) What is Deployment ? Explain the different types of deployment project.
- d) Write a note on SOAP. (5+5+5+5)

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Unit – IV

8. a) With a suitable example, explain the different types of if statements used in C#.
- b) What are Reference Parameter ? Explain pass-by-reference with example.
- c) Explain with syntax and example how delegates are declared.
- d) Using example explain invoking methods in C#. (5+5+5+5)
9. a) Explain the following loops with syntax and example :
- i) While
  - ii) Do While
  - iii) For.
- b) What are Output Parameters ? Explain with example.
- c) What is Constructor ? Explain it with syntax and suitable example.
- d) What is interface ? Explain the defining, extending and implementing interface. (5+5+5+5)

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