Indra Ganesan
COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL
INDRA GANESAN COLLEGE OF ENGINEERING

Criteria 1	Curricular Aspects	100

1.1 Curricular Planning and Implementation (20)

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Table of Content

S. No	Description
1.	Preface of the Course File
2.	Workload Allocation
3.	Syllabus
4.	Course Committee Meeting
5.	Faculty Time Table
6.	Course Plan
7.	Content Beyond Syllabus
8.	Assignment Question paper
9.	Tutorial Question Paper
10.	Exam time table
11.	Internal Assessment Question Paper
12.	Retest Schedule
13.	Retest Question Paper
14.	Internal Assessment Answer book
15.	IQAC Academic Audit Form
16.	Root Cause Analysis

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF INFORMATION TECHNOLOGHY

PREFACE OF THE COURSE FILE

Batch   : 2017-2021

Academic Year   : 2018-2019/ EVEN

Program   : INFORMATION TECHNOLOGHY

Year & Semester   : 2nd Year / 4th Semester

Course Code   : CS8492

Name of the Course   : Database Management Systems

Faculty in-charge   : Mr.D P.Devan AP/IT

Signature of the Faculty in-charge   HoD/IT

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Indra Ganesan
COLLEGE OF ENGINEERING
Madural Main Road (NH-45B), Manikandam, Trichy-12.

Department of INFORMATIONTECHNOLOGHY

Work Load Allocation - Even Semester 2018-2019

S.NO.	Staff Name	Course Code	Course Name	Semester	Lecture / week	Total
1	Mrs.B.Kanisha	CS3491	Artificial Intelligence and Machine Learning	IV	4	14
		IT8601	Computational Intelligence	VI	4	
		IT8611	Project Work	VIII	6	
2	Mrs.K.Uthradevi	CS8493	Introduction to Operating Systems	IV	4	16
		CS8592	Object Oriented Analysis and System Design	VI	4	
		CS8091	Big Data Analytics	VI	4	
		CS8582	Object Oriented Analysis and System Design Laboratory	VI	4	
3	Mrs.V.Nancy	CS8491	COMPUTER ARCHITECTURE	IV	4	20
		IT8602	Mobile Communication	VI	4	
		CS8092	Computer Graphics and Mutimedia	VI	4	
		CS8662	Mobile Application Development Laboratory	VI	4	
		IT8611	Mini Project	VI	4	
4	Mr.Dp.Devaan	CS8492	Database Management Systems	IV	4	20
		IT8076	Software Testing	VI	4	
		CS3251	Programming in C	II	4	
		CS3481	Database Management Systems Laboratory	IV	4	
		IT8611	Mini Project	VI	4	
5	Mrs.S.Sarojadevi	CS8451	Design and Analysis of Algorithms	IV	4	12
		CS3461	Operating Systems Laboratory	IV	4	
		CS3271	C Programming Laboratory	II	4	

PRINCIPAL

HOD/IT

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
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DEPARTMENT OF INFORMATION TECHNOLOGHY

CS8492   DATABASE MANAGEMENT SYSTEMS

OBJECTIVES: 3 0 0 3

- To understand the fundamentals of object modeling
- To understand and differentiate Unified Process from other approaches.
- To design with static UML diagrams.
- To design with the UML dynamic and implementation diagrams.
- To improve the software design with design patterns.
- To test the software against its requirements specification

UNIT I RELATIONAL DATABASES 10

Purpose of Database System – Views of data – Data Models – Database System Architecture –Introduction to relational databases – Relational Model – Keys – Relational Algebra – SQL fundamentals – Advanced SQL features – Embedded SQL– Dynamic SQL

UNIT II DATABASE DESIGN 8

Entity-Relationship model – E-R Diagrams – Enhanced-ER Model – ER-to-Relational Mapping – Functional Dependencies – Non-loss Decomposition – 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 III TRANSACTIONS 9

Transaction Concepts – ACID Properties – Schedules – Serializability – Concurrency Control – Need for Concurrency – Locking Protocols – Two Phase Locking – Deadlock – Transaction Recovery - Save Points – Isolation Levels – SQL Facilities for Concurrency and Recovery.

UNIT IV IMPLEMENTATION TECHNIQUES 9 RAID

File Organization – Organization of Records in Files – Indexing and Hashing –Ordered Indices – B+ tree Index Files – B tree Index Files – Static Hashing – Dynamic Hashing – Query Processing Overview – Algorithms for SELECT and JOIN operations – Query optimization using Heuristics and Cost Estimation.

UNIT V ADVANCED TOPICS 9

Distributed Databases: Architecture, Data Storage, Transaction Processing – Object-based Databases: Object Database Concepts, Object-Relational features, ODMG Object Model, ODL, OQL - XML Databases: XML Hierarchical Model, DTD, XML Schema, XQuery – Information Retrieval: IR Concepts, Retrieval Models, Queries in IR systems.

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
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Manikandam, Trichy-620 012.

TOTAL: 45 PERIODS

OUTCOMES:
Upon completion of the course, the students will be able to:

☐ Classify the modern and futuristic database applications based on size and complexity
  Map ER model to Relational model to perform database design effectively
  Write queries using normalization criteria and optimize queries
☐ Compare and contrast various indexing strategies in different database systems
  Appraise how advanced databases differ from traditional databases.

TEXT BOOKS:
1. Abraham Silberschatz, Henry F. Korth, S. Sudharshan, "Database System Concepts",Sixth Edition, Tata McGraw Hill, 2011

2. Ramez Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", Sixth Edition, Pearson, 2011.

REFERENCES:
1.C. J. Date, A.Kannan, S. Swamynathan, "An Introduction to Database Systems", Eighth Edition, Pearson Education, 2006.
2. Raghu Ramakrishnan, —Database Management Systemsǁ, Fourth Edition, McGraw-Hill College Publications, 2015.
3. G.K.Gupta,"Database Management Systems", Tata McGraw Hill, 2011

Hod/IT

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
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DEPARTMENT OF INFORMATION TECHNOLOGHY

Ref: SBECW/ IT / Course committee meeting / EM-I/ 2018-19 (Even)

DATE: 24.12.2018

COURSE COMMITTEE MEETING-CS8492-DATABASE MANAGEMENT SYSTEMS

ACADEMIC YEAR: 2017-2021 (EVEN)   **SEM:** 04   **REGULATION:** 2017
PROGRAM: IT   **DATE OF MEETING:** 24.12.18   **TIME:** 10.00AM   **Venue:** IT Dept. HoD Cabin

Members Present

Table.1 Course committee members

S.No.	Name of the faculty & Designation, Program	Sem/Sec/Program	Signature
1.	Dr.Depaan., HoD/IT - Course coordinator	IV SEM/IT	

HOD welcomed all the members present

1. Content of syllabus, unit wise discussed. Nature of qualitative, quantitative, problematic, theoretical concepts etc. have been discussed
2. With reference to the R-2017 regulation, Number of periods per unit = 09, total number of periods = 47 periods. 06 periods allotted for tutorials.
3. Vision and mission of the college, department discussed. POs, PEOs, PSOs discussed.
4. Course outcomes defined for each units, considering learning outcomes.

Table.2 Course Outcomes

CO	Course Outcomes	POs	PSOs
C203.1	To understand the basics of software designs with UML diagrams.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.2	To develop software models techniques and design software applications using OO concepts.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.3	To identify various scenarios based on software requirements.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.4	To transform UML based software design into pattern based design using design patterns.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.5	To understand the various testing methodologies for OO software.	1,2,3,4,5,6,7,8,9,10,11,12	1,2

5. Mapping of COs with POs and PSOs is done with suitable correlation levels(1 for low, 2 for medium, 3 for high,"-" for no correlation, before content beyond syllabus)

Table.3 Mapping of COs, C, PSOs with POs- before CBS.

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	2	3	-	2	1	2	-	-	-	-	2	2	2
C203.2	3	2	2	-	2	1	2	-	1	-	2	2	2	2
C203.3	3	-	1	-	-	1	2	-	-	2	-	2	2	2
C203.4	3	2	2	-	2	1	-	-	1	-	-	2	2	2
C203.5	-	-	2	-	-	-	2	-	-	2	2	-	-	-

6. Identification of content beyond syllabus- curricular gaps are identified considering industry needs, employers feedback, alumni feedback, government policy on industrialization, new investments by private/ public sectors, societal needs and level of correlation of COs with POs and PSOs. Accordingly the details of CBS added and its correlation is given below.

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Table.4 Identification of content beyond syllabus

Content beyond syllabus added	POs strengthened/Vacant filled	CO/Unit
Formal Languages and Automata Theory	PO8 Vaccant Filled	C203.3 &C203.5 FILLED / II & IV

7. Mapping of COs with POs, PSOs- after CBS.

Table.5 Mapping of COs, C, PSOs with POs- after CBS.

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	2	3	-	2	1	2	-	-	-	-	2	2	2
C203.2	3	2	2	-	2	1	2	-	1	-	2	2	2	2
C203.3	3	-	1	-	-	1	2	2	-	2	-	2	2	2
C203.4	3	2	2	-	2	1	-	-	1	-	-	2	2	2
C203.5	-	-	2	-	-	-	2	2	-	2	2	-	-	-

8. Content beyond syllabus is thus identified based on the above. Plan for handling of CBS by internal/external resource person/ industrial visits are decided. This will be included in the class log book.

9. Lecture schedule should be prepared unit wise, as in the syllabus. Number of periods per unit and total number of periods planned should not be less than, periods allotted in the syllabus of Anna University.

10. Plan for additional Periods for IA tests, CBS, NPTEL delivery, Seminar, Quiz etc are to be incorporated in the lecture schedule. These periods are added exclusive of number of periods prescribed in the syllabus.

11. Plan for at least three assignments (with level of correlation), seminar topic, quiz questions discussed.

12. Separate tutorial sheets should be prepared and supplied to all students. Minimum two periods per unit to be planned, totally 02 tutorial periods. Minimum 1 tutorial questions should be set per unit, totally 06 tutorial questions.

13. Bright students and slow learners are to be identified, immediately after IA test - I. such students may be counselled suitably and the evidence for counselling to be recorded in the attendance cum assessment record. (Sign of students with date and time of counselling, to be strictly recorded and to be attached in the course file). Such counselling may be conducted after college hours.

14. For those students secured less than 60% in the IA Test, Makeup test should be conducted. Correspondingly root cause analysis for reasons of failure, corrective and preventive action, and follow up action taken should be filed properly.

15. Contents of course file to be reviewed periodically.

16. Lecture schedule, assignment questions, tutorial questions, course materials, AU questions (at least 5) should be supplied within one week after the commencement of classes.

17. Course material should be uploaded in the college website for student's reference.

18. Discrepancy in question paper, if any to be informed to the controller of examinations through web portal entry, after getting approval from the HoD & the Principal. Critically asked questions, if any to be discussed with the students of the next batch.

19. Immediately after the publication of the results, analysis are to be carried out and follow up action to be taken for the failures.

20. IA test question papers should be set as per the norms of the college, incorporating marks for learning outcomes and course outcomes. Common question papers should be set.

21. Certificate courses/Workshop/guest lectures may be planned inviting experts from industry/higher learning institutions.

22. After IA test, an objective type tests may be conducted (3 times in a semester-30 minutes duration-maximum 10 questions). Questions asked in GATE, TANCET, IES or any other Competitive examination can be taken as a reference. This is to facilitate the bright students to prepare for higher level of thinking and to enhance placement and higher studies opportunities.

23. IA test papers, assignment papers or any other papers submitted by the students, should be returned to the students within 5 days after correction. Sample paper should be suitably filed.

24. Long absentees of students if any to be informed to the parents through class coordinator, if such students attendance less than 75%.

Course coordinator

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Principal
Indra Ganesan College of Engineering
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HoD/IT

Internal Assessment Test - I Even Sem Time Table (Higher Semester) - 2018-19

S.No	Branch	YEAR	31.12.2018	31.12.2018	02.01.2019	02.01.2019	03.01.2019	03.01.2019
1	CIVIL	II	CE8601 & DSSE	CE8602&SA-II	CE8603&IE	CE8604&HE	EN8592&WWE	
		III						CS3451&OS
		IV						
2	CSE	II	CS3452&TOC	CS3491&AI	CS3492&DBMS	CS3401&ALG	GE3451&EVS	CS3451&OS
		III	CS8651&IP	CS8691&AI	CS8601&MC	CS8602&CD	CS8603&DS	
		IV	GE8076&PE	CS8080&IRT				
3	EEE	II	EE3404&MPMC	EE3405&EM II	EE3401&TD	EE3403&MI	GE3451&EVS	EE3402&LIC
		III	EE8601&SSD	EE8602&PSG	EE8691&ES	EE8005&SEM	EE8002&DEA	
		IV	EE8015&EEG	EE8018&MCB				
4	ECE	II	EC3452&EMF	EC3401&NS	EC3491&CS	EC3451&LIC	GE3451&EVS	EC3492&DSP
		III	MG8591&POM	EC8651&TLRF	EC8691&MPMC	EC8652&WC	EC8095&VLSI	
		IV	GE8076&PE	EC8094&SATCOM				
5	MECH	II	ME3491&TOM	ME3451 &TE	ME3493 &MT-II	ME3492&H&P	GE3451&EVS	CE3491&SM
		III	ME8651&DTS	ME8691&CAD/CAM	ME8693& HMT	ME8602&FEA	ME8694&HP	
		IV	MG8591&POM	ME8094&CIM				
6	AGRI	II	AI3401&TES	AI3402&SWC	AI3403&SOM			
		III				CE3691&HWE	GE3451&EVS	ME3391&TD
		IV						
7	AI&DS	II	MA3391&PS	AL3452&OS	AL3451&ML	AD3491&FDS	GE3451&EVS	CS3591&CN
		III						
		IV						
8	IT	II	CS3452&TOC	CS3491&AI	CS8492&DBMS	IT3491&WE	GE3451&EVS	CS3451&OS
		III	IT8601&CI	CS8592&OOAD	IT8602&MC	CS8091&BDA	CS8092&CGM	
		IV	GE8076&PE	CS8080&IRT				

Exam cell Coordinator

Dr. G. Balakrishnan, M.E, Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Principal

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DEPARTMENT OF INFORMATION TECHNOLOGHY

Lecture Schedule

Degree/Program: **B.TECH / IT**
Duration: **2017**

Course code &Name: **CS8492 & DBMS**
Semester: **IV** Faculty : **Mr.DP.Devan**

AIM:

To expose the students to principle of operation and performance of electrical machines

OBJECTIVES:

To impart knowledge on

(i) To introduce techniques of magnetic-circuit analysis and introduce magnetic materials.

(ii) To familiarize the constructional details, the principle of operation, prediction of performance, the methods of testing the transformers and three phase transformer connections.

(iii) To study the working principles of electrical machines using the concepts of electromechanical energy conversion principles and derive expressions for generated voltage and torque developed in all Electrical Machines.

(iv) To study the working principles of DC machines as Generator types, determination of their no- load/load characteristics, starting and methods of speed control of motors.

(v) To estimate the various losses taking place in D.C. Motor and to study the different testing methods to arrive at their performance.

PREREQUISITES: Circuit theory, Electromagnetic theory.

COURSE OUTCOMES:

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C203.1	To establish the basics of software designs with UML diagrams.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.2	To develop software models techniques and design software applications using OO concepts.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.3	To identify various scenarios based on software requirements.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.4	To transform UML based software design into pattern based design using design patterns.	1,2,3,4,5,6,7,8,9,10,11,12	1,2
C203.5	To develop the various testing methodologies for OO software.	1,2,3,4,5,6,7,8,9,10,11,12	1,2

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S.No	Date	Topics to be Covered	Book
UNIT -I RELATIONAL DATABASES			**Target periods :09**
1	01. 02. 19	Purpose of Database System	T1/BB
2	04. 02 19	Views of data	R2/BB
3	04 02 19	Data Models	T1/BB
4	06.02 19	Database System Architecture	T3/BB
5	07 02 19	Introduction to relational databases	R3/BB
6	08 02 19	Relational Model	T2/BB
7	11 02 19	Keys – Relational Algebra	T1/BB
8	11.02.19	SQL fundamentals	T1/BB
9	13 02 19	Advanced SQL features	T1/BB
10	14.02.19	Embedded SQL– Dynamic SQL	
11	15.02 19	Tutorial	
UNIT II -DATABASE DESIGN			**Target periods :09**
12	16.02.19	Entity-Relationship model	T1/BB
13	18.02.19	E-R Diagrams- Enhanced-ER Model	R2, T1/BB
14	18.02.19	ER-to-Relational Mapping	R2, T1/BB
15	19.02.19	Functional Dependencies – Non-loss Decomposition	T1/BB
16	19 02.19	First, Second, Third Normal Forms	R3 /BB
17	19.02.19	Dependency Preservation – Boyce/Codd Normal Form	T1/BB
18	25.02.19	Fourth Normal Form	T1/BB
19	25.02.19	Join Dependencies	R1/BB
20	25.02.19	Fifth Normal Form	T1/BB
21	26 02 19	Tutorial	
22	26 02 19	Tutorial	
UNIT III -TRANSCATIONS			**Target Periods :09**
23	27.02.19	Transaction Concepts	T1/BB
24	27.02 19	ACID Properties – Schedules	T1/BB T1/BB
25	28.02.19	Serializability – Transaction support in SQL	R1/BB
26	28 02 19	Need for Concurrency- Concurrency control	T2/BB
27	01 02 19	Two Phase Locking- Timestamp	R1/BB
28	01 02.19	Multiversion – Validation and Snapshot isolation	T3/BB
39	02 03.19	Multiple Granularity locking – Deadlock Handling	T3/BB
30	02 03 19	Recovery Concepts	
31	4 3. 19	Recovery based on deferred and immediate update	
32	4. 3.19	Shadow paging	
UNIT IV -IMPLEMENTATION TECHNIQUES			**Target Periods :09**
33	05.03.19	RAID – File Organization	T1/BB
34	05 03.19	Organization of Records in Files	T1/BB
35	06 03.19	Data dictionary Storage	R2/BB
36	06.03.19	Column Oriented Storage– Indexing and Hashing	T1/BB
37	07.03.19	Ordered Indices	T3/BB
38	07 03 19	B+ tree Index Files	R3/BB
39	08 03 19	B tree Index -Files – Static Hashing	R2/BB

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40	09.03.19	Dynamic Hashing	T1/BB T1/BB
41	09.03.19	Query Processing Overview	
42	11.03.19	Tutorial	

UNIT V - ADVANCED TOPICS   **Target Periods:09**

43	21.03.19	Distributed Databases: Architecture	T1/BB
44	22.03.19	Data Storage, Transaction Processing, Query processing and optimization	T2/BB
45	25.03.19	NOSQL Databases: Introduction	R1/BB
46	26.03.19	CAP Theorem – Document Based systems	T3/BB
47	27.03.19	Key value Stores	R3/BB
48	28.03.19	Column Based Systems – Graph Databases.	T1/BB
49	29.03.19	Database Security: Security issues –	R2/BB
50	02.04.19	Access control based on privileges	R1/BB
51	01.04.19	Role Based access control	
52	05.04.19	Tutorial	
53	08.04.19	Tutorial	
Content Beyond the Syllabus			
54	12.04.19	Formal Languages and Automata Theory	Material

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Internal Assessment Exam - I			Date/Session	02.01.2019	Marks		50
Course code	CS8492	Course Title	DATABASE MANAGEMENT SYSTEMS				
Regulation	2017	Duration	90 minutes	Academic Year		2018-2019	
Year	II	Semester	IV	Department		IT	

COURSE OUTCOMES

CO1:	Construct SQL Queries using relational algebra
CO2:	Design database using ER model and normalize the database
CO3:	Construct queries to handle transaction processing and maintain consistency of the database
CO4:	Compare and contrast various indexing strategies and apply the knowledge to tune the performance of the database
CO5:	Appraise how advanced databases differ from Relational Databases and find a suitable database for the given requirement

Q.No.	Question	CO	BTS
	PART A (Answer all the Questions 10 x 2 = 20 Marks)		
1	Define a database	CO1	K1
2	What is the pupose of database management system?	CO1	K2
3	What is Aggregate function? And lists the aggregate functions supported by SQL?	CO1	K2
4	What are attributes? Give example	CO1	K1
5	Write about Grant Command in SQL	CO1	K1
6	What are the disadvantages of file processing System	CO1	K1
7	Define view. Explain with an example	CO1	K3
8	Difference between Dynamic and static SQL.	CO2	K2
9	What is referential integrity constraint?	CO2	K5
10	What is the multivalued dependency?	CO2	K2
	PART B (Answer all the Questions 2 x 10 = 20 Marks)		
11a	Explain Database System Architecture with an example	CO1	K6
	OR		
11b	Explain different groups of data models with suitable examples.	CO1	K6
12a	Explain Relational operations in relational algebra with example.	CO2	K2
	OR		
12b	Briefly explain about Basic schema in SQL fundamentals i)creation ii)Insertion ii)Select iv)Where v)Update vi)Delete vii)Logical operators	CO2	K2
	PART C (Answer all the Questions 1 x 10 = 10 Marks)		
13a	Expalin Keys-SUPER,CANDIDATE and PRIMARY ii)Consider the following relational schema employee(empno,name,office,age) books(isbn,title,authors,publisher) loan(empno,isbn,date) i) Find all the names Who have "DBMS" books ii)Find the books which has isbn=010	CO1	K4
	OR		
13b	What are the basic concepts of ER model and its mapping cardinality.	CO1	K2

Course Faculty
(Name /Sign / Date)

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HoD
(Name /Sign / Date)

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DEPARTMENT OF INFORMATION TECHNOLOGHY

Identification of Curricular Gap & Content Beyond Syllabus(CBS)

Name of the Faculty : Mr.DP.Devan　　　　**Course Code & Name: CS8492 & DBMS**

Technology Degree & Program: B.TECH /IT　　　**Semester: IV　Year: 2018 -2019 /EVEN**

I.Mapping of Course Outcomes with POs & PSOs.(before CBS)

Table.1 Mapping of COs, C, PSOs with POs - before CBS.

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	2	3	-	2	1	2	-	-	-	-	2	2	2
C203.2	3	2	2	-	2	1	2	-	1	-	2	2	2	2
C203.3	3	-	1	-	-	1	2	-	-	2	-	2	2	2
C203.4	3	2	2	-	2	1	-	-	1	-	-	2	2	2
C203.5	-	-	2	-	-	-	2	-	-	2	2	-	-	-
C203	3	2	2	-	2	1	2	-	1	2	2	2	2	2

II. Identification of content beyond syllabus.

Table.2 Identification of content beyond syllabus

Details of Content Beyond Syllabus(CBS) added	POs strengthened/ vacant filled	CO/Unit
Formal Languages and Automata Theory	PO8 Vaccant Filled	C203.3 &C203.5 FILLED II & IV

III. Mapping of Course Outcomes with POs & PSOs. (After CBS)

Table.3 Mapping of COs, C, PSOs with POs- after CBS.

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	2	3	-	2	1	2	-	-	-	-	2	2	2
C203.2	3	2	2	-	2	1	2	-	1	-	2	2	2	2
C203.3	3	-	1	-	-	1	2	*2	-	2	-	2	2	2
C203.4	3	2	2	-	2	1	-	-	1	-	-	2	2	2
C203.5	-	-	2	-	-	-	2	*2	-	2	2	-	-	-
C203	3	2	2	-	2	1	2	2	1	2	2	2	2	2

Signature of the Faculty　　　　　　　　　　　　**HoD/ IT**

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012,
India (Approved by AICTE, New Delhi, Affiliated to Anna
University, Chennai-25)

DEPARTMENT OF INFORMATION TECHNOLOGHY

Proof and identification of Content Beyond Syllabus(CBS)

Name of the Faculty : Mr.D P.Devan
Degree & Program: B.TECH & IT

Course Code & Name: CS8492& DBMS
Semester: IV Academic Year: 2018 -2019

TOPIC: Formal Languages and Automata Theory

The relative roles and computational power of scanners, parsers, regular expressions, and context-free grammars is based on the formalisms of *automata theory*. In automata theory, a *formal language* is a set of strings of symbols drawn from a finite *alphabet*. A formal language can be specified either by a set of rules (such as regular expressions or a context-free grammar) that generates the language, or by a *formal machine* that *accepts* (*recognizes*) the language. A formal machine takes strings of symbols as input and outputs either "yes" or "no." A machine is said to accept a language if it says "yes" to all and only those strings that are in the language. Alternatively, a language can be defined as the set of strings for which a particular machine says "yes."

Formal languages can be grouped into a series of successively larger classes known as the *Chomsky hierarchy*.[14] Most of the classes can be characterized in two ways: by the types of rules that can be used to generate the set of strings, or by the type of formal machine that is capable of recognizing the language. *regular languages* are defined by using concatenation, alternation, and Kleene closure, and are recognized by a scanner. *Context-free languages* are a proper superset of the regular languages. They are defined by using concatenation, alternation, and recursion (which subsumes Kleene closure), and are recognized by a parser.

A scanner is a concrete realization of a *finite automaton*, a type of formal machine. A parser is a concrete realization of a *push-down automaton*. Just as context-free grammars add recursion to regular expressions, push-down automata add a stack to the memory of a finite automaton. There are additional levels in the Chomsky hierarchy, but they are less directly applicable to compiler construction, and are not covered here.

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

It can be proven, constructively, that regular expressions and finite automata are equivalent: one can construct a finite automaton that accepts the language defined by a given regular expression, and vice versa. Similarly, it is possible to construct a push-down automaton that accepts the language defined by a given context-free grammar, and vice versa. The grammar-to- automaton constructions are in fact performed by scanner and parser generators such as `lex` and `yacc`. Of course, a real scanner does not accept just one token; it is called in a loop so that it keeps accepting tokens repeatedly. As noted in the sidebar on page 60, this detail is accommodated by having the scanner accept the alternation of all the tokens in the language (with distinguished final states), and by having it continue to consume characters until no longer token can be constructed.

Signature of the Faculty

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012,

HoD/ IT

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF INFORMATION TECHNOLOGHY

<u>Assignment Question Paper</u>

Assignment – 01			Date of Issue:	21.12.2018	Marks	10
Course code	CS8492	Course Title	DATABASE MANAGEMENT SYSTEMS			
Year	II	Semester	IV	Date of Submission:	12.12.2018	

Q.No	Questions	CO
1	Explain in detail about DATA MODELS	C203.1
2	Explain in detail about RELATIONAL ALGEBRA	C203.1

<u>Mark Allocation</u>

Rubrics	Marks Allocated	Marks obtained
Content Quality	6	5
Presentation Quality	2	2
Timely submission	2	2
Total marks	10	9

Name and Signature of the Faculty Incharge

HoD/IT

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF INFORMATION TECHNOLOGHY

Tutorial Question Paper

Tutorial – 01			Date of Issue:	04.01.2019	Marks	10
Course code	CS8492	Course Title	DATABASE MANAGEMENT SYSTEMS			
Year	II	Semester	IV	Date of Submission:	10.01.2019	

Q.No	Questions	CO
1	**Explain the Multi-valued Dependencies and Fourth Normal Form**	C203.2
2	Describe the Join Dependencies and Fifth Normal Form	C203.2

Name and Signature of the Faculty Incharge

HoD/IT

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Indra Ganesan
COLLEGE OF ENGINEERING
Madurai Main Road (NH-45B),Manikandam,Trichy-12.
Approved by AICTE, NewDelhi & Affiliated to Anna University, Chennai

Internal Assessment Test – I Retest Even Sem Time Table (Higher Semester) – 2018-19

S.No	Branch	YEAR	08.01.2019	08.01.2019	09.01.2019	09.01.2019	10.01.2019	10.01.2019
1	CIVIL	II						
		III	CE8601 & DSSE	CE8602&SA-II	CE8603&IE	CE8604&HE	EN8592&WWE	
		IV						
2	CSE	II	CS3452&TOC	CS3491&AI	CS3492&DBMS	CS3401&ALG	GE3451&EVS	CS3451&OS
		III	CS8651&IP	CS8691&AI	CS8601&MC	CS8602&CD	CS8603&DS	
		IV	GE8076&PE	CS8080&IRT				
3	EEE	II	EE34404&MPMC	EE34405&EM II	EE3401&TD	EE3403&MI	GE3451&EVS	EE3402&LIC
		III	EE8601&SSD	EE8602&PSG	EE8691&ES	EER005&SEM	EE8002&DFA	
		IV	EE8015&EEG	EE8018&MCB				
4	ECE	II	EC3452&EMF	EC3401&NS	EC3491&CS	EC3451&LIC	GE3451&EVS	EC3492&DSP
		III	MG8591&POM	EC8651&TLRF	EC8691&MPMC	EC8652&WC	EC8095&VLSI	
		IV	GE8076&PE	EC8094&&SATCOM				
5	MECH	II	ME3491&TOM	ME3451 &TE	ME3493 &MT-II	ME3492&H&P	GE3451&EVS	CE3491&SM
		III	ME8651&DIS	ME8691&CAD/CAM	ME8693& HMT	ME8692&FEA	ME8694&HP	
		IV	MG8591&POM	ME8094&CIM				
6	AGRI	II	AI3401&TES	AI3402&SWC				
		III			AI3403&SOM	CE3691&HWE	GE3451&EVS	ME3391&TD
		IV						
7	AI&DS	II	MA3391&PS	AL3452&OS	AL3451&ML	AD3491&FDS	GE3451&EVS	CS3591&CN
		III						
		IV						
8	IT	II	CS3452&TOC	CS3491&AI	CS8492&DBMS	IT3491&WE	GE3451&EVS	CS3451&OS
		III	IT8601&CI	CS8592&OOAD	IT8602&MC	CS8091&BDA	CS8092&CGM	
		IV	GE8076&PE	CS8080&IRT				

Exam cell coordinator

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012,

Principal

Branch: IT	Retest -1	Year /Sem:II/4
Date: 09.01.2019		Time: 90min
Subject Code/Name:CS8492 – DBMS		Max. Marks:50

Answer All the QuestionsPart – A (10×2=20

			CO's	K
1	Define normalization.		CO1	K1
2	What is the multivalued dependency?		CO1	K3
3	What are the problems caused by redundancy?		CO2	K2
4	Explain properties of decomposition.		CO2	K2
5	What is join dependency?		CO2	K2
6	What is meant by serializable schedule?		CO1	K2
7	What are the two schedules conflict equivalent?		CO1	K1
8	List common concurrency control techniques.		CO1	K1
9	What are ACID properties?		CO1	K1
10	Write about Grant Command in SQL		CO1	K2

Part – B (2×10=20)

1	a	i)Consider the Functional dependencies R(ABCDE) for finding the minimal cover FD= Explain the concept of Redundancy and anomalies.	CO1	K2
		(OR)		
1	b	Explain BCNF and Multivalued dependencies	. CO1	K2
2	a	i)Explain the ACID properties of transaction and its states. Discuss wih example 1.read only 2.read write 3.abort transaction.	CO2	K4
		(OR)		
2	b	Exlain briefly about Serializability and its types.	CO2	K4
3	a	Consider 3 transactions and 2 Schedules.Check whether each scheduleis serializable or not? S1:r1(x),r2(z),r1(z),r3(x),r3(y),w1(x),w3(y),r2(y),w2(z),w2(y)	CO1	K2
3	b	Test the serializable of schedule :i)r1(x),r3(x),w1(x),r2(x),w3(x)	CO1	K2

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

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DEPARTMENT OF INFORMATION TECHNOLOGY

Internal Assessment Test Answer Book

Name	A. Merciya Mary		Year/Semester/Section	II / IV
Batch No.	2017 - 2021	Date/Session	12.2.2019/FN Department	IT
Course code	CS8492	Course Title	Database Management Systems	

Internal Assessment Test	☑ IAT1	☐ IAT2	☐ IAT3	☐ Model

Name and Signature of the Invigilator with date	Nancy V

Instruction to the Student: Put tick mark to the question at tended in the column against question.

Part A			Part B/Part C						Total Marks	
Q. No.	✔	Marks	Q.NO.	✔	a Marks	✔	b Marks			
1	✓	2	11			✓	12	12		
2	✓	1	12		11	✓		11		
3	✓	1	13	✓	12			12		
4	✓	0	14							
5	✓	2	15							
6	✓	2	16							
7	✓	2					Total	36		
8			Grand Total				Name and Signature			
9	✓	0					Of the Examiner with date			
10	✓	0	46							
Total		10								

To be filled by the examiner							
Course Outcomes	1	2	3	4	5	6	Total
Marks allotted	32	18					50
Marks Obtained	28	18					46

IQAC Audit-Remarks	Name and Signature of the IQAC member

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

IQAC Academic Audit Form

ACADEMIC YEAR: 2018-2019

Name of Department :	IT	Year / Sem :	II / IV	No. of Students Registered :	20

Details of Examination : **IA Test -1 / IA Test -2 / IA Test -3 / Model Test**

S.No.	Course Code	List of Reg.No Verified	Course Log Book Verified (Y/N)	Course File Verified (Y/N)	No of students Attended	No of Absentees	No of Failures	Pass %	Remarks
1.	MA8391	811217205001	Y	Y	20	1	0	100%	—
2.	CS8391	811217205007	Y	Y	20	1	1	95%	—
3.	CS8492	811217205008	Y	Y	20	1	2	90%	✓
4.	CS8451	811217205011	Y	Y	20	1	3	85%	✓
5.	CS8493	811217205020	Y	Y	20	1	2	90%	—
6.	GE8291	811217205022	Y	Y	20	1	1	95%	—

Verified by

External Member Name and Signature: Dr. P. HARIMUTHU & *[signature]*

Internal Member Name and Signature: J. Jenila *[signature]*

Overall Remarks:

HoD/ IT   IQAC Co-ordinator   Principal

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF INFORMATION TECHNOLOGHY

ROOT CAUSE ANALYSIS

Name of the Faculty : D. P. Devan

Degree & Program : B.TECH / IT

IA Test : I/ II / III / Model

Course code & Name : CS8492 & DBMS

Semester & Section : IV Sem

University Exam/

Month & Year : APR / MAY 2020

Target : 93

Achieved : 92

S.NO	ROLL NO	NAME OF THE STUDENT	CAUSES FOR FAILURE	CORRECTIVE ACTION TAKEN	PREVENTIVE ACTION TAKEN	FOLLOWUP STATUS	REMARKS OF THE HOD
1.	811217205010	Mukesh Kanna. S	Mums	Retest	Special coaching	Yes	-

Signature of the Faculty

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Signature of the HOD/ IT