

**(DMSIT21)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**

**Second Year**  
**INFORMATION TECHNOLOGY**  
**Software Engineering**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)* Explain Waterfall and Concurrent development process models.
- Q2)* Discuss about the eliciting requirements of requirements engineering.
- Q3)* Explain the design concepts of software engineering.
- Q4)* Explain White-box testing techniques in detail.
- Q5)* Explain CK metrics suite and Component-level design metrics for design model.
- Q6)* Discuss about different software myths and their corresponding realities.
- Q7)* What are software engineering layers?
- Q8)* Write the use-case template for surveillance of safe home system.
- Q9)* What are SQA activities?

**(DMSIT21)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**

**Second Year**  
**INFORMATION TECHNOLOGY**

**Software Engineering**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

*Q1)* Explain verification and validation.

*Q2)* What are size-oriented metrics? Explain.

*Q3)* Explain Basis-path testing.

*Q4)* What are ISO 9126 quality factors?

*Q5)* What is Refactoring?

*Q6)* What is cohesion?

*Q7)* What is legacy software?

*Q8)* Define Metric.

*Q9)* Define Software Engineering.



**(DMSIT22)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**

**INFORMATION TECHNOLOGY**

**Programming with C++**

**MAXIMUM MARKS:30**

**Answer ALL Questions**

- Q1)** Explain control structures in detail.
- Q2)** Explain any 5 string functions in C++.
- Q3)** Define pointer? Explain '*this*' pointer.
- Q4)** Explain Multiple-inheritance? Write a program to implement it.
- Q5)** Explain in detail the exception handling mechanism in C++.
- Q6)** Explain namespaces.
- Q7)** Explain inline functions and also state their limitations.
- Q8)** Differentiate between a pointer and a reference variable.
- Q9)** Define new and delete operators. State the advantages of new over malloc().

**(DMSIT22)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**Programming with C++**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* Explain the 3 access specifiers.
- Q2)* What is a container class? Explain.
- Q3)* Explain catch(...) statement.
- Q4)* What is an pure virtual function? State its purpose.
- Q5)* Late binding.
- Q6)* Data encapsulation.
- Q7)* Friend function.
- Q8)* Destructor.
- Q9)* Abstract class.



**(DMSIT23)**

**ASSIGNMENT-1**  
**M.Sc. (Final) DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**(Paper – III): TCP/IP**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* Differentiate between the OSI reference model and TCP/IP reference model with neat diagram.
- Q2)* Explain in detail the routing protocol.
- Q3)* Explain in detail UDP and TCP protocols.
- Q4)* Explain in detail network technologies.
- Q5)* Explain about routing protocol in detail.
- Q6)* Describe the client-server model.
- Q7)* Discuss about Internet Control Message Protocol.
- Q8)* Write about DHCP.
- Q9)* Explain about RARP.

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**ASSIGNMENT-2**  
**M.Sc. (Final) DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**(Paper – III): TCP/IP**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* Write about congestion control.
- Q2)* What are the characteristics of mobile IP.
- Q3)* Write down the difference between classfull and classless addressing.
- Q4)* Write a short note on error and control message.
- Q5)* What is internet?
- Q6)* Write about Socket Interface.
- Q7)* What is datagram?
- Q8)* Define IP.
- Q9)* What is a protocol?



**(DMSIT24)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**

**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**Data Mining and Techniques**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* What is scaling? Explain multi-dimensional scaling factors.
- Q2)* Explain vector-space algorithms for Text-retrieval.
- Q3)* Explain Naïve Bayes theorem.
- Q4)* What are scoring patterns for datamining algorithms? Explain Score functions and descriptive models.
- Q5)* Explain Tree model in detail.
- Q6)* Explain data mining tasks.
- Q7)* Explain Apriori algorithm for association rule mining.
- Q8)* Explain about tree classifiers.
- Q9)* Explain about EM algorithm.

**(DMSIT24)**

**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**Data Mining and Techniques**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* What is cluster analysis? Give an example.
- Q2)* Briefly explain un-supervised learning.
- Q3)* Explain basic algorithm for parameter based clustering.
- Q4)* What is a multivariate parameter optimization.
- Q5)* What is perception?
- Q6)* Explain generalization.
- Q7)* Write about Classification.
- Q8)* What is score function?
- Q9)* What are Index structures?





**(DMSIT25)**

**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**Cryptography and Network Security**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* Discuss the different types of attacks elaborately.
- Q2)* Explain DES algorithm.
- Q3)* Explain in detail about public-key cryptography and its uses.
- Q4)* What is a Message Digest? Explain MD5 algorithm.
- Q5)* What is a Firewall? How does it ensure security?
- Q6)* Explain about key expansion schedule of AES.
- Q7)* Write a short note on Transposition techniques.
- Q8)* Explain RSA algorithm.
- Q9)* Explain Diffie-Hellman key exchange algorithm.

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**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, DEC. – 2017**  
**(Second Year)**  
**INFORMATION TECHNOLOGY**  
**Cryptography and Network Security**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* Write a few words about Linear and differential cryptanalysis.
- Q2)* Briefly describe Fermat's Theorem.
- Q3)* Explain CFB and CTR block cipher modes of operations.
- Q4)* Briefly explain the DSS algorithm.
- Q5)* Define honey pot.
- Q6)* What are security services?
- Q7)* What is a hash function?
- Q8)* What is user authentication?
- Q9)* State the 3 objectives of security.



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**ASSIGNMENT-1**  
**M.Sc. DEGREE EXAMINATION, DECEMBER – 2017**

**Second Year**  
**INFORMATION TECHNOLOGY**  
**Artificial Intelligence**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* What are problem characteristics? Discuss with examples.
- Q2)* Discuss about various approaches to knowledge representation.
- Q3)* Explain A\* and AO\* algorithms.
- Q4)* Explain the steepest hill climbing algorithm.
- Q5)* Discuss about commonsense ontologies.
- Q6)* Explain the concept of question answering.
- Q7)* Explain default reasoning approaches.
- Q8)* Derive production rules of water jug problem.
- Q9)* Explain control knowledge.

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**ASSIGNMENT-2**  
**M.Sc. DEGREE EXAMINATION, DECEMBER – 2017**

**Second Year**  
**INFORMATION TECHNOLOGY**  
**Artificial Intelligence**

**MAXIMUM MARKS: 30**

**Answer ALL Questions**

- Q1)* Explain Crypt-arithmetic problem.
- Q2)* Write a short note on Dempster-Shafer Theory.
- Q3)* Explain about semantic analysis.
- Q4)* Write a short note on heuristic search technique.
- Q5)* What is AI?
- Q6)* Define an Expert System.
- Q7)* What is natural deduction?
- Q8)* What is conflict resolution?
- Q9)* Define abduction.

