II Semester M.Sc. (I.T.) Examination, June/July 2010
SOFTWARE QUALITY AND TESTING
(Freshers)

Time : 3 Hours Max. Marks : 75

Instruction : *Answer **all** questions in Part – **A** and answer **any five** questions in Part – **B**.*

PART – A

(10×2+5×1=25)

1. Define SQA.
2. State the SQA objectives.
3. What are the key elements for six sigma ?
4. Explain TQM.
5. What are pattern matrices in OOAD ?
6. Why are Embedded Software's known as Embedded Disasters ?
7. What are software reliability metrices ?
8. List the stages of STLC.
9. What is installation testing ?
10. What is unit testing ?
11. Expand the following :
    1) CMM
    2) KPA
    3) DFSS
    4) MIPS
    5) KLOC.

P.T.O.

PART – B

Answer **any five** : **(5×10=50)**

1. Explain SQA concepts, objectives and principles.

2. What is Cyclomatic Complexity ? Explain software complexity metrices.

3. Explain verification, validation and certification techniques.

4. Explain Software Testing Life Cycle.

5. What is system testing ? Explain the types of system testing.

6. What is regression testing ? Explain the process.

7. What is load testing ? What are the skills required to do load testing ? Give its check list also.

8. How would you test WEB applications and web services ?

II Semester M.Sc. (I.T.) Examination, June/July 2010
ADVANCED COMMUNICATION NETWORKS

Time : 3 Hours Max. Marks : 75

PART – A

1. Explain Simplex and Duplex Communication. **(10×2+5×1=25)**

2. What is Analog Transmission ?

3. Explain Synchronous TDM ?

4. What is Multiplexing ? List the different types of multiplexing.

5. Which is the most commonly used analog modulation technique ?

6. Explain optical networks architecture.

7. List out the advantages and disadvantages of using IR in wireless communication.

8. What are the basic features of GMPLS ?

9. What are photonic devices ?

10. Explain SNMP operations.

11. Expand the following.

    a) TDM

    b) PCM

    c) CDPD

    d) MDBS

    e) MSC

P.T.O.

PART – B

Answer **any five** of the following : **(5×10=50)**

1. What is multiplexing ? Explain its various kinds ?

2. Write a short note on various generations of wireless networks ?

3. Write a note on OAN ?

4. What are access networks ? Explain the various types of access networks with the help of diagrams ?

5. What are the main ingredients of network management ?

6. Explain the MPLS architecture with the help of a diagram ?

7. Explain the functioning of metropolitan networks.

8. Explain the control plane integration approach ?

II Semester M.Sc. (I.T.) Examination, June/July 2010
OOAD AND UML (Freshers)

Time : 3 Hours Max. Marks : 75

Instruction *: Answer* ***all*** *questions from Part* ***A****, and answer* ***any five*** *questions from Part* ***B****.*

PART – A

(10×2+5×1=25)

1. What is an Object ?
2. Explain Aggregation.
3. Define OOD.
4. What is encapsulation ?
5. What are the benefits of using UML Sequence Diagrams ?
6. What is CRC model ?
7. Explain Overriding.
8. What is Collaboration ?
9. Mention different relationship between use cases.
10. Define the term stereotype.
11. Explain the following :
    a) Modularity
    b) Association
    c) Class
    d) Attribute
    e) OOA.

P.T.O.

PART – B

Answer **any five** : **(5×10=50)**

1. Explain the architecture of UML.
2. Write the different kinds of relationships between objects.
3. What do you understand by the representational notations of class, object ?
4. Explain the benefits of using UML sequence diagrams.
5. Explain stereotypes with an example.
6. What are implementation diagrams ? Explain briefly.
7. Define the term CRC. What do you understand by CRC Modelling ?
8. Explain briefly Static view diagrams (Structural diagrams).

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II Semester M.Sc. (I.T.) Examination, June/July 2010
ADVANCED JAVA

Time : 3 Hours Max. Marks : 75

PART – A

Answer **all** questions : **(12×2+1×1=25)**

1. What is platform independent ?
2. How do you compile and run java program ?
3. How do you inherit features of two classes in java ?
4. What is API writer ?
5. What is Memory consistency ?
6. Write thread life cycle.
7. How do use timer ?
8. What is thread interface ?
9. How do you connect database in java ?
10. What is model view Controller paradigm ?
11. What is advantage of EJB ?
12. What is ORB ?
13. What is digital signature ?

P.T.O.

PART – B

Answer **any five** questions : **(5×10=50)**

1. a) Write the features of JAVA.
   b) Write short note on API Template.

2. Write a JAVA applet to demonstrate paint utility.

3. Explain the multithreading features of JAVA.

4. Write short note on following :
   a) Thread interface
   b) Memory consistency errors.

5. Explain embedding tomcat into JAVA applications.

6. a) How do you install JAVA into Linux ?
   b) Write difference between servlets and CGI.

7. Explain enterprise JAVA beans and session beans.

8. Explain the security issues in JAVA.

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II Semester M.Sc. (I.T.) Examination, June/July 2010
SOFTWARE ARCHITECTURE

Time : 3 Hours Max. Marks : 75

Instruction : *Answer **all** questions from Part – **A** and answer **any five** questions from Part – **B.***

PART – A

1. What is software methodology ? **(10×2+5×1=25)**
2. What is system context ?
3. What are the relevant views ?
4. What are the tasks and activities of design ?
5. What is software crisis ?
6. What is combine views ?
7. What are nonfunctional performance models ?
8. What are Rigidity and Fragility ?
9. What is singleton design pattern ?
10. List **any four** rules of thumb.
11. Write brief note on the following :
    a) TSM
    b) BPR
    c) TSM
    d) EJBs
    e) COM

P.T.O.

PART – B

Answer **any five** : **(5×10=50)**

1. Explain the types of software architecture.

2. Explain how software architecture differs from software design methodologies as object orientation.

3. What are views ? Explain how you would choose a relevant view.

4. What are the types of software models ? Explain each one in details.

5. What are the obstacles to achieve high level architectural design in software development ?

6. Explain the architecture design process in detail.

7. Explain the database design model and data distribution diagram.

8. Explain the uses of architectural documentation.

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II Semester M.Sc. (I.T.) Examination, June/July 2010
ADVANCED NETWORKS

Time : 3 Hours Max. Marks : 75

Instruction : *Answer **all** questions from Part – **A** and answer **any five** questions from Part – **B**.*

PART – A

(12×2+1×1=25)

1. What are the important applications of networking ?
2. Differentiate between serial and parallel transmission.
3. What are Search Engines ?
4. Give the advantages and disadvantages of twisted pair cable.
5. What is Ethernet ?
6. What is FDDI ?
7. List out the limitations of traditional communications networks.
8. Explain the feature : Dual Porting.
9. What is Bluetooth ?
10. Write a note on WAP browsers.
11. What are the major benefits of WLAN ?
12. Discuss the technologies that WLAN can operate on.
13. TCP/IP stands for

PART – B

Answer **any five** : **(5×10=50)**

1. What is synchronous and asynchronous transmission ? Discuss them in detail.

2. Explain :

   a) DNS and

   b) HTML.

3. Discuss any 2 network topology in details.

4. Explain the concept of circuit and packet switching.

5. Explain ARCNET LAN and IBM Token Ring.

6. What is ISDN ? Explain the factors responsible for the development of ISDN.

7. What is SAN ? What are its benefits ?

8. Write a note on the connection establishment and security aspects in Bluetooth.

II Semester M.Sc. (I.T.) Examination, June/July 2010
SOFTWARE QUALITY AND TESTING

Time : 3 Hours Max. Marks : 75

Instructions: *1) Answer **all** question in Part – **A**.*
*2) Answer **any five** questions in Part – **B**.*

PART – A **(10×2+5×1=25)**

1. What is software testing ? Why testing is required ?
2. What is software reliability ?
3. Explain Code walkthrough.
4. What is software Quality Assurance ?
5. Explain graph matrices.
6. What is Black box testing ? Mention different types of black box testing.
7. What is the need of GUI Testing ?
8. What is regression testing ?
9. What is critical module ?
10. What is the difference between unit testing and integration testing ?
11. Explain the following :
    a) Bug
    b) Verification
    c) Quality control
    d) Conditional Testing
    e) Test cases.

P.T.O.

Answer **any five**: **(5×10=50)**

1. Explain Different approaches to Testing and importance of Testing.
2. Explain Defect Amplification and Removal with neat diagram.
3. Explain Statistical Quality Assurance.
4. Explain software testing strategy.
5. Explain different types of common errors.
6. Explain data flow testing and loop testing with an example.
7. Explain Integration Testing.
8. Explain Validation Testing.

II Semester M.Sc. (I.T.) Examination, June/July 2010
OOAD AND UML

Time : 3 Hours Max. Marks : 75

Instruction *: Answer* ***all*** *questions from Part –* ***A****, and answer* ***any five*** *questions from Part –* ***B****.*

PART – A

(12×2+1×1=25)

1. What is an Abstract class ?
2. Why is persistence important ?
3. What are attributes and give examples ?
4. List out the various activities in Object-oriented system development.
5. How is UML open-ended ?
6. Define an Interface.
7. What is a message ?
8. How is multiplicity indicated in an attribute ?
9. What are stereotypes ?
10. Discuss the characteristics of a good process model.
11. What are the goals of UML ?
12. What is RUP ?
13. _____ and _____ are implementation diagrams.

P.T.O.

PART – B

Answer **any five** questions : **(5×10=50)**

1. a) Compare and contrast Overriding with Overloading.

   b) What is OOAD ? Explain.

2. What is software ? What are the pitfalls of top-down design ? Explain.

3. Explain the different kinds of relationships among objects.

4. Explain :

   a) CRC index card

   b) Best practices of software engineering

5. Define a model and explain modeling.

6. With a neat example, explain class and its components.

7. Explain the architecture of UML.

8. What is a Sequence Diagram ? Explain with an example.

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