PSN College of Engineering and Technology (Autonomous)

Tirunelveli - 627152

Course File

Subject Code : 503002

Subject Name : Data Base Management System

Regulation : 2018

Semester : 3

Academic Year : 2022-2023

Department : CSE

Degree & Programme : B.E Computer Science and Engineering

Prepared By

Name : Mrs. H.Jeyalakshmi

Designation : Assistant Professor

Department : CSE

Course File Verification and Auditing

Part-I

(At the beginning of the semester)

Submission Date	Check List								Verified by HOD	Verified by Academic Auditor
	Vision and Mission	Course Description, Objective and Outcomes	CO-PO mapping	Course Plan and Target	Syllabus and Content beyond Syllabus	Assignments & additional resources	Course Delivery Plan	University Question Papers		

Part-II (After CAT - I)

Submission Date	Check List					Verified by HOD	Verified by Academic Auditor
	Syllabus Coverage	Notes and Other Materials	Performance Analysis	Feedback	Proof for Participatory Learning		

Part-III (After CAT - II)

Submission Date	Check List					Verified by HOD	Verified by Academic Auditor
	Syllabus Coverage	Notes and Other Materials	Performance Analysis	Question Papers and Keys	Proof for Participatory Learning		

Part-IV (After Model examination)

Submission Date	Check List					Verified by HOD	Verified by Academic Auditor
	Syllabus Coverage	Notes and Other Materials	Performance Analysis	Question Papers and Keys	Proof for Participatory Learning		

Semester Academic Audit

Audit Remarks:

Signature of the Auditor(s):

Signature of Director (Academics) Signature of Principal

Contents

VISION AND MISSION OF THE INSTITUTE:

Institution Vision	To provide an academic environment to learn, work and do research enabling the students to face challenges in life with strong ethical values.	
Institution Mission	**IM-1**	To achieve greater heights of excellence in technical knowledge and skill development through innovative teaching and learning practices.
	IM-2	To develop the infrastructure to meet the demands of technological revolution.
	IM-3	To improve and foster research in all dimensions for betterment of society.
	IM-4	To develop individual competencies to enhance employability and entrepreneurship in students.
	IM-5	To instill higher standards of discipline among students, inculcating ethical and moral values for societal harmony and peace.

VISION AND MISSION OF THE DEPARTMENT:

Department Vision	To create technically qualified world-class professionals with social commitment and to inculcate in them right attitude and holistic values	
Department Mission	**DM-1**	To train the students according to their discipline to meet dynamic needs of the society.
	DM-2	To promote research and continuing education.
	DM-3	To enhance professional and entrepreneurial skills through industry institute interaction to enable them in getting better placement.

1. **PRE REQUISITES**
   - Basic Concepts of Database
2. **COURSE DESCRIPTION**
   - The course will cover topics including an overview of the relational data model, understanding entities and relationships, designing logical data models and database design using the process of normalization.

- **CARRIER OPPORTUNITIES:**
  - ✔ Data Base Administrator
  - ✔ Information Security Analysts

✔ Data Scientist

4. SYALLABUS

PSN College of Engineering and Technology			Regulation – 2018			
Department	CSE	Branch Code/Degree/Branch (mention all branches for which the subject is offered)	**BE –CSE**			
Semester	III					
Subject Code	**503002**		**L**	**T**	**P**	**C**
Subject Title	**DATABASE MANAGEMENT SYSTEMS**		3	0	0	3

AIM:

Objective:

- Students shall gain a knowledge of OOPs and functional concept of Data Structures in C++

CO's NO	COURSE OUTCOME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	Define and Analyze the major objectives of Database Technology	3	1	2	1	1							2	1	
CO2	Explain and define the Relational model for databases	3	1	2	2	1							2	2	
CO3	Design issues if Databases	2	2	2	2							2	2		2
CO4	Identify the problem in Transaction	2	2		2	1							2		2
CO5	Analyze the issues involved in Implementation.	2		2	2							2	2		2

Unit 1	**INTRODUCTION**	Total Hrs	9

Purpose of Database system – Files versus database systems- View of Data – Database Language – Database Architecture – Database users and Administrators – History of Database system – E-R model – Constraints- E-R Diagram

Unit 2	**RELATIONAL MODEL**	Total Hrs	9

Relational model- Structure of Relational Databases- Relational Algebra Operation- Null Values – Modification of Relational Databases – SQL – Advanced SQL – Integrity Constraints – Authorization – Embedded SQL – Dynamic SQL – The Tuple Relational Calculus – The Domain Relational Calculus – QBE – Triggers.

Unit 3	**DATABASE DESIGN**	Total Hrs	9

Functional Dependencies- Non-loss Decomposition- Functional Dependencies – First, Second, Third Normal Forms, Dependency Preservation – Boyce / Codd Normal Form – Multi-valued Dependencies and fourth Normal Form – Join Dependencies and Fifth Normal Form.

Unit 4	**TRANSACTIONS**	Total Hrs	9

Transaction concepts – Transaction Recovery – ACID Properties – System Recovery- Media Recovery – Two phase commit – Save points – SQL Facilities for Recovery- Concurrency – Need for Concurrency – Locking Protocols – Two Phase Locking- Intent Locking – Deadlock – Serializability – Recovery Isolation levels – SQL Facilities for Concurrency

Unit 5	**IMPLEMENTATION TECHNIQUES**	Total Hrs	9

Physical storage media – Magnetic Disks – RAID – Tertiary storage – File Organization – Organization of record in files- Indexing and Hashing – Ordered Indices – B+ tree Index Files – B tree Index Files – Statics and Dynamic Hashing –

Query Processing Overview – Catalog Information for Cost Estimation – Selection Operation – Sorting – Join Operation – Web Technology And DBMS – Web as a Database Application platform	
Total Hours	**45**

Text Book:

1. **Abraham Silberschatz, Henry F.Korth, S.Sudharshan, "Database System Concepts", Sixth Edition, Tata McGraw Hill, 2011 (Unit I and Unit-V).**
2. **C.J.Data, A.Kannan, S.Swamynathan, "An Introduction to Database Stsems", Eighth Edition, Pearson Education, 2006. (UnitII,III and IV)**

Reference (s):

1. M.T.RamezElmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", Fourth Edition, Pearson / Addisionwesley, 2007.
2. Raghu Ramakrishnan, "Database Management Systems", Third Edition, McGraw Hill, 2003, "Programming in C++", PHI Pvt.Ltd., 2008.,

5.COURSE OUT COMES

After successful completion of the course, the students should be able to

CO's	CO – STATEMENTS	PO's
CO1	Define and Analyze the major objectives of Database Technology	1,2,3,4,5,12
CO2	Explain and define the Relational model for databases	1,2,3,4,5,12
CO3	Design issues if Databases	1,2,3,4,11,12
CO4	Identify the problem in Transaction	1,2,4,5,12

CO5	Analyze the issues involved in Implementation.	1,3,4,11,12

6. INSTRUCTIONAL LEARNING OUTCOMES

Unit	Assessment Procedure
I	The outcome will be assess through assignment-1, Class test -1, MCQ Test-1, CAT-1
II	The outcome will be assess through assignment-2, Class test -2, MCQ Test-2, CAT-1, CAT-2
III	The outcome will be assess through assignment-3, Class test -3, MCQ Test-3, CAT-2
IV	The outcome will be assess through assignment-4, Class test -4, MCQ Test-4, CAT-3
V	The outcome will be assess through assignment-5, Class test -5, MCQ Test-5, CAT – 3

7. PROGRAMME EDUCATIONAL OBJECTIVES (PEO's)

S.No	Topic	PEOs
PEO1	**Fundamental Knowledge**	Graduates will be able to perform in technical and managerial roles ranging from design, development and problem solving to suit to the industrial needs
PEO2	**Career Development**	Graduates will be able to successfully pursue higher education and also Graduates will have the ability to adapt, contribute and innovate new technologies in different domains of computer science & Engineering
PEO3	**Social Identity**	Graduates will be ethically and socially responsible engineers in computer science & Engineering disciplines

8. PROGRAM OUTCOMES [PO's]

PO's No	KNOWLEDGE	STATEMENTS	PO's No
1	Engineering Knowledge	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	**1**
2	Problem Analysis	Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first	**2**

		principles of mathematics, natural sciences, and engineering sciences.	
3	Design / Development of Solutions	Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.	**3**
4	Conduct Investigations of Complex Problems	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.	**4**
5	Modern Tool usage	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	**5**
6	The Engineer and Society	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	**6**
7	Environment and Sustainability	Understand the impact of the professional engineering solutions in societal and environmental contexts, demonstrate the knowledge of, and need for sustainable development.	**7**
8	Ethics	Apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.	8
9	Individual and Team Work	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	9
10	Communication	Communicate effectively on complex engineering activities with the engineering community and with society, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	10

11	Project Management and Finance	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	**11**
12	Life-long Learning:	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.	**12**

9. PROGRAMME SPECIFIC OBJECTIVE (PSO's)

PSO1	The computer science and Engineering graduates are able to analyze, design, develop, test and apply Management strategy, Mathematical concept in the development of computational solutions, make them expert in computer software and hardware.
PSO2	Develop their skills to solve problems in all area of programming concepts and adopt high environmental and social issues with ethics to manage different projects in inter-disciplinary field.

10. CO- PO MAPPING

CO's NO	COURSE OUTCOME	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2
CO1	Define and Analyze the major objectives of Database Technology	3	1	2	1	1							2	1	
CO2	Explain and define the Relational model for databases	3	1	2	2	1							2	2	
CO3	Design issues if Databases	2	2	2	2							2	2		2
CO4	Identify the problem in Transaction	2	2		2	1							2		2
CO5	Analyze the issues involved in Implementation.	2		2	2							2	2		2

Sl. No	Description	Legend
Text Book(s):		
1	Abraham Silberschatz, Henry F.Korth, S.Sudharshan, "Database System Concepts", Sixth Edition, Tata McGraw Hill, 2011 (Unit I and Unit-V).	T1
2	C.J.Data, A.Kannan, S.Swamynathan, "An Introduction to Database Stsems", Eighth Edition, Pearson Education, 2006. (UnitII,III and IV)	T2

11. TEXT BOOK & REFERENCE BOOK LIST

12. Web Resources

Sl. No	Topic	Web link
1	DataBase Management System	https://www.techtarget.com/searchdatamanagement/definition/database-management-system

13. E- learning / NPTEL

Video	https://onlinecourses.nptel.ac.in/noc22_cs91/preview
Lecture Notes	https://drive.google.com/file/d/1wXkh4FL_rfphAv1Ldb7vn6q7oA943ZKm/view

14. MAGAZINE & JOURNALS

Magazine	https://www.academia.edu/29721830/Databasemanagementsystem	
Journals	https://www.wiley.com/enus/Data+Base+Management+systems	

15. LESSON PLAN

S. No.	Unit	Topic to be covered	Hours Needed	Mode of Teaching (BB/PPT/ Others)	Text/ Ref. Book	Page No.
		INTRODUCTION				
1	I	Purpose of Database system	1	**BB**	T1	46
2		Files versus database systems	1	**BB**	T1	52
3		View of Data	1	**PPT**	T1	157
4		Database Language	1	**BB**	T1	171
5		Database Architecture	1	**BB**	T1	258
6		Database users and Administrators	1	**BB**	T1	268-276
7		History of Database system	1	**PPT**	T1	278
8 , 9		E-R model – Constraints- E-R Diagram	2	**BB**	T1	307
		RELATIONAL MODEL				
10	II	Relational model	1	**BB**	T1	677
11,12		Structure of Relational Databases	2	**BB**	T1	679
13		Relational Algebra Operation	1	**BB**	T1	681
14		Null Values- Modification of Relational Databases	1	**PPT**	T1	683
15		SQL – Advanced SQL	1	**BB**	T1	685
16		Integrity Constraints- Authorization- Embedded SQL	2	**BB**	T1	690
17		Dynamic SQL- The Tuple Relational Calculus	1	**BB**	T1	695
18		The Domain Relational Calculus – QBE – Triggers.	1	**BB**	T1	697
		DATABASE DESIGN				
19	III	Functional Dependencies-	1	**BB**	T1	395
20		Non-loss Decomposition	1	**BB**	T1	396
21		Functional Dependencies	1	**BB**	T1	398
22		First, Second, Third Normal Forms,	1	**BB**	T1	399
23		Dependency Preservation	1	**BB**	T1	400
24		Boyce / Codd Normal Form	1	**BB**	T1	405

S. No.	Unit	Topic to be covered	Hours Needed	Mode of Teaching (BB/PPT/ Others)	Text/ Ref. Book	Page No.
25		Multi-valued Dependencies and	1	**PPT**	R1	408
26		fourth Normal Form	1	**PPT**	R1	412
27		Join Dependencies and Fifth Normal Form.	1	**PPT**	R1	416
		TRANSACTIONS				
28	**IV**	Transaction concepts – Transaction Recovery	1	**BB**	T1	48
29		ACID Properties	1	**BB**	T1	56
30		System Recovery- Media Recovery	1	**PPT**	T1	74
31		Two phase commit – Save points	1	**BB**	T1	76
32		SQL Facilities for Recovery -Concurrency	1	**BB**	T1	77
33		Need for Concurrency – Locking Protocols	1	**BB**	T1	285
34		Two Phase Locking- Intent Locking – Deadlock	1	**PPT**	R1	157
35		Serializability – Recovery Isolation levels	1	**BB**	R1	305
36		SQL Facilities for Concurrency	1	**BB**	R2	326
		IMPLEMENTATION TECHNIQUES				
37	**V**	Physical storage media – Magnetic Disks	1	**BB**	T1	574
38		RAID – Tertiary storage	1	**PPT**	T1	576
39		– File Organization – Organization of record in files	1	**BB**	T1	579
40		Indexing and Hashing – Ordered Indices – B+ tree Index Files	1	**PPT**	T1	580
41		B tree Index Files – Statics and Dynamic Hashing	1	**BB**	T1	585
42		Query Processing Overview – Catalog Information for Cost Estimation	1	**BB**	R1	589
43		Selection Operation – Sorting – Join Operation	1	**BB**	R1	594
44		Web Technology And DBMS	1	**BB**	R2	597
45		Web as a Database Application platform	1	**BB**	R2	603
					Total Hours Needed = 45Hours	

18. CONTENT DELIVERY METHODOLOGIES

- Black board
- Power point Presentation
- Group Discussion

19. ASSIGNMENTS

Assignment 1

Assignment	PART A	CO	BL
1	E_R Model	**CO1**	**2**
2	Embedded SQL and Dynamic SQL	**CO2**	**4**
3	Boyce/ Codd Normal Form	**CO3**	**3**
4	Deadlock and Serialibility	**CO4**	**6**
5	B and B+ tree index	**CO5**	**1**

20. ASSIGNMENT RUBRICS

QUALITY	MARKS
Submission on Date	2
Understanding	3
Solving Skills/Presentation	3
End results with correct units conversions / Conclusion	2

21. MAPPING COs with ASSIGNMENTS

CO's	CO - STATEMENTS	A1	A2	A3	A4	A5
CO1	To understand the diff b/w OOPs & POL and Data Types in C++	3	-	-	-	-
CO2	Write C++ programs with features such as composition of objects , polymorphism etc.	-	3	-	-	-
CO3	Write C++ programs with features such as Operator Overloading and Inheritance	-	-	3	-	-
CO4	Choose an appropriate data structure for a particular problem	-	-	-	3	-
CO5	Simulate problems in the subjects like Operating systems , Computer Networks and also real world problems in C++	-	-	-	-	3

22. ASSESSMENT METHODOLOGIES

Assessment Tool			Description
Direct Assessment (80%)	**Internal Test**	20%	25% each for CAT – I, CAT – II, CAT –III, Class Test and Assignments.
	Assignments		
	Practical lab (Internal)		-
	End semester Examination	80%	100% for End Semester Examination
	Practical lab (External)		-
Indirect Assessment (20%)	**Course End Survey (80%)**		
	Exit Survey (20 %)		At the end of the course completion will be evaluated

23. DISTRIBUTION OF PORTIONS FOR ASSESSMENT TESTS

Assessments	Portion Covering Unit	% of weightage
CAT – I	Unit-1 and Unit-2 (50%)	50
CAT - II	Unit-2(50%) and Unit-3	50
CAT - III	Unit – 4 and Unit -5	50
Assignments – 1	Unit – 1	10
Class Test -1	Unit – 1	26
Assignments - 2	Unit – 2	10
Class Test -2	Unit – 2	26
Assignments - 3	Unit -3	10
Class Test -3	Unit -3	26
Assignments - 4	Unit – 4	10

Class Test -4	Unit – 4	26
Assignments - 5	Unit – 5	10
Class Test -5	Unit – 5	26
End Semester	Unit - 1 to 5	100

24. MARK ALLOTMENT FOR CO ASSESSMENT:

COs	CAT - I	CAT - II	CAT - III	Assignment	MCQ	End Semester
CO1	30			10	2	20
CO2	20	20		10	2	20
CO3		30		10	2	20
CO4			25	10	2	20
CO5			25	10	2	20

25. LECTURE NOTES: **Enclosed separately**

26. CONTENT BEYOND SYLLABUS

UNIT	TOPICS TO BE COVERED	Hrs Taken
1	Software Testing Tools	**1**
2	Test metrics and measurements Project	**1**
3	Tester's Workbench	**1**
4	Process Control and Optimization	**1**
5	Progress and productivity metrics	**1**

Staff-in-Charge **HOD/CSE** **Principal**

Signature	Prepared by	Approved by		
Name :	Mrs.H.Jeyalakshmi	Dr.M.Vargheese	Dr.X.Sahaya Shajan	Dr.V.Manikandan
Designation :	Asst.Prof / CSE	HOD / CSE	Director (A & R)	Principal

27. QUESTION BANK

503003 – OOPS And Data Structures

CLASS: III CSE **SEMESTER: III**

	Unit I Introduction to OOPs and C++			
	Cloud Computing Overview:Cloud Components – Infrastructure - Services – Applications: Storage -Database Services – Intranets and the Cloud: Components - Hypervisor applications - First Movers inCloud: Amazon – Google - Microsoft - When You Can Use Cloud Computing – Benefits –Limitations			
	Part A (2 marks)			
Q.No	**Question**	**BT Level***	**Usage**	**Competence#**
1	What are the innovative characteristics of cloud computing?	BTL1	CAT1	Remember
2	Define cloud computing and identify its core features?	BTL1	CAT1	Remember
3	What are the major advantages of cloud computing?	BTL2	CAT1	understand

4	Describe the vision introduced by cloud computing?	BTL1	CAT1	Remember
5	Classify the various types of clouds	BTL2	CAT1	understand
6	List some of the challenges in cloud computing?	BTL1	CAT1	Remember
7	Give overview of applications of cloud computing?	BTL1	CAT1	Remember
8	What is Data Center?	BTL2	CAT1	understand
9	Write the categories of client.	BTL1	CAT1	Remember
10	Write the types of Cloud Services and Example.	BTL2	CAT1	understand
	Part B (16 marks)			
Q.No	**Question**	**BT Level***		**Competence#**
1	Describe Cloud Computing Architecture.	BTL2	CAT1	understand
2	What are the Challenges for the Cloud-evolutions of cloud computing?Explain.	BTL3	CAT1	apply
3	Discuss the cloud computing reference model.	BTL2	CAT1	understand
4	Explain the cloud components in detail.	BTL3	CAT1	apply
5	Classify the various types of clouds.	BTL3	CAT1	apply

*** BT Levels – BTL1 to BTL6**

 # Competence – Remember, understand, apply, analyze, evaluate, create

	Unit II Cloud computing with the Titans			
	Google: Google App Engine - Google Web Toolkit – Microsoft: Azure Services Platform - WindowsLive .Amazon: Amazon EC2, Amazon SimpleDB - Amazon S3 - Amazon CloudFront - Amazon SQSIBM: Services - Movement to the Cloud - Security – Partnerships: Yahoo! Research - SAP and IBM –HP,Intel and Yahoo! - IBM and Amazon			
	Part A (2 marks)			
Q.No	**Question**	**BT Level***	**Usage**	**Competence#**
1	What is Google App Engine?	BTL1	CAT1	Remember
2	Which is the most common scenario for a private cloud.	BTL2	CAT1	understand
3	Describe Amazon EC2 and its basic features?	BTL2	CAT1	understand
4	Distinguish between authentication and authorization	BTL2	CAT1	understand

5	What are the two major categories of SaaS?	BTL3	CAT1	Apply
6	Write down any two advantages of SaaS?	BTL2	CAT2	understand
7	Give the advantages of Force.com for Google App Engine.	BTL2	CAT2	understand
8	What is Windows Azure?	BTL1	CAT2	Remember
9	Define Google Gears.	BTL2	CAT2	understand
10	Define IaaS.	BTL2	CAT2	understand
	Part B (16 marks)			
Q.No	**Question**	**BT Level***		**Competence#**
1	i)Examine in detail about public private and hybrid cloud ii)Examine in detail about data center networking structure		CAT1	Remember
2	Identify and explain in detail about evolutionary trend of computer technology	BTL1	CAT1	Remembering
3	Explain evolution of cloud computing.	BTL3	CAT2	Applying
4	Explain in detail about the three paradigms in cloud computing.	BTL5	CAT2	Evaluating
5	What is virtualization? Describe para and full virtualization architectures. Compare and contrast them.	BTL1	CAT2	Remembering

	Unit III Cloud Computing Technology			
	Hardware and Infrastructure: Clients – Security – Network - Services – Accessing the Cloud:Platforms - Web Applications - Web APIs - Web Browsers – Cloud Storage: Overview - CloudStorage Providers - Client – Infrastructure – Service			
	Part A (2 marks)			
Q.No	**Question**	**BT Level***	CAT2	**Competence#**
1	Define SOA	BTL1	CAT2	Remembering
2	List the essential principles of SOA architecture	BTL1	CAT2	Remembering
3	Write the name of Web services tools	BTL2	CAT2	Understanding
4	Distinguish between physical and virtual clusters.	BTL2	CAT2	Understanding
5	What are the fundamental components of SOAP specification?	BTL1	CAT2	Remembering

6	List few drawbacks of grid computing.	BTL2	CAT2	Understanding
7	How does the virtualization Support the Linux platform?	BTL3	CAT2	Apply
8	State the differences between PaaS and SaaS.	BTL2	CAT2	Understanding
9	Demonstrate the need of private cloud.	BTL2	CAT2	Understanding
10	Why do we need cloud storage?	BTL2	CAT2	Understanding
	Part B (16 marks)			
Q.No	**Question**	**BT Level***		**Competence#**
1	Explain the virtualization structure for i)Hypervisor and Xen Architecture(5) ii)Binary Translation with Full Virtualization.(5) iii) Para-Virtualization with Compiler Support.(5	BTL5	CAT2	Evaluatin
2	Give the importance of Virtualization Support and Disaster Recovery.	BTL6	CAT2	Creating
3	i) Summarize the support of middleware and library for virtualization ii) ii) Explain the layered architecture of SOA for web services.	BTL2	CAT2	Understanding
4	Analyze in detail about the implementation level of virtualization.	BTL4	CAT2	Analyzing
5	i) Point out the importance of memory virtualization. (ii) Explain virtualization of I/O devices with an example.	BTL6	CAT2	Creating

	Unit IV Cloud Computing at Work and Developing Applications			
	Software as a Service: Overview - Driving forces – Developing applications: Google - Development:Google App Engine - Salesforce.com - Microsoft Windows Azure – Troubleshooting – ApplicationManagement.			
	Part A (2 marks)			
Q.No	**Question**	**BT Level***	**Usage**	**Competence#**
1	Identify the use of S3.	BTL6	CAT3	Creating
2	Analyze the storage as a service	BTL4	CAT3	Analyzing
3	What are the different layers available in cloud architecture design?	BTL2	CAT3	Understanding
4	What are the security challenges in cloud computing?	BTL1	CAT3	Remembering

5	Demonstrate any two storage services of cloud system.	BTL3	CAT3	Applying
6	Give some of the Applications of GAE	BTL3	CAT3	Applying
7	Compare public and private cloud.	BTL2	CAT3	Understanding
8	List the various resource Provisioning.	BTL2	CAT3	Understanding
9	List the Challenges in Cloud Security.	BTL2	CAT3	Understanding
10	How to perform virtual machine security?	BTL2	CAT3	Understanding
	Part B (16 marks)			
Q.No	**Question**	**BT Level***		**Competence#**
1	Explain in detail about the Inter-cloud resource management.	BTL1	CAT3	Remembering
2	Examine Extended Cloud Computing Services with neat block diagram	BTL3	CAT3	Applying
3	i.Explain in detail about security monitoring and incident ii.Define Application security and its use.	BTL4	CAT3	Analyzing
4	List the usage of virtual box.	BTL3	CAT3	Applying
5	i.Explain the Security Architecture Design ii.Explain the Cloud Security Challenges.	BTL3	CAT3	Applying

	Unit V Practical considerations and Future of Cloud			
	Migrating to the Cloud: Cloud Services for Individuals – Available Services - Cloud Services Aimedat the Mid-Market – Force.com – Enterprise - Class Cloud Offerings – MS Exchange - Migration -Best practices: Analyze Your Service: Establishing a Baseline and Metrics – Best practices: Findingthe Right Vendor - Phased-in vs. Flash-cut approaches - Be Creative in your Approach.			
	Part A (2 marks)			
Q.No	**Question**	**BT Level***	**Usage**	**Competence#**
1	Define Application Security.	BTL2	CAT3	Understanding
2	What you mean by Security Monitoring?	BTL4	CAT3	Analyzing
3	List the real time examples for cloud storage.	BTL2	CAT3	Understanding
4	How to secure data in cloud storage?	BTL1	CAT3	Remembering
5	What is s3?	BTL3	CAT3	Applying
6	Differentiate between Parallel and Distributed Computing.	BTL3	CAT3	Applying

7	List the entities involved in the cloud platform.	BTL2	CAT3	Understanding
8	Advantages of cloud storage.	BTL2	CAT3	Understanding
9	What is storageVirtualization?	BTL2	CAT3	Understanding
10	Define Desktop Virtualization.	BTL2	CAT3	Understanding
	Part B (16 marks)			
Q.No	**Question**	**BT Level***		**Competence#**
1	Construct OpenStack open source cloud computing infrastructure and discuss in detail about it.	BTL6	CAT3	Creating
2	What are the programming supports of Google App Engine? Illustrate in detail about the Google File system	BTL5	CAT3	Evaluating
3	Explain about Openstack architecture with neat diagram.	BTL3	CAT3	Applying
4	Explain about Identity access Management.	BTL4	CAT3	Analyzing
5	Explain about Virtual Machine Security.	BTL3	CAT3	Applying

*** BT Levels – BTL1 to BTL6**

 # Competence – Remember, understand, apply, analyze, evaluate, create

*** ME – Model Exam, CAT-I, CAT- II, CT-Class Test, Assignment, MCQ and etc.,**

28. End Semester Question paper(all question papers related to the present Regulation)

29. Student's Name List

CLASS: III ECE

Serial No	Register No	Name
1	2005001	Aarthi P
2	2005002	Auvadaiappan S
3	2005003	Balaji A
4	2005004	Bhavanisha A
5	2005005	Jegan P

6	2005006	Kanchana M
7	2005007	Karthikeyan G
8	2005008	Kaviya S
9	2005009	Keerthana R
10	2005010	Kirankumar K
11	2005011	Krishnapriya S
12	2005013	Nesa Punitha R
13	2005014	Shivashangaran M
14	2005015	Sureshkumar S
15	2005017	Suthilakshmi C
16	2005018	Thangamuneeswari E
17	2005019	Yamini S
18	2005301	K.Iyyappan
19	2005302	Joseph Daniel Raja
20	2005303	Keginraj R
21	2005304	MuthuGowtaam
22	2005305	Priyesh. V.J
23	2005306	Samuel J.K
24	2005307	Santhanaselvi.C

30. SLOW LEANER'S NAME LIST

SL. NO	REG. NO	Slow Leaner's Name List
1	1803010	Dheena Thayalan T

2	1803033	Rajkumar R
3	1803302	Ananthu Suresh
4	**1803034**	**Rithika P**

31. REMEDIAL ACTIONS FOR SLOW LEARNERS

SL. NO	REG. NO	Remedial actions for slow learners - Coaching Classes scheduled from 4.30 pm to 5.30 pm on the following dates				
		Name				
1						
2						
3						
4						

32. ENCOURAGEMENT ACTIONS FOR FAST LEARNERS

SL. NO	REG. NO	Encouragement actions for fast learners - The following Cadets are encouraged to participate in preparation of news letter				
		Name	**NL1**	**NL2**	**NL3**	**NL4**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

33. Group Name List for GD

SL. NO	REG. NO	Name	Group No	Topic for Discussion
1			G1	

2				
3				
4				
5				
6			G2	
7				
8				
9				
10				
11			G3	
12				
13				
14				
15				
16			G4	
17				
18				
19				
20				
21			G5	
22				
23				
24				
25				
26			G6	
27				
28				
29				
30				
31				
32			G7	
33				

34				
35				

34. Course Review & Closure Report

No. of hours prescribed for the course	45 hrs
No. of hours required or spent for the covering additional topics	
No. of hours required to cover Assignments / Tests	5hrs
No. of hours required for tutorials	
No. of hours to revise the course content	
No. of hours for any other activities related to the course	
Total hours required for the course	50hrs

Course Coordinator **HOD/CSE**