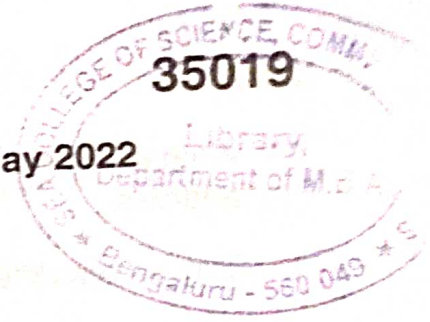




III Semester All P.G. Degree Examination, April/May 2022

(CBCS Scheme)  
**COMPUTER SCIENCE**  
Open Elective – Cyber Space



Time : 3 Hours

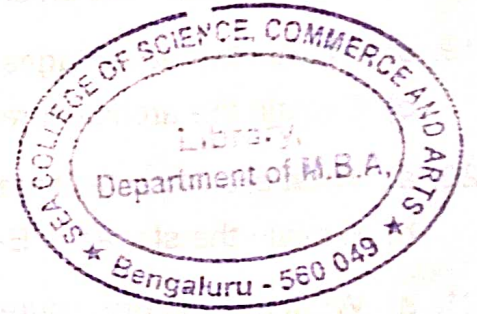
Max. Marks : 70

**Instruction:** Answer all questions in Part – A, any 4 in Part – B and any 3 in Part – C.

PART – A

Answer all questions, each question carries 2 marks. (10×2=20)

1. Write any two differences between Internet and Intranet.
2. Define URL.
3. Write any two uses of Twitter.
4. What is a protocol ? Expand HTTP.
5. Define EDI.
6. What are E-Markets ?
7. List any four popular E-Commerce websites.
8. Define E-Governance.
9. What is a Malware ?
10. Define Digital Signature.



PART – B

Answer any four questions, each question carries 5 marks. (4×5=20)

11. Briefly explain the structure of the HTML document.
12. Write a short notes on formatting tags in HTML.

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35019



13. What is an IP address ? Explain the difference between static and dynamic IP address.
14. Explain the difference between B2B and B2C business models.
15. Explain any four benefits of E-Governance.
16. Explain the different approaches to protect from cyber-attacks.

**PART – C**

Answer **any three** questions, **each** question carries **10** marks. **(3×10=30)**

17. a) Define WWW. Explain the role of a web server. 5  
b) What is TCP/IP ? Explain why TCP/IP is called language of Internet. 5
18. a) What is a search engine ? Explain the working of a search engine. 5  
b) Write a short note on social media platform Linked In. 5
19. a) Explain the advantages of using E-commerce. 5  
b) Explain the architecture frame work of E-commerce. 5
20. a) What are the salient features of Information Technology Act, 2000 ? 5  
b) Explain the stages of E-Governance in detail. 5
21. a) What are the procedure and powers of Cyber Appellate Tribunal ? 5  
b) Briefly explain the advantages and disadvantages of using social media. 5



12036

IV Semester M.Sc. Degree Examination, November 2023  
(CBCS Scheme) (Fresh + Repeater)  
COMPUTER SCIENCE  
MSC4E5 : DATA MINING

Time : 3 Hours

Max. Marks : 70

**Instruction:** Answer all the Sections.

## SECTION – A

I. Answer **any five** questions. **Each** question carries **6** marks.

(5×6=30)

1. Briefly explain the multi-dimensional data model.
2. Explain the process architecture of a data warehouse.
3. What is OLAP? Explain any two OLAP operations.
4. Briefly discuss the testing data warehouse.
5. Discuss the various data preprocessing tasks.
6. Briefly explain the data cube aggregation.
7. Briefly discuss mining class comparisons.
8. Write a note on Bayesian classification.

## SECTION – B

II. Answer **any four** questions. **Each** question carries **10** marks.

(4×10=40)

9. a) What is data processing? Discuss the different issues in data processing. 5
- b) Discuss the role of a concept hierarchy in data mining. 5
10. a) Write a note on MOLAP. 5
- b) Briefly explain the data mining interface. 5
11. a) What is data cleaning? Discuss the steps involved in data cleaning. 5
- b) Briefly explain data compression in data mining. 5
12. a) Explain multi-dimensional association rule mining with an example. 5
- b) Write a note on data generalization. 5
13. a) Briefly explain data types in cluster analysis. 5
- b) Write a note on OPTICS. 5
14. a) With a neat diagram explain the components of data warehouse. 5
- b) Write a note on Genetic algorithm. 5



**IV Semester M.Sc. Degree Examination, November 2023**  
**(CBCS Scheme) (Fresh + Repeater)**  
**COMPUTER SCIENCE**  
**MSC – 4E4 : CLOUD COMPUTING**

Time : 3 Hours

Max. Marks : 70

**Instruction: Answer all the Sections.**

**SECTION – A**

- I. Answer **any five** questions. **Each** question carries **6** marks. **(5×6=30)**
1. Explain cloud adoption in cloud computing.
  2. Write a note on dynamic infrastructure in cloud computing.
  3. Briefly discuss the cloud infrastructure self service.
  4. Write a note on virtual desktop infrastructure in cloud computing.
  5. What is cloud analytics? Write the benefits of cloud analytics.
  6. Briefly discuss the Hypervisor Management Software.
  7. Write a note on virtualized data center.
  8. Explain ISV benchmarks in cloud infrastructure.

**SECTION – B**

- II. Answer **any four** questions. **Each** question carries **10** marks. **(4×10=40)**
9. a) Write a note on business and IT perspective in cloud computing. 5  
b) Briefly discuss the security in public and private clouds. 5
  10. What is SQA? Explain in detail how it is used in cloud design and implementation.
  11. a) Write a note on computing on demand in cloud computing. 5  
b) What is cloud testing? Explain the advantages of cloud based testing. 5
  12. a) Write a note on logical partitioning in cloud computing. 5  
b) Write a note on storage area networks. 5
  13. a) Write a note on SQA based cloud infrastructure. 5  
b) Briefly explain cloud performance data collection. 5
  14. a) Write a note on information storage in cloud computing. 5  
b) Explain e-Business benchmark in cloud infrastructure. 5
-

IV Semester M.Sc. (CS) Degree Examination, Sept./Oct. 2022  
(CBCS Scheme)  
COMPUTER SCIENCE  
MSC 4E4 : Cloud Computing

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) Answer **any five** questions from Section – A.  
2) Answer **any four** questions from Section – B.

SECTION – A

Answer **any five** questions. **Each** question carries **six** marks.

(5×6=30)

1. What is cloud ? Enlist and explain essential characteristics of cloud computing.
2. Discuss the security in public clouds and private clouds.
3. Give a brief account of cloud service models.
4. Discuss the design and implementation of cloud using SOA.
5. Explain the life cycle of a cloud business process model.
6. How can an unauthorized access be detected with the help of virtualization techniques ?
7. Write a short note on Hypervisor management software.
8. In detail discuss about the OLTP Benchmark of cloud infrastructure.

SECTION – B

Answer **any four** questions. **Each** question carries **ten** marks.

(4×10=40)

9. Discuss the various challenges of cloud computing and suggest ways to handle those challenges.
10. What is cloud interoperability ? Discuss the need of interoperability in cloud environment.



11. Explain the concept of cloud infrastructure self-service with a case study.
12. Discuss cloud ecosystem along with suitable examples.
13. How is testing under cloud performed? Explain the same by taking services based models of cloud computing into consideration.
14. What is virtual infrastructure? Discuss the virtual infrastructure requirements. Explain the benefits of virtual infrastructure.



IV Semester M.Sc. Degree Examination, Sept./Oct. 2022

(CBCS Scheme)

COMPUTER SCIENCE

MSC401T : Research Methodology

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Answer **any five** questions from Section – A.

2) Answer **any four** questions from Section – B.

SECTION – A

Answer **any five** questions. **Each** question carries **six** marks.

(5×6=30)

1. Define research. Explain its significance in modern times.
2. Explain Ethics in Research.
3. What are probability distributions ? Explain Poisson distribution.
4. Explain Hypothesis testing, with suitable example for Null and Alternate Hypothesis.
5. List various graphical representations of data. Explain any two graphical representation of data with suitable illustrations.
6. Explain Computer and its role in Research.
7. Explain Neural Network based Optimization.
8. Discuss characteristics of a good Research Report.

SECTION – B

Answer **any four** questions. **Each** question carries **ten** marks.

(4×10=40)

9. With neat diagram explain various steps in Research Process.
10. Discuss various kinds of charts and diagrams used in data analysis with suitable examples.



11. Explain steps to use SPSS and elaborate the uses of SPSS in data analysis.

12. Compute correlation coefficient of X and Y for the following data.

X	10	20	30	40	50	60
Y	25	45	65	85	105	125

13. Explain Genetic Algorithm in detail.

14. Describe the mechanism of writing a research report and referencing.



IV Semester M.Sc. (CS) Degree Examination, Sept./Oct. 2022  
(CBCS Scheme)  
**COMPUTER SCIENCE**  
**MSC 4E4 : Cloud Computing**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Answer **any five** questions from Section – A.  
2) Answer **any four** questions from Section – B.

**SECTION – A**

Answer **any five** questions. **Each** question carries **six** marks.

**(5×6=30)**

1. What is cloud ? Enlist and explain essential characteristics of cloud computing.
2. Discuss the security in public clouds and private clouds.
3. Give a brief account of cloud service models.
4. Discuss the design and implementation of cloud using SOA.
5. Explain the life cycle of a cloud business process model.
6. How can an unauthorized access be detected with the help of virtualization techniques ?
7. Write a short note on Hypervisor management software.
8. In detail discuss about the OLTP Benchmark of cloud infrastructure.

**SECTION – B**

Answer **any four** questions. **Each** question carries **ten** marks.

**(4×10=40)**

9. Discuss the various challenges of cloud computing and suggest ways to handle those challenges.
10. What is cloud interoperability ? Discuss the need of interoperability in cloud environment.



11. Explain the concept of cloud infrastructure self-service with a case study.
12. Discuss cloud ecosystem along with suitable examples.
13. How is testing under cloud performed ? Explain the same by taking services based models of cloud computing into consideration.
14. What is virtual infrastructure ? Discuss the virtual infrastructure requirements. Explain the benefits of virtual infrastructure.

SECTION - A

Answer any five questions. Each question carries six marks.  
(5x6=30)

1. Explain the concept of cloud computing.
2. Discuss the security in public clouds and private clouds.
3. Give a brief account of cloud service models.
4. Discuss the design and implementation of cloud using SOA.
5. Explain the life cycle of a cloud business process model.
6. How can an unauthorized access be detected with the help of virtualization techniques ?
7. Write a short note on Hypervisor management software.
8. In detail discuss about the OLTP Benchmark of cloud infrastructure.

SECTION - B

Answer any four questions. Each question carries ten marks.  
(4x10=40)

9. Discuss the various challenges of cloud computing and suggest ways to handle those challenges.
10. What is cloud interoperability ? Discuss the need of interoperability in cloud environment.



12031

IV Semester M.Sc. Degree Examination, Sept./Oct. 2022

(CBCS Scheme)

COMPUTER SCIENCE

MSC401T : Research Methodology

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Answer **any five** questions from Section – A.

2) Answer **any four** questions from Section – B.

SECTION – A

Answer **any five** questions. **Each** question carries **six** marks.

(5×6=30)

1. Define research. Explain its significance in modern times.

2. Explain Ethics in Research.

3. What are probability distributions ? Explain Poisson distribution.

4. Explain Hypothesis testing, with suitable example for Null and Alternate Hypothesis.

5. List various graphical representations of data. Explain any two graphical representation of data with suitable illustrations.

6. Explain Computer and its role in Research.

7. Explain Neural Network based Optimization.

8. Discuss characteristics of a good Research Report.

SECTION – B

Answer **any four** questions. **Each** question carries **ten** marks.

(4×10=40)

9. With neat diagram explain various steps in Research Process.

10. Discuss various kinds of charts and diagrams used in data analysis with suitable examples.

P.T.O.





11. Explain steps to use SPSS and elaborate the uses of SPSS in data analysis.

12. Compute correlation coefficient of X and Y for the following data.

X	10	20	30	40	50	60
Y	25	45	65	85	105	125

13. Explain Genetic Algorithm in detail.

14. Describe the mechanism of writing a research report and referencing.

**Fourth Semester M.Sc. Degree Examination, October 2021***(CBCS Scheme)***Computer Science****Paper MSC401T – RESEARCH METHODOLOGY***Time : 3 Hours]**[Max. Marks : 70*

*Instructions to Candidates : Answer any **FIVE** questions from Section A and any **FOUR** from Section B.*

**SECTION – A**

Answer any **FIVE** questions. Each question carries **6** marks : **(5 × 6 = 30)**

1. Write a short note on the criteria of good research.
2. Explain Time Series analysis.
3. What is probability distribution? Explain with an example.
4. Discuss the various forms of quantitative tools of statistical analysis.
5. What is a hypothesis? What are its characteristics?
6. Explain the role of computers in research.
7. What are the components of research report? Explain.
8. With suitable example, explain the various types of report.

**SECTION – B**

Answer any **FOUR** questions. Each question carries **10** marks : **(4 × 10 = 40)**

9. Explain the mechanism of writing a research report.
10. Explain the use of statistical software SPSS research.
1. What are the fundamentals of Genetic Algorithms? Explain.

**12031**

12. (a) What are the different Multivariate methods? Write its significance in Research. (7)
- (b) Write the applications of spectral analysis. (3)
13. What are the different types of Correlational Research?
14. Briefly mention the important sample designs.
-



**Fourth Semester M.Sc. (CS) Degree Examination, October 2021***(CBCS Scheme)***Computer Science****Paper 4E4 – CLOUD COMPUTING**

Time : 3 Hours]

[Max. Marks : 70

**Instructions :**

- (1) Answer any **FIVE** questions from Section A
- (2) Answer any **FOUR** questions from Section B.

**SECTION – A**Answer any **FIVE** questions, each carries **6** marks :**(5 × 6 = 30)**

1. What is cloud computing? Explain benefits and need for cloud computing.
2. Explain Cloud Governance.
3. What are benefits of community cloud?
4. What is data intensive computing? What are the open challenges in intensive computing?
5. Difference between elasticity and scalability in cloud computing.
6. Explain SOA Business and IT services in cloud computing.
7. Briefly discuss virtual infrastructure requirements in cloud computing.
8. Briefly explain Cloud Adoption.

**SECTION – B**Answer any **FOUR** questions, each carries **10** marks :**(4 × 10 = 40)**

9. Define cloud service. Explain Gamut of Cloud solutions. **(10)**
10. (a) Discuss information security in cloud computing. **(5)**  
(b) Explain Storage management in the cloud. **(5)**

## 12035

11. What are the different cloud migration techniques? Write merit and demerit of each technique. (10)
  12. Explain the Virtualization Structure and its benefit. (10)
  13. Explain types of cloud-based service with an example. (10)
  14. (a) Explain the concept of cloud reference Architecture. (5)  
(b) Explain various application of Cloud Computing. (5)
-





10. (a) Explain a few real time applications of data mining. (4)  
 (b) Distinguish between classification and prediction with example. (6)
11. (a) Explain Regression classification. (4)  
 (b) Apply the algorithm to discover frequent item sets on the following transaction data set : (6)
- | TID | Items        |
|-----|--------------|
| 1   | {a, b}       |
| 2   | {b, c, d}    |
| 3   | {a, c, d, e} |
| 4   | {a, d, e}    |
| 5   | {a, b, c}    |
| 6   | {a, b, c, d} |
| 7   | {a}          |
| 8   | {a, b, c}    |
| 9   | {a, b, d}    |
| 10  | {b, c, e}    |
12. (a) What are classification rules? How is regression related to classification? (6)  
 (b) What is outlier analysis? Explain. (4)
13. (a) Perform a comparative study between MOLAP and ROLAP. (4)  
 (b) Describe the issues and challenges in the implementation of data mining systems. (6)
14. Write a note on :
- (a) What is Hierarchical Clustering? (5)  
 (b) Multilayer feed-forward Neural Network. (5)
-