(DMSIT 21)

M.Sc.(Final) DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Second Year)

INFORMATION TECHNOLOGY

Paper – I : Software Engineering

Time : 3 Hours **Maximum Marks: 75**

SECTION-A *(3 × 15 = 45)*

Answer Any Three questions

1) Explain the following:

a) CMMI b) RAD model

2) Elaborate different requirement engineering tasks.

3) Discuss about class-based modeling of analysis model.

4) Explain Block-box testing technique in detail.

5) What is software quality? Discuss about different quality factor.

SECTION-B *(5 × 5 = 25)*

Answer Any Five questions

6) Discuss on various types of software myths and the true aspects of these myths.

7) What is meant by unified process? Write about unified process work products.

8) Describe the core principles of software engineering practices.

9) Explain in detail the Hartley-Pirbhai modeling.

10) Discuss about data modeling concepts of analysis model.

11) Write about pattern-based software design.

12) Describe the unit testing strategy for convensional software.

13) Explain the CK metric suite for the design model.

SECTION-C

(5 × 1 = 5)

Answer ALL questions

14) What is legacy software?

15) What is validation?

16) What are analysis rules of thumb?

17) What is recovery testing?

18) What is the use of UML diagrams?

(DMSIT 22)

M.Sc. (Final) DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Second Year)

INFORMATION TECHNOLOGY

Paper – II : Programming With C++

Time : 3 Hours **Maximum Marks: 75**

SECTION-A *(3 × 15 = 45)*

Answer Any Three questions

1) Explain in detail control structures with suitable program.

2) Write a program in C++ for addition & multiplication of two matrices.

3) Explain in detail overloading constructors. Write a program with multiple constructors for the single class.

4) Explain about Exception handling in detail with example.

5) Generate STL programming model with types in detail.

SECTION-B *(5 × 5 = 25)*

Answer Any Five questions

6) Explain the key concepts of OOPs.

7) What is the use of getline( ) function? Which two arguments does it require?

8) What are the Recursive Constructors? Write a program to call constructor recursively.

9) Write a program to Create dynamically an array of objects of class 'type'. Use 'new' operator.

10) What are abstract classes? Explain.

11) Explain bubble sort using function template.

12) Write a program to pass the value of variable by value, reference & address & display the result.

13) What are containers? Give the types with heat program.

SECTION-C

(5 × 1 = 5)

Answer all questions

14) Define string & array.

15) What is local class.

16) Define L value & R value.

17) What is scope access operator?

18) What is constant pointers?

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M.Sc. (Final) DEGREE EXAMINATION, DECEMBER – 2015

Second Year

INFORMATION TECHNOLOGY

Paper – III : TCP / IP

Time : 3 Hours **Maximum Marks: 75**

SECTION-A

(3 × 15 = 45)

Answer Any Three Questions

1) Explain about TCP/IP protocol suite with neat diagram.

2) Explain about IP protocol in detail.

3) Explain about TCP in detail.

4) Discuss unicast routing protocols in detail.

5) Explain client-serves model in detail.

SECTION-B

(5 × 5 = 25)

Answer Any Five questions

6) Explain about internetworking.

7) Write a short notes on classless & classful addressing.

8) Write about ARP protocol.

9) Discuss about datagram delivery in IP.

10) Write a short notes on multicast routing protocols.

11) Discuss about socket interface.

12) Write about TCP/IP over ATM networks.

13) Write a short notes on mobile IP.

SECTION-C

(5 × 1 = 5)

Answer all questions

14) What is internet?

15) Define socket?

16) What is routing?

17) Define protocol.

18) What is packet?

(DMSIT 24)

M.Sc. (Final) DEGREE EXAMINATION, DECEMBER - 2015

Second Year

INFORMATION TECHNOLOGY

Paper – IV : Data Mining and Techniques

Time : 03 Hours **Maximum Marks : 75**

SECTION - A

Answer any THREE of the following ***(3 × 15 = 45)***

1) What are the major issues in Data Mining task? Explain in brief.

2) Explain Apriori algorithm for association rule mining.

3) Explain classification and Regression Trees.

4) Explain Data Reduction using factor analysis and principle components analysis.

5) Explain Hierarchy of Measurements.

SECTION - B

Answer any FIVE of the following ***(5 × 5 = 25)***

6) Explain two methods for computing similarity or distance.

7) Explain MLP for Regression and classification.

8) Explain Back propagation data mining algorithm.

9) Explain K-means algorithm.

10) Explain CART algorithm.

11) What are special-purpose algorithms for Disk Access?

12) State the different patterns for strings.

13) Explain Modeling fundamentals.

SECTION - C

Answer ALL questions ***(5 × 1 = 5)***

14) Web Mining.

15) Decision tree.

16) Meta data.

17) Optimization.

18) Distance Metrics.

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M.Sc. (Final) DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Second Year)

INFORMATION TECHNOLOGY

Paper –V : Cryptography & Network Security

Time : 3 Hours **Maximum Marks: 75**

SECTION-A *(3 × 15 = 45)*

Answer Any Three questions

1) Discuss the motivation for the Feistal block cipher structure and also describe some of its implications.

2) Describe the AES key expansion algorithm.

3) Overview the use of random numbers in network security and explain various approaches to generate random numbers.

4) Explain RSA algorithm and give an illustrative example.

5) Discuss about different intrusion detection approaches.

SECTION-B *(5 × 5 = 25)*

Answer Any Five questions

6) Explain the playfair cipher with an example.

7) Describe the purpose of the S-boxes in DES algorithm.

8) Determine the multiplicative inverse of $x^3 + x + 1$ in GF (2^4) with $m(x) = x^4 + x + 1$.

9) Write about AES evaluation.

10) Briefly explain the output feedback mode of operation.

11) Write about public-key cryptography authentication and secrecy.

12) Describe the digital signature algorithms.

13) Explain the Trojan Horse defense system.

SECTION-C

(5 × 1 = 5)

Answer ALL questions

14) What is one-time pad?

15) What is key agility?

16) What is Euler's totient function?

17) What is digital signature?

18) What is suppress-replay attack?

(DMSIT 26)

M.Sc. (Final) DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Second Year)

INFORMATION TECHNOLOGY

Paper – VI : Artificial Intelligence

Time : 3 Hours **Maximum Marks: 75**

SECTION-A *(3 × 15 = 45)*

Answer Any Three of the following

1) a) What is AI technique?

b) What are problem characteristics? Explain step by step.

2) Explain Heuristic search techniques in detail.

3) Explain Bayesian method of Reasoning?

4) Describe various parsing techniques with example.

5) What are the components of knowledge Based system? Explain in detail about each component.

SECTION-B *(5 × 5 = 25)*

Answer Any Five of the following

6) What are the categories of production system?

7) Explain Means-Ends Analysis.

8) Explain Unification Algorithm.

9) Differentiate Procedural and Declarative knowledge.

10) Write a note on Inheritable knowledge.

11) Discuss about Conflict Resolution.

12) Explain the concept of script .

13) What is knowledge acquisition?

SECTION-C

(5 × 1 = 5)

Answer ALL of the following questions

14) What is the criteria for success?

15) What is role of knowledge?

16) What is conceptual dependency?

17) Define frame.

18) What is an expert system.