J. B. INSTITUTE OF ENGINEERING AND TECHNOLOGY

Course Plan

For

Operating Systems

III B. Tech(CSE)	I SEMESTER	ACADEMIC YEAR	2015-16

P.Uma Devi

Assistant Professor

(Please write how you intend to cover the contents: i.e., coverage of Units by lectures, guest lectures, design exercises, solving numerical problems, demonstration of models, model preparation, or by assignments, etc.)

By lectures,design excersises,assignments

3. METHOD OF EVALUATION

3.1. ☐ Continuous Assessment Examinations (CAE 1, CAE 2)

3.2. ☐ Assignments / Seminars

3.3. ☐ Mini Projects

3.4. ☐ Quiz

3.5. ☐ Term End Examination

3.6. ☐ Others

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subject in this Semester.

P.UMA DEVI

Signature of HOD
Date:

Signature of Faculty
Date:

	GUIDELINES TO STUDY THE SUBJECT	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI

Designation: Assistant Professor

Department:: Computer Science and Engineering

Guidelines for Preparing the Course:

Course Description:
To study and apply concepts relating to operating systems, such as concurrency and control of asynchronous processes, deadlocks, memory management, processor and disk scheduling, parallel processing, and file system organization

Course Objectives:
This course provides a comprehensive introduction to understand the underlying principles, techniques and approaches which constitute a coherent body of knowledge in operating systems. In particular, the course will consider inherent functionality and processing of program execution . The emphasis of the course will be placed on understanding how the various elements that underlie operating system interact and provides services for execution of application software**.**
Learning Outcomes:
1.Master functions, structures and history of operating systems 2. Master understanding of design issues associated with operating systems 3.Master various process management concepts including scheduling,synchronization ,deadlocks

4. Be familiar with multithreading 5. Master concepts of memory management including virtual memory 6. Master system resources sharing among the users 7. Master issues related to file system interface and implementation, disk management 8. Be familiar with protection and security mechanisms 9. Be familiar with various types of operating systems including Unix

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering

On completion of this Subject / Course the student shall be able to:

S.No.	Objectives	Outcomes
1.	Understand the definition of os ,structure of types and applications of os	
2.	Identifies the process and states of it and the identifies the scheduling of process Identify different types of threads	Illustrate infer
3.	Understands the need for process synchronization,inter process synchronization	Infer Summarize
4.	Able to learn the different memory management techniques	Reproduce Select
5.	Identifies the concept of dead locks	Reproduce Select
6.	Understands the different concepts for disk management scheduling techniques	Describe (a procedure)
7.	Understanda the file system interfaces	Describe Reproduce
8.	Identifies the different protection & security mechanisms	Explain why/how

Signature of Faculty
Date:

Note: For each of the OBJECTIVE indicate the appropriate OUTCOMES to be achieved.
Kindly refer Page 16, to know the illustrative verbs that can be used to state the objectives.

	COURSE OUTCOMES	2015-16
		Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering

The expected outcomes of the Course / Subject are:

S.No.	General Categories of Outcomes	Specific Outcomes of the Course
A.	An ability to apply knowledge of mathematics, science, and engineering	The ability to apply the concepts of engineering i.e collecting data, organize the data in the systematic form ,arrange the data in a computational way and this the way in applying mathematics
B.	An ability to design and conduct experiments, as well as to analyze and interpret data	Able to design the ER diagrams as well as interpret the Design of database
C.	An ability to design a system, component, or process to meet desired needs within realistic Constraints such as economic, environmental, social, political, ethical, health and safety, Manufacturability and sustainability	Able to design the db system due to inferring the knowledge
D.	An ability to function on multi-disciplinary teams	Participating in projects, workshops encourages multidisciplinary teams
E.	An ability to identify, formulate, and solve engineering problems	Formulate the queries required to solve the issues in db
F.	An understanding of professional and ethical responsibility	Professional is developed by being in the enterprenuer
G.	An ability to communicate effectively	By conduction of seminars and discussions ability to communicate effectively
H.	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	The subject learnt by students can be implemented in real time systems whenever it is necessary

I.	A recognition of the need for, and an ability to engage in life-long learning	
J.	A knowledge of contemporary issues	The knowledge of present versions of the tools are updated
K.	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	Skills are developed while working for the project during academic calendar.

Objectives – Outcome Relationship Matrix (Indicate the relationships by ☒ mark).

Outcomes / Objectives	A	B	C	D	E	F	G	H	I	J	K
1.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	COURSE SCHEDULE	2015-16
		Regulation: R12

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.Uma Devi
Designation: Assistant Professor
Department:: CSE
The Schedule for the whole Course / Subject is::

S. No.	Description	Duration (Date)		Total No. of Periods
		From	To	
1.	Introduction to os ,types and applications of os	30-6-15	8-7-15	7
2.	Process scheduling	9-7-15	18-7-15	8
3.	Inter process synchronization	21-7-15	5-8-15	12
4.	Memory management techniques	6-8-15	26-8-15	12
5.	Dead locks and their handling	9-9-15	18-9-15	6
6.	File system interfaces	22-9-15	8-10-15	6
7	Disk management &scheduling	9-10-15	20-8-15	7
8	Protection& Security mechanisms	21-10-15	31-104-15	10

Total No. of Instructional periods available for the course: Hours / Periods

	SCHEDULE OF INSTRUCTIONS UNIT - I	2015-16 Regulation: R12

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	30.6.15	1	Operating Systems over view		TB-1, 1 Pg
2	1.7.15	1	OS functions,		TB-1 Pg3
3	2.7.15	1	protection and security		TB-1 Pg5
4	3.7.15	1	Distributed Systems,		TB-1 Pg 7
5	4.7.15	1	Special purpose systems.		TB-1 Pg11
6	7.7.15	1	And System calls		TB-1 pg15
7	8.7.15	1	System programs , OS generations		TB-1 pg 16

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
3. MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - II	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	9-715	1	Process management,		TB-1 Pg 18
2	10-7-15	1	Process concepts and threads,		
3	11-7-15	2			TB-2 pg 26
4	13-7-15	1	algorithms their evaluation,		TB-2 Pg 27
5	14-7-15	1	Threads scheduling,		TB-2 pg 29
6	15-7-15	1	case studies UNIX,		TB-2 Pg 32
7	16-7-15	1	case studies Linux , Windows		TB-2 Pg 40

Signature of Faculty
Date

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2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - III	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	17-7-15	1	Concurrency-Process synchronization,		TB-1 & 2 Pg 57
2	18-7-15	2	the critical section problem, Peterson's solution,		TB-2 pg64
3	21-7-15	2	Synchronization Hardware synchronization examples,		TB-2 Pg 69
4	22-7-15	1	semaphores		TB-2 Pg73
5	23-7-15	1	monitors,		TB-2 Pg 75
6	24-7-15	1	classic problems of Synchronization,		TB-2 Pg 87
7	25-7-15	1	Atomic transactions.		TB-2 Pg 91
8	27-7-15	1	case studies UNIX		TB-2 Pg 102
9	28-7-15	1	case studies LINUX		TB-2 Pg 104
10	29-7-15	1	CASE studies Windows		TB-2 Pg 106

Signature of Faculty
Date

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MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - IV	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering

The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	30-7-15	1	Memory management –		TB-1 Pg 132
2	1-8-15	1	swapping,		TB-1 Pg 138
3	3-8-15	1	contiguous memory Allocations,		TB-1 Pg 151
4	6-8-15	2	paging, structure of the page table, ,		TB-1 Pg 157
5	10-8-15	1	segmentation		TB-1 Pg 157
6	11-8-15	1	virtual memory		TB-1 Pg 163
7	13-8-15	1	demand paging,		TB-1 Pg 164
8	15-8-15	2	page replacement algorithms,		TB-1 Pg 165
9	17-8-15	1	Allocation of frames		TB-1 Pg 165
10	18-8-15	1	thrashing.		TB-1 Pg 167

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - V	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. Of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	19-8-15	1	Principles of deadlocks		TB-1 & 2 Pg 606
2	20-8-15	1	System model		TB-1 & 2 Pg 606
3	22-2-15	1	Dead lock characterization		TB-1 & 2 Pg 608
4	24-8-15	1	deadlock prevention		TB-1 & 2 Pg 609
5	25-8-15	1	detection and avoidance		TB-1 & 2 Pg 611
6	26-8-15	1	recovery from deadlock.		TB-1 & 2 Pg 615-619

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
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MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - VI	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. Of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	27-8-15	1	Directory structure, File system mounting, file sharing and protection,		TB-1 Pg 565-67
2	29-8-15	1	File system structure implementation,		TB-1 Pg 568-70
3	30-8-15	1	Directory implementation		TB-1 Pg 571-72
4	1-9-15	1	,free space management,		TB-1 Pg 573-75
5	2-9-15	1	Efficiency and performance		TB-1 Pg 576,582
6	3-9-15	1	File system implementation		TB -1 Pg 583-89

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
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MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - VII	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering

The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. Of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	5-9-15	1	Mass storage structure – over view of mass storage structure		TB-1 Pg 644
2	7-9-15	1	Disk structure		TB-1 Pg 645
3	8-9-15	1	disk attachment,		TB-1 Pg 657
4	9-9-15		disk scheduling, swap space management		
5	10-9-15	1	I/O systems, I/O hardware, sub systems		TB-2 Pg 660
6	11-9-15	1	disk attachment, disk scheduling swap		TB-2 Pg 663
7	12-9-15	1	I/O systems		TB-2 Pg 664,672

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - VIII	2015-16 Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Sl. No.	Date	No. Of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal…) Page No___ to ___
1	14-9-15	1	**Case Study-II-Linux System** Principles		TB-2 Pg 274
2	15-9-15	1	Kernel modules,		TB-2 Pg 275
3	16-9-15	1	Process Management		TB-2 Pg 276
4	17-9-15	2	Scheduling Memory Management		TB-2 Pg 277
5	18-9-15	1	File Systems, Input and Output,		TB-2 Pg 278
6	20-9-15	1	Interposes Communication ,		TB-2 pg279
7	29-9-15	3	Network Structure , Security		TB2 Pg 280

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	COURSE COMPLETION STATUS	2015-16
		Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI

Subject:: Data Base Management systems Subject Code

Department:: Computer Science and Engineering

Actual Date of Completion & Remarks, if any

Units	Remarks	Nos. of Objectives Achieved
Unit 1	Define identify Reproduce	3
Unit 2	Label List Describe Defend	4
Unit 3	Match procedure Reproduce Distinguish	4
Unit 4	Select Estimate State Explain why/how	4
Unit 5	Extend Generalize	2
Unit 6	Generalize Give examples	2
Unit 7	Illustrate Infer	2
Unit 8	Summarize	2

Signature of Dean of School
Date:

Signature of Faculty
Date:

NOTE: AFTER THE COMPLETION OF EACH UNIT MENTION THE NUMBER OF OBJECTIVES ACHIEVED.

	TUTORIAL SHEETS – II	2015-16
		Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Date:

This Tutorial corresponds to Unit Nos. **1&2** Time:

1. Define OS and explain about functions of OS briefly
2. Explain about storage structure and I/O structure
3. Explain evolution of OS

a) Explain about all the states of a process with a neat diagram b) Explain about all

CPU scheduling algorithms with examples

4 Explain about process creation and termination in UNIX

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School
Date:

Signature of Faculty
Date:

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering
The Schedule for the whole Course / Subject is::

Date:

This Tutorial corresponds to Unit Nos. **3 , 4, 5** Time:

1. What are the principles of concurrency and explain the execution of the Concurrent processwith an e.g.
2. What is a semaphore? Define the binary semaphore primitives and explain semaphore mechanism with an e.g.

3)State and explain the various page replacement algorithms in detail?

4.a)Differentiate between demand cleaning and pre-cleaning

b)What is the difference between resident set and a working set

c) Explain with suitable examples about page replacement algorithms

5)Write short notes on page table structure, Translation look aside buffer, Segmentation, paging.

1.What is deadlock? Prove that an unsafe state is not deadlock state. Explain the necessary conditions for the deadlocks.

1. What is deadlock avoidance? Explain process initiation denial and resource allocation denial in detail with example
2. What are the principles of deadlock? And explain in detail the two categories of resources
3. a)What are the conditions that must satisfy for deadlock occurrence and explain them

b)Is the deadlocks problem preventable? Justify your answer with example and diagram

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School
Date:

Signature of Faculty
Date:

	TUTORIAL SHEETS - II	2015-16
		Regulation: R11

FACULTY DETAILS:

Name of the Faculty:: Mrs.P.UMA DEVI
Designation: Assistant Professor
Department:: Computer Science and Engineering

Date:

This Tutorial corresponds to Unit Nos.,6,7,8 Time:

Q1.

1.(a) Explain various disk performance parameters.

(b) Show that the use buffer can reduce the running time by at most a factor of two.

2. Suppose the head of a moving- head disk with 200 tracks, numbered 0 to 199, is currently serving a request at track 153 and has just finished a request at track 125. If the queue of requests is kept in FIFO order: 86, 157, 91, 177, 94, 150, 102, 175, 130. What is the total head movement to satisfy these requests for the following disk scheduling algorithms.

Q2. 1.Write short notes on a)viruses b)Worms c) Logic bomb d)Trap door 2.a) What are the security requirements of a computer and network.

b) Explain different types of threats.c) Explain the computer system assets.

Q3.

Q4.

Q5.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School
Date:

Signature of Faculty
Date:

	ILLUSTRATIVE VERBS FOR STATING INSTRUCTIONAL OBJECTIVES	2015-16
		Regulation: R11

These verbs can also be used while framing questions for Continuous Assessment Examinations as well as for End – Semester (final) Examinations.

ILLUSTRATIVE VERBS FOR STATING **GENERAL OBJECTIVES**

Know Comprehend	Understand Apply	Analyze Design	Generate Evaluate

ILLUSTRATIVE VERBS FOR STATING **SPECIFIC OBJECTIVES:**

A. Cognitive Domain

1	2	3	4	5	6
Knowledge	**Comprehension Understanding**	**Application** of knowledge & Comprehension	**Analysis** of whole w.r.t. its constituents	**Synthesis** combination of ideas/constituents	**Evaluation** judgement
Define	Convert	Change	Breakdown	Categorize	Appraise
Identify	Defend	Compute	Differentiate	Combine	Compare
Label	Describe (a	Demonstrate	Discriminate	Compile	Conclude
List	procedure)	Deduce	Distinguish	Compose	Contrast
Match	Distinguish	Manipulate	Separate	Create	Criticize
Reproduce	Estimate	Modify	Subdivide	Devise	Justify
Select	Explain why/how	Predict		Design	Interpret
State	Extend	Prepare		Generate	Support
	Generalize	Relate		Organize	
	Give examples	Show		Plan	
	Illustrate	Solve		Rearrange	
	Infer			Reconstruct	
	Summarize			Reorganize	
				Revise	

B. Affective Domain		**C. Psychomotor Domain (skill development)**				
Adhere	Resolve	Bend	Dissect	Insert	Perform	Straighten
Assist	Select	Calibrate	Draw	Keep	Prepare	Strengthen
Attend	Serve	Compress	Extend	Elongate	Remove	Time
Change	Share	Conduct	Feed	Limit	Replace	Transfer
Develop		Connect	File	Manipulate	Report	Type
Help		Convert	Grow	Move preciselyReset		Weigh
Influence		Decrease	Handle	Operate	Run	
Initiate		Demonstrate	Increase	Paint	Set	

	LESSON PLAN **Unit-1**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit I

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Data base System Applications,	50 min	TB1	PPT,charts
2	data base System VS file System ,	50 min	TB1	Chalk & board,PPT
3	View of Data – Data Abstraction , Instances and Schemas	50 min	TB1	Chalk & board
4	data Models , the ER Model ,Relational Model, Other Models ,	50 min	TB1	Chalk & board
6	Data base Users and Administrator Transaction Management	50 min	TB1	Chalk & board
7	Data base System Structure	50 min	TB1	Chalk & board

On completion of this lesson the student shall be able to(Outcomes)

1.Understands the concept reg os

2.gets an idea how os is used

3.could understand role played by os

4 gets the understanding of the structure of the os

	ASSIGNMENT **Unit-I**	2015-16 Regulation: R11

Assignment / Questions

1.Define OS? List roles played by os

2. Explain os system structure.

3Explain the kernel mode and user mode.

.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN **Unit-II**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit **II**

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
8	Process management, and ,	50 min	TB2	Ppt Chalk & board
9	Process concepts	50 min	TB2	Chalk & board
10	Threads	50 min	TB2	Charts,Chalk & board
11	Scheduling criteria	50 min	TB2	Chalk & board
12	Algorithms	50 min	TB2	Chalk & board, charts
13	Algorithms their evaluation,	50 min	TB2	Chalk & board
15	Threads scheduling, case studies UNIX, Linux , Windows	50 min	TB2	Chalk & board,charts

On completion of this lesson the student shall be able to

1. Understands the process

2. Gets idea how scheduling system

3. understands the different algorithms on cpu sheduling

	ASSIGNMENT **Unit-II**	2015-16 Regulation: R11

Assignment / Questions

1. What is a weak entity set? Differentiate between entity set and strong entity set.

2. Define Aggregation. What is the problem associated with aggregation? Discuss the remedies.

3. What is a partial key? How is it represented in ER diagram? Give an example.

4. What is descriptive attribute? Explain .

5. Discuss the usage of ISA feature in ER diagrams.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN **Unit-III**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit III

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
15	Introduction to the Relational Model	50 min	TB2	Chalk& Board,
16	Integrity Constraint Over relations	50 min	TB2	Chalk& Board, excersise
17	Enforcing Integrity constraints	50 min	TB2	Chalk& Board, excersise
18	Querying relational data	50 min	TB2	Chalk& Board exercise
19	Logical data base Design	50 min	TB2	Chalk& Board exercise
20	Introduction to Views	50 min	TB2	Chalk& Board exercise
21	Destroying /altering Tables and Views.	50 min	TB2	Chalk& Board exercises
22	Relational Algebra Selection and projection	50 min	TB2	Chalk& Board exercise
23	set operations renaming Joins Division	50 min	TB2	Chalk& Board exercise
24	Examples of Algebra overviews	50 min	TB2	Chalk& Board exercise
25	Relational calculus Tuple relational Calculus Domain relational calculus	50 min	TB2	Chalk& Board exercise
26	Expressive Power of Algebra and calculus	50 min	TB2	Chalk& Board exercise

On completion of this lesson the student shall be able to(Outcomes)

1.Identify the computational back ground for relational algebra

2.Understands the selection projection renaming operations

3.understands the necessity of relational calculus

	ASSIGNMENT **Unit-III**	2015-16 Regulation: R11

Assignment / Questions

1. Define the divisible operation in terms of the basic Relational Algebra operations.
2. Describe a typical query that calls for division. Unlike join, the division operation is not given special treatment in database systems. Explain why.

3. Relational calculus is said to be a declarative language, in contrast to algebra, which is a procedural language. Explain the distinction.

4. Define all the variations of the join operation. Why is the join operation given special attention? Cannot we express every join operation in terms of Cross-product, Selection and Projection?

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN **Unit-IV**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit IV

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
26	Form of Basic SQL Query	50 min	TB2,Ref 2	PPT, Demonstration system
27	Examples of Basic SQL Queries	50 min	TB2	PPT Demonstration system
28	Introduction to Nested Queries	50 min	TB2	PPT Demonstration system
29	Correlated Nested Queries Set	50 min	TB2	PPT Demonstration on system
30	Comparison Operators Aggregative Operators NULL values	50 min	TB2	PPT Demonstration on system
31	Comparison using Null values	50 min	TB2	PPT Demonstration on system
32	Logical connectivity's – AND, OR and NOT	50 min	TB2	PPT Demonstration on system
33	Impact on SQL Constructs Outer Joins	50 min	TB2	PPT Demonstration on system
34	Disallowing NULL values	50 min	TB2	PPT Demonstration on system
35	Complex Integrity Constraints in SQL Triggers and Active Data bases	50 min	TB2	PPT Demonstration on system

On completion of this lesson the student shall be able to (Outcomes)

1.learns ddl,dml cmds

2.understands & learns the queries

3.Implementation of the queries in various real time applications

	ASSIGNMENT **Unit-IV**	2015-16 Regulation: R11

Assignment / Questions

1. Consider the following Schema:

Suppliers (sid: integer, sname: string, address: string)
Parts (pid: integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)

(a) The key fields are underlined. The catalog relation lists the price changes for parts by supplies. Write the following queries in SQL.

i. Find the pnames of parts for which there is some supplier.
ii. Find the snames of suppliers who supply every part.
iii. Find the pnames of parts supplied by raghu supplier and no one else.
iv. Find the sids of suppliers who supply only red part.

(b) The key fields are underlined. The catalog relation lists the price changes for parts by supplies. Write the following queries in SQL.

i. Find sids of suppliers who supply a red part and a green part.
ii. Find sids of suppliers who supply a red part or a green part.
iii. For every suppliers that only supplies green parts, print the name of the supplier.

2. Explain the following in SQL with examples.
(a) Nested Queries
(b) Correlated Queries
(c) Group by and Having Clauses
(d) Triggers

3. What is correlated nested query? Explain with an example.

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Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN **Unit-V**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
36	Schema refinement	**50 min**	**TB1,TB2**	Chalk & board
37	Problems Caused by redundancy	**50 min**	**TB1,TB2**	Chalk & board
38	Decompositions	**50 min**	**TB1,TB2**	Chalk & board
39	Problem related to decomposition	**50 min**	**TB1,TB2**	Chalk & board
40	reasoning about FDS –	**50 min**	**TB1,TB2**	Chalk & board
41	FIRST, SECOND, THIRD Normal forms ,BCNF	**50 min**	**TB1,TB2**	Chalk & board
42	Lossless join Decomposition	**50 min**	**TB1,TB2**	Chalk & board
43	Dependency preserving Decomposition	**50 min**	**TB1,TB2**	Chalk & board
44	Schema refinement in Data base Design	**50 min**	**TB1,TB2**	Chalk & board
45	Multi valued Dependencies	**50 min**	**TB1,TB2**	Chalk & board
46	FOURTH Normal Form	**50 min**	**TB1,TB2**	Chalk & board

On completion of this lesson the student shall be able to (Outcomes)
1.understand the necessity of schema refinement

2.learn & understand about the normal forms

3.analyze & implementation of normal forms

	ASSIGNMENT **Unit-V**	2015-16
		Regulation: R11

Assignment / Questions

1. What is normalization?
2. Explain 1NF, 2NF, 3NF and BCNF with suitable example.
3. Explain non-loss decomposition and functional dependencies with suitable examples
4. Discuss how schema refinement an improve schemas obtained through ER design

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Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN **Unit-VI**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
47	Transaction Concept	**50 min**	**TB1,TB2**	Chalk& board,
48	Transaction State	**50 min**	**TB1,TB2**	Chalk & board
49	Implementation of Atomicity and Durability	**50 min**	**TB1,TB2**	Chalk& board,
50	Concurrent Executions	**50 min**	**TB1,TB2**	Chalk & board
51	Serializability Recoverability	**50 min**	**TB1,TB2**	PPTs,Chalk & board,
52	Implementation of Isolation Testing for serializability	**50 min**	**TB1,TB2**	Chalk & board
53	Lock Based Protocols	**50 min**	**TB1,TB2**	PPTs,Chalk & board,
54	Timestamp Based Protocols	**50 min**	**TB1,TB2**	Chalk & board
55	Validation-	**50 min**	**TB1,TB2**	Chalk& board,
56	Based Protocols Multiple Granularity	**50 min**	**TB1,TB2**	Chalk & board

On completion of this lesson the student shall be able to (Outcomes)

1. Learn and Understand the ACID properties

2.Analyze about transaction mgmt

3.Understand the concept about transaction mgmt.

	ASSIGNMENT **Unit-VI**	2015-16
		Regulation: R11

Assignment / Questions

1. Discuss about Lock based protocols and validation based protocols in transaction management.

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2 .What is meant by transaction state? Discuss about Timestamp based protocols

3. What is a schedule? Explain the distinction between the terms serial schedule and Serializable schedule.

4. Discuss about the performance of locking.

5.What is a transaction? Explain ACID properties.

6. Discuss the transaction support in SQL.

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Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-VII	2015-16
		Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit :VII

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
57	Recovery and Atomicity	50 min	TB1	Chalk& board, PPTs
58	Log Based Recovery	50 min	TB1	Charts, PPTs
59	Recovery with Concurrent Transactions	50 min	TB1	Chalk & board
60	Buffer Management	50 min	TB1	Chalk & board, charts
61	Failure with loss of nonvolatile storage	50 min	TB1	Chalk & board, charts
62	Advance Recovery systems Remote Backup systems	50 min	TB1	Chalk & board, charts

On completion of this lesson the student shall be able to

1.understands about the recovery management

2.learns about the buffer management

	ASSIGNMENT Unit-VII	2015-16
		Regulation: R11

Assignment / Questions

1. Briefly discuss ARIES algorithm. [15]

2. What is an index? Differentiate between sparse and dense indices.

3. Make a comparison of sorted file organization with heap file organization.

4. Explain dead lock prevention policies employed in databases.

5. Briefly discuss write ahead log protocol.

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Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN **Unit-VIII**	2015-16 Regulation: R11

Name of the Faculty: Mrs.P.UMA DEVI

Subject DBMS Subject Code

Unit

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
63	Data on External Storage	50 min	TB1,TB2	Chalk & board, PPTs
64	File Organization and Indexing	50 min	TB1,TB2	Charts, Chalk & board
65	Cluster Indexes	50 min	TB1,TB2	Chalk & board, PPTs
66	Primary and Secondary Indexes	50 min	TB1,TB2	Charts, Chalk & board
67	Index data Structures	50 min	TB2	Chalk & board, PPTs
68	Hash Based Indexing	50 min	TB2	Charts, Chalk & board
69	Tree base Indexing	50 min	TB2	Chalk & board, PPTs
70	Comparison of File Organizations	50 min	TB2	Charts, Chalk & board
71	Indexes and Performance Tuning	50 min	TB2	Chalk & board, PPTs
72	Intuitions for tree Indexes	50 min	TB2	Charts, Chalk & board
73	Indexed Sequential Access Methods (ISAM)	50 min	TB2	Chalk & board,PPTs
74	B+ Trees: A Dynamic Index Structure	50 min	TB2	Charts, Chalk & board

On completion of this lesson the student shall be able to

1.understands the storage & file organization

2. learns and understands the different methods for access of the files.

3.

4

	ASSIGNMENT **Unit-VIII**	2015-16
		Regulation: R11

Assignment / Questions

1.Explain about Indexed sequential access methods.

2.Explain with examples primary ,secondary indexes

3.Explain B^+ - trees.

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Note: Mention for each question the relevant objectives and outcomes.