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Reg. No. : .....

Name : .....

**Second Semester M.Sc. Degree Examination, September 2022**

**Computer Science**

**CS 523 — SOFTWARE ENGINEERING**

**(2021 Admission)**

Time : 3 Hours

Max Marks : 75

**SECTION – A**

Answer **all** questions. Each question carries 3 marks

1. What is Prototyping model? Mention and explain the four types of prototyping models.
2. Write any six differences between Waterfall model and Incremental model
3. Explain the different types of cohesion.
4. Compare structured analysis with object-oriented analysis.
5. What do you mean by object state, object property and object behaviour?
6. Present a comparison note on agile methodology with traditional software development.
7. Write the notes on Inspection and Walkthrough.
8. Explain the objectives and techniques of unit testing.
9. Why we need Continuous integration? How does Continuous integration work?

**(9 × 3 = 27 Marks)**

P.T.O



## SECTION – B

Answer **one** questions from **each** Module. Each question carries **8** marks.

### Module – I

10. Identify and explain the activities in V model of software engineering.

OR

11. Outline the Staffing and personal planning team structure in software development.

### Module – II

12. How to develop a DFD model of a system

OR

13. a. Describe user interface design process

4

b. Mention the characteristics of good user interface in software engineering. 4

### Module – III

14. Discuss the importance of usecase diagram with its basic building blocks.

OR

15. Deliberate the approaches for developing dynamic systems.

### Module – IV

16. What's an anti-pattern? Discuss the six most common types of anti-patterns and their solution in software development.

OR

17. Discuss structural design patterns in detail.



### Module – V

18. Outline the black-box testing techniques.

OR

19. Illustrate

(a) Control flow testing. 4

(b) Data flow testing 4

### Module – VI

20. Explain

(a) Continuous delivery Vs continuous integration. 4

(b) Describe the principles of software delivery. 4

OR

21. What is SCM? What are the processes involved with SCM?

(6 × 8 = 48 Marks)

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**Second Semester M.Sc. Degree Examination, September 2022**

**Computer Science**

**CS 524 B : CLOUD COMPUTING TECHNOLOGIES**

**(2021 Admission)**

Time : 3 hours

Max. Marks : 75

PART – A

Answer **all** questions. Each question carries **3** marks.

1. What are the differences between public and private clouds?
2. What are the Functional Cloud Federation Properties?
3. List down the benefits of a cloud ecosystem.
4. What is enterprise storage?
5. What is distributed cloud storage?
6. Explain about INaaS.
7. What is the purpose of nimbus in cloud?
8. What is SOA communication?
9. List some Future trends of cloud computing.

**(9 × 3 = 27 Marks)**

P.T.O.



PART – B

Answer **any one** questions from **each** Module. Each question carries **8** marks.

**Module – I**

10. Explain in detail the 3 types of cloud deployment models.

OR

11. Describe briefly the requirements for building a cloud infrastructure.

**Module – II**

12. Why is cloud governance important? How to implement cloud governance?

OR

13. Explain the different types of Virtualizations in cloud computing.

**Module – III**

14. Briefly explain the different types of storage Virtualization.

OR

15. Explain in detail about Grid Orient Storage (GOS).

**Module – IV**

16. Explain in detail about DaaS.

OR

17. What are the security challenges of cloud computing?



**Module – V**

5. Which are the Fundamental Microsoft Cloud Services?

OR

19. Briefly explain about EUCALYPTUS.

**Module – VI**

20. What are the database services offered by Amazon?

OR

21. Explain about cloud automation.

**(6 × 8 = 48 Marks)**

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**Second Semester M.Sc. Degree Examination, September 2022**

**Computer Science**

**CS 524 A – COMPUTER FORENSICS AND CYBER LAWS**

**(2021 Admission)**

Time : 3 Hours

Max. Marks : 75

PART – A

Answer **all** questions. Each carries **3** marks.

1. What are the uses of computer forensics in law enforcement?
2. How can we preserve the digital evidence?
3. Write short note on computer forensics software tools.
4. What is forensic ballistics?
5. Give details about the scope of Cyber Crime
6. What are called viruses?
7. Write short note on "E-mail investigation"
8. What are the necessity of IT Act?
9. Give details about E-governance.

**(9 × 3 = 27 Marks)**

P.T.O.



PART – B

Answer **any one** question from each module. Each carries **8** marks.

**Module – I**

10. Explain the different types of Computer Forensics Systems.

OR

11. What are the requirements for forensic lab certification? Explain with examples.

**Module – II**

12. How do we recognize the face? Explain with suitable example.

OR

13. Explain the different steps to be taken for audio video analysis.

**Module – III**

14. Explain the categories of Cyber Crime with suitable example.

OR

15. What is mean by White collar Crimes? Explain with suitable examples.

**Module – IV**

16. Explain in detail about the digital evidence collection.

OR

17. Explain about the password cracking with suitable examples.

**Module – V**

18. Explain the salient features of the IT ACT 2000.

OR

19. Explain the case laws on Cyber Space Jurisdiction.





**Module – VI**

20. Explain the concept of Patent Right.

OR

21. Explain the issues and provisions of E-commerce in Indian Law.

**(6 × 8 = 48 Marks)**

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**Second Semester M.Sc. Degree Examination, September 2022**

**Computer Science**

**CS 522 — COMPUTER NETWORKS AND SECURITY**

**(2021 Admission)**

Time : 3 Hours

Max. Marks : 75

**SECTION – A**

Attempt **all** questions. Each question carries **3** marks.

1. Compare any four physical topologies of networks.
2. Describe about radio transmission with its characteristics.
3. List and explain any four functions of Data Link Layer.
4. Explain about pure ALOHA.
5. What is steganography? Enumerate the five types of steganography.
6. Explain any six common Types of Networking Attacks.
7. What are the basic ingredients of public key cryptography?
8. Specify and explain the authentication functions.
9. What is Malware? Enumerate the types of Malwares and explain.

**(9 × 3 = 27 Marks)**

P.T.O.



SECTION – B

Answer **one** questions from each module. Each question carries **8** marks.

**Module – I**

10. Explain the following :

- (a) Periodic and Non-periodic Signals 3
- (b) Channel capacity 3
- (c) Repeaters, hubs and switches 2

OR

11. Analyse any two switching techniques.

**Module – II**

12. Elucidate on the layers of TCP/IP model and their responsibilities.

OR

13. Elaborately explain IPV4 and IPV6 addressing.

**Module – III**

- 14. (a) Describe classical symmetric cipher model. 4
- (b) Differentiate substitution cipher from transpositional ciphers. 4

OR

15. Analyse Advanced Encryption Standard in detail

**Module – IV**

16. Enumerate and explain the uses of public-key cryptography.

OR

17. Discuss the public key Cryptography technique of Diffie Heliman.



**Module – V**

18. (a) What is meant by Kerberos? 2  
(b) Mention the working and limitations of Kerberos Authentication. 6

OR

19. Organize detailed notes on  
(a) Steps in creating Digital signature. 4  
(b) Digital signature standards approach. 4

**Module – VI**

20. Elaborate on intrusion detection system.

OR

21. Discuss Firewalls with its classification.

**(6 × 8 = 48 Marks)**

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Second Semester M.Sc. Degree Examination, September 2022

Computer Science

CS 521 – DATABASE MANAGEMENT SYSTEM

(2021 Admission)

Time : 3 Hours

Max. Marks 75

SECTION – A

Answer **all** questions. **Each** question carries **3** marks.

1. What is Data abstraction? Describe the three levels of abstraction.
2. Mention the functions of data base administrator.
3. Write the usage and syntax of SELECT...WHERE and ALTER TABLE clause in SQL.
4. Explain the syntax of creating triggers.
5. Compare object-oriented database systems with object-relational database systems.
6. What kinds of data can be mined?
7. Organise data transformation strategies.
8. Define data cube. Determine a multidimensional -3D data cube representation of the data.
9. Define outlier. Explain outlier with an example.

(9 × 3 = 27 Marks)

P.T.O.



## SECTION – B

Answer **one** questions. from each module. Each question carries **8** marks.

### Module – I

- 10 (a) What is data model in DBMS? 2  
(b) Explain the four types of data model in DBMS. 6

OR

- 11 (a) What do you mean by relational integrity constraints? Clarify the three types. 5  
(b) Write notes on keys in relational model. 3

### Module – II

- 12 (a) Discuss the notations used to draw E-R diagram. 5  
(b) Draw sample ER diagram for student management system. 3

OR

- 13 (a) Write a pl/sql program to find factorial of a number. 4  
(b) Specify the steps in creating explicit cursors. 4

### Module – III

- 14 (a) List and explain any four limitations of relational model. 4  
(b) Write the differences between RDBMS and OODBMS. 4

OR

15. What is Object Definition Language? How to declare class and elements in ODL?

**Module – IV**

16. Originate any four data reduction methods.

OR

17. Intricate on major tasks involved with Data Pre-processing in data mining.

**Module – V**

18. What is rule based classification? Give elaborate note on rule based classification.

OR

19. Analyze OLAP operations with an example.

**Module – VI**

20. (a) Discuss about data mining softwares. 5

(b) Outline the three areas of web mining. 3

OR

21. (a) Analyse k-means Centroid-based partitioning. 5

(b) Differentiate spatial mining from temporal mining. 3

**(6 × 8 = 48 Marks)**

