(REVISED COURSE) **QP Code : 20952**

(3 Hours) [Total Marks: 100

N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculators is allowed.

I. **Answer any two of the following:** 10
a. Write a note on SET Model.
b. Give various definition of Collision-free Hash Function.
c. Write a note on PGP certificate that will cover introducer trust and certificate trust. Give example.
d. State and explain various fields present in an audit record.

II. **Answer any three of the following:** 15
a. State and Explain Shift cipher algorithm with example.
b. State and explain steps involved in permutation cipher. Also give an example.
c. Explain how key is generated using a linear feedback shift register.
d. Explain variation available in DES.
e. State and explain chinese remainder theorem with example.
f. State and Explain Vigenere cipher algorithm with example.

III. **Answer any three of the following:** 15
a. Explain in detail the concept of the digital signature.
b. Write a note on hash function from cryptosystem.
c. Explain in details Station-to-station Protocol .
d. Explain Diffie-Hellman Key Exchange Algorithm with example.
e. Explain the concept of timestamping.
f. Explain transmission of session key using Kerberos.

IV. **Answer any three of the following:** 15
a. Define Computer security and three key objective of computer security.
b. What is the OSI security architecture?
c. List and briefly define any two categories of security services.
d. Draw and explain model for network security.
e. State and Explain the challenges of computer security.
f. List and briefly define categories of passive security attacks.

V. **Answer any three of the following:** 15
a. Draw diagram and explain X.509 certificate format.
b. Explain the use of key rings with example.
c. Write a note on S/MIME functionality and key management functions.
d. What all are the advantages of Kerberos version 5.
e. Explain any two steps of Kerberos.
f. Explain PKIX Management functions.

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VI. **Answer any three of the following:** 15

a. List & Explain applications & advantages of IPSec.
b. Explain Oakley key determination protocol & how does it work.
c. Explain any two phases of Handshake protocol.
d. Explain Buffer overflow attack on SSL
e. Draw and explain ESP (Encapsulating Security Payload) format.
f. Write a note on IKE (Internet Key Exchange) protocol & SA (Security association).

VII. **Answer any three of the following:** 15

a. What is a DDoS Attack? State and explain its countermeasures.
b. What is the role of compression in the operation of a virus? Explain with diagram.
c. Explain the concept of honey pot.
d. What is an application-level gateway? Explain
e. Write a note on different firewall configurations.
f. Write a note on packet filter firewall.

(REVISED COURSE) **QP Code : 20955**

(3 Hours) **[Total Marks: 100**

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(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt *any two* of the following:** **10**
a. What is a property? Why are they referred to as smart fields?
b. What is the importance of Web.Config file in any web application?
c. What is the difference between server controls and user controls?
d. What is the significance of AJAX websites?

2. **Attempt *any three* of the following:** **15**
a. What is an event? What is an event handler? How is it designed?
b. Define an exception called "NoMatchException" that is thrown when a string is not equal to "India". Write a program that uses this exception.
c. Explain with an example the concept of method overloading?
d. List and explain the various primitive data types used in C#.
e. Write a console program to find a fibonanci series of entered number.
f. Explain the difference between interface and abstract classes.

3. **Attempt *any three* of the following:** **15**
a. What are CSS? Explain different selectors used to write CSS.
b. Explain the terms: JIT Compiler and Garbage collector.
c. What are Collections? Write different collections supported by C#.
d. List and explain five properties of Textbox control.
e. Explain HashTable collection with an example.
f. What are assemblies? Discuss its different components.

4. **Attempt *any three* of the following:** **15**
a. Explain the following properties associated with Dropdown List control.
1. SelectedItem 2.SelectedIndex 3.Items 4.SelectionMode
b. What is the difference between RadioButton and CheckButton controls?
c. Explain StatusStrip control.
d. What is Global.asax file? Explain its structure.
e. What are Skins? Why are they used?
f. List and explain properties of Page Class.

[TURN OVER

5.	**Attempt *any three* of the following:**	15
a	What is a Caching? Explain its types.	
b	Explain the following validation controls with the help of an example. i) Regulars Expression Validator ii) Compare Validator	
c	Explain in brief about cookies.	
d	What are four application events when an application is executed?	
e	What is view state? How to preserve view state for user's own data?	
f	Explain any two Site Navigation Controls in ASP.NET	

6.	**Attempt *any three* of the following:**	15
a.	What is LINQ? Explain the structure of a LINQ query.	
b.	What is Data Binding? Explain its different types.	
c.	Explain ADO .NET object model with help of suitable diagram.	
d.	Explain any four properties of GridView control.	
e.	How Authorization is used in case of providing security to web application?	
f.	Write a short note on basic ADO.Net objects.	

7.	**Attempt *any three* of the following:**	15
a.	What are different LINQ operators?	
b.	Write a snippet code to hide and display the header text on click of command button using J-query. (Hint: Use Hide() and Show())	
c.	What is an Ajax? Explain it's the importance.	
d.	Explain XMLHttpRequest Object with its properties and methods.	
e.	What are the advantages of Web Services?	
f.	Explain DOM manipulation methods in j-Query.	

(REVISED COURSE) **QP Code : 20957**

(3 Hours) **[Total Marks: 100**

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(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Answer *any two* of the following: **10**
a. Define Test Case and Test Scenario. Explain with example.
b. Discuss different levels of testing.
c. Explain Process Improvement Cycle (PDCA)
d. Give formal definition of Basis Path Testing. Explain this testing technique with help of an example.

2. Answer *any three* of the following: **15**
a. Explain the basic principles on which testing is based.
b. Define User Gap and Producer Gap. Explain how these gaps can be closed?
c. Explain generic quality management system structure for an organization.
d. Discuss VV Model briefly.
e. Explain the concept of Cost of Quality.
f. Discuss TQM Approach of Testing.

3. Answer *any three* of the following: **15**
a. Write a short note on Boundary Value Analysis.
b. Explain Decision Table testing with example.
c. Consider a program for the determination of the largest amongst three numbers. Its input is a triple of positive integers (say x, y and z) and values are from interval [1, 300]. Design the boundary values (robustness) test cases.
d. Compare and contrast Boundary Value Analysis and Equivalence Partitioning.
e. Write a short note on 'Requirement Traceability Matrix'.
f. A login process allows user ID and password to authorize users. From customer requirements user ID takes numbers and alphabets in lower case and can be 4 to 16 characters long. The password object takes alphabets in lower case from 4 to 8 characters long. Prepare test case titles/scenario using Equivalence Partitioning

4. Answer *any three* of the following: **15**
a. Explain Slice-Based Testing.
b. Write a short note on Path-Testing Coverage Metrics.
c. What is Data Flow Testing? Explain how to find DD-Path.
d. What is Cyclomatic Complexity? Discuss its significance.
e. Write a short note on System Testing.
f. Discuss the significance of stubs and drivers with help of example.

5. Answer *any three* of the following: **15**
a. Explain Call Graph Based Integration.
b. Give difference between Top down and Bottom Approach Integration
c. With an example explain MM-Path.
d. Explain Neighborhood Integration. Enumerate its pros and cons.

Contd.../-

e. Discuss the significance of Integration. Explain briefly various approaches to Integration Testing.
f. Explain Big Bang Integration. In what kind of projects is it advisable to use this technique?

6. Answer *any three* of the following: **15**
a. Write functional strategies for Thread Testing.
b. Which one is the better option (Method or Class) for selecting as a unit in Object-Oriented Testing for unit testing and why?
c. Write various steps for Object – Oriented System Testing.
d. Discuss challenges of Class Testing.
e. Explain control flow testing.
f. Explain State Transition Testing.

7. Answer *any three* of the following: **15**
a. Explain the template for "Test Planning".
b. What do you mean by Process Metrics? Define any two Process Metrics.
c. What do you mean by Quantitative data? Name various Non- Statistical tools and explain Multivoting (Pareto Voting).
d. Explain various levels of Test Process Maturity Model.
e. Give difference between Black Box and White Box Testing.
f. Write a short note on Code coverage Metric.

T.Y.B.Sc (I.T)
(Sem – V)
Advanced Java
April - 2015

(REVISED COURSE)

QP Code : 20960

(3 hours)

[Total Marks: 100

N. B.: (1) **All** questions are **compulsory**.
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(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Answer *any two* of the following: **10**

a. Explain Immediate and Deferred Evaluation of Expressions in Unified Expression Language.
b. What is JSF? Explain the benefits of Java Server Faces technology.
c. Explain structure and working of struts.xml file.
d. How we can use variables, literals and operators using Expression Language in JSP code? Explain it with sample code snippets.

2. Answer *any three* of the following: **15**

a. Differentiate between Heavyweight and Lightweight Components
b. Explain JInternalFrame with its constructors.
c. Explain JTable in swing with the steps of creating a Table.
d. What is Menu Bar? Explain the components used for creation of Menu Bar. Give simple swing Menu Bar example.
e. Explain in detail the Swing Components and the Containment Hierarchy.
f. Explain ActionEvent class with an example.

3. Answer *any three* of the following: **15**

a. What is Servlet? What are the benefits of Servlets? Explain the working of Servlets with help of suitable diagram.
b. Explain the GenericServlet with its constructors and Methods.
c. Write short note on ServletConfig explaining its methods and constructors.
d. What is Deployment Descriptor and Context Path? Explain.
e. Create a Servlet Application for shopping cart. Make suitable assumptions and state the assumptions made.
f. Explain any three classes and/or interfaces from Servlet API with their constructors and methods.

4. Answer *any three* of the following: **15**

a. What is JDBC? Explain the architecture of JDBC in detail.
b. What are scrollable Resultset in JDBC?
c. Write short note on JDBC Transactions.
d. Differentiate between JSP and Servlet.
e. Write short note on Exception object used in JSP.
f. What are directives in JSP? Explain its types.

5. Answer *any three* of the following: **15**

a. Explain the model view controller architecture.
b. Explain in details phases of JSF Life cycle.
c. Explain the use and structure of faces-config.xml file.
d. What is EJB? Explain the components of Enterprise bean architecture.
e. Explain Packaging of Enterprise Beans.
f. Explain message driven beans in detail.

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6. **Answer *any three* of the following:** 15

a. What is Hibernate? Explain the features of Hibernate.

b. What are POJO in hibernate?

c. Create a Hibernate Application to demonstrate fetching records from the database.

d. Explain in detail the core components of Struts framework.

e. Write a short on Interceptors in struts.

f. Create Simple Struts File Upload application.

7. **Answer *any three* of the following:** 15

a. Explain in detail components of JAVA Mail API.

b. What is JNDI? What is JNDI lookup?

c. Write a short note on simple object access protocol.

d. Write short note on Resource Injection and its types.

e. Explain how to create Web Services with JAX-WS.

f. Write short note on Resource Injection and its types.

XE-Con. 5814-15.

T.Y.B.Sc (I.T) (Sem – V)
Linux Administration
April - 2015

(REVISED COURSE)

QP Code : 20964

(3 hours)

Total Marks: 100

N. B.: (1) **All** questions are **compulsory**.
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(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Answer *any two* of the following: **10**

a. Explain with example how multiple users' password can be changed in a single operation.
b. Explain different types of servers used in DNS.
c. Explain different secure and less secure services.
d. Explain RAID in detail with its advantages and disadvantages.

2. Answer *any three* of the following: **15**

a. Explain Virtual File System (VFS) in brief.
b. Explain GRUB and LILO Boot Loaders.
c. Explain different init Levels and state how the init level can be changed with the help of inittab file.
d. How a particular user account is handled by an administrator if the account holder has left the company?
e. Explain steps of Installing and Configuring Application Software.
f. Explain Features of Linux in detail with different Linux Distributions.

3. Answer *any three* of the following: **15**

a. What is an IP address?. What are different classes of IP Address?
b. How to work with Gateways and Routers?
c. Describe syslog.conf file in details
d. What are the advantages and disadvantages of NFS? Explain in detail.
e. Write System Environmental setting files
f. What is corn? How corn files are taking care of system task explain

4. Answer *any three* of the following: **15**

a. Explain use of samba server in detail, how to enable & disable samba services.
b. Explain how to configure xinted services.
c. Explain use of ssh, scp, sftp, talk, finger services.
d. Explain how to configure Time server.
e. Explain how Linux files can be shared on windows machine. Explain steps of samba client.
f. Explain Configuring Linux Firewall packages.

5. Answer *any three* of the following: **15**

a. Explain forward zone and reverse zone of DNS.
b. Write in detail the protocols used for E-mail system.
c. Explain different types of Servers used in DNS. State which are different files are used by these Servers.
d. What is the use of DNS? Explain three types of DNS servers.
e. Explain the use of FTP server. Explain the steps for vsftpd configuration.
f. Explain the configuration of Postfix mail server.

6. **Answer *any three* of the following:** 15

a. Explain Apache web server with its Features.
b. Explain steps of Configuring Apache for SSI and testing the configuration.
c. What is RSS feed? How is it configured? Explain.
d. Explain ht://Dig in detail.
e. Explain how Apache transmits a document according to a client's request with diagram.
f. Explain Mailing Lists.

7. **Answer *any three* of the following:** 15

a. Explain steps of Optimizing WEB Services.
b. What is the use of up2date agent?
c. What are the advantages of shadow password over traditional password system?
d. Write a short note on upgrading and customizing kernel.
e. What are the general RPM command line options? Explain.
f. Write the command to change the user's login shell. Explain with suitable example.
