



### SCHEME OF STUDIES & EXAMINATIONS: B Tech (CSE)

Department: Computer Science & Engineering – 8<sup>th</sup> Semester

Sr. No	Course No.	Course Title	Teaching Schedule			Marks of class work	Examination Marks		Total	Credit	Duration of Exam
			L	T	P		Theory	practical			
1	CSE 402B	DATABASE ADMINISTRATION	3	1	-	25	75	-	100	4	3
2	CSE 404B	SOFTWARE PROJECT MANAGEMENT (common with IT VIIth sem)	3	1	-	25	75	-	100	4	3
3		ELECTIVE -III	4		-	25	75	-	100	4	3
4		ELECTIVE -IV	4		-	25	75	-	100	4	3
5	CSE 422B	DATABASE ADMINISTRATION LAB			2	20		30	50	1	3
6	CSE 412 B	SEMINAR			2	50			50	2	
7	CSE 414 B	PROJECT			8	75		125	2900	8	3
8	GPCSE 402B	GENERAL FITNESS FOR THE PROFESSION	1					100	100	4	3
<b>Total</b>			18	2	10	315	375	60	750	28	

ELECTIVES – I		ELECTIVES - II	
IT 402B	DATA ANALYTICS AND APPLICATIONS	CSE 458 B	NATURAL LANGUAGE COMPUTING
IT 404B	LINUX ADMINISTRATION	CSE 460 B	GREEN COMPUTING
CSE 452B	SOFT COMPUTING	CSE 462 B	HIGH PERFORMANCE COMPUTING
CSE 454 B	DIGITAL IMAGE PROCESSING	CSE 464 B	SOFTWARE STANDARDS & QUALITY
CSE 456 B	WIRELESS COMMUNICATION	CSE 466 B	EMBEDDED SYSTEMS

**Note:-**

1. Every student has to participate in the sports activities. Minimum one hour is fixed for sports activities either in the morning or evening. Weightage of Sports is given in General Proficiency Syllabus.
2. Students will be permitted to opt for any two electives, one from Elective-III and one from Elective-IV. However, the department shall offer those elective for which they have expertise. The choice of the students for any elective shall not be binding for the department to offer, if the department does not have expertise. The minimum strength of the students should be 20 to run an elective course.
3. The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
4. Electronics gadgets including Cellular phones are not allowed in the examination



**SYLLABUS: B Tech (CSE)**

**Department: Computer Science & Engineering – 8<sup>th</sup> Semester**

**Subject: DATABASE ADMINISTRATION (Theory)**

**Subject Code: CSE 402B**

**Detailed Content**

**Unit No.1 Introduction to Oracle**

- Topic No.1 : Oracle overview and Architecture
- Topic No.2 : Installing and managing oracle
- Topic No.3 : creating a database and data dictionary
- Topic No.4 : control and redo log files
- Topic No.5 : Managing Table spaces and data files
- Topic No.6 : Managing tables, indexes, and constraints
- Topic No.7 : Managing users and security

**Unit No.2**

- Topic No.8 : Basic Oracle net architecture
- Topic No.9 : basic net server side configuration
- Topic No.10: basic net client-side configuration
- Topic No.11: usage and configuration of Oracle shared server architecture
- Topic No.12: Backup and Recovery
- Topic No.13: Transporting data between databases - export and import utility
- Topic No.14: Loading data into database-SQL\*loader
- Topic No.15: Database performance tuning.

**Unit No.3**

- Topic No.16: Basic constructs of PL/SQL
- Topic No.17: Cursors: need, types and implementation
- Topic No.18: Stored Procedures, functions

**Unit No.4**

- Topic No.19: Active Database
- Topic No.20: ECA Rules, Implementing ECA rules in PL/SQL
- Topic No.21: CUBE technology
- Topic No.22: Data ware house, creating a Data ware House in oracle

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
4			4	25	75	3 hours	100

**BOOKS:**

1. Kevin loney, Bob Baryla Oracle database 10g: DBA handbook, Tata McgrawHills.
2. Biju Thomas, Bob Baryla, Oracle DBA Fundamental-I, BPB publications.

**Note:**

In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will be required to attempt only 5 questions selecting at least one question from each unit.



**SYLLABUS: B Tech (CSE)**

**Department: Computer Science & Engineering – 8<sup>th</sup> Semester**

**Subject: SOFTWARE PROJECT MANAGEMENT (Theory)**

**Subject Code: CSE 404B**

**Detailed Content**

**Unit No.1-A Introduction to Software Project Management**

- Topic No.1 : Definition of a Software Project (SP), SP Vs. other types of projects activities covered by SPM
- Topic No.2 : Fundamentals of Software Project Management, Need Identification, Vision and Scope document
- Topic No.3 : Project Management Cycle, SPM Objectives
- Topic No.4 : project as a system, management control
- Topic No.5 : requirement specification, information and control in organization
- Topic No6 : Project management
- Topic No.7 : CMM

**Unit No.1-B: Stepwise Project planning:**

- Topic No.8 : Introduction: selecting a project, identifying project scope, objectives.
- Topic No.9 : identifying project infrastructure, analyzing project characteristics
- Topic No.10: identifying project products, identifying project activities, estimate efforts each activity, identifying activity risk

**Unit No.2-A Project Evaluation & Estimation**

- Topic No.11: Cost benefit analysis, cost benefit evaluation techniques
- Topic No.12: Risk evaluation
- Topic No.13: Selection of an appropriate project approach
- Topic No.14: structured methods
- Topic No.15: rapid application development
- Topic No.16: water fall, V-process, spiral- models
- Topic No.17: Prototyping, Project delivery
- Topic No.18: Albrecht function point analysis

**Unit No.2-B Project Scheduling**

- Topic No.19: Objectives of activity planning, Identifying activities
- Topic No.20: sequencing and scheduling activities
- Topic No.21: network planning model, Network Diagrams
- Topic No.22: CPM, representation of lagged activities, backward and forward pass
- Topic No.23: identifying critical path, activity throat, shortening project
- Topic No.24: precedence networks.
- Topic No.25: Introduction: the nature of risk,
- Topic No.26: managing risk, risk identification, risk analysis, reducing the risks
- Topic No.27: evaluating risks to the schedule, calculating the z values

**Unit No.3-A: Project Monitoring & control**

- Topic No.28: identifying resource requirements, scheduling resources
- Topic No.29: PERT, Gantt Charts
- Topic No.30: Earned Value Analysis, Earned Value Indicators, Budgeted Cost for Work Scheduled (BCWS)
- Topic No.31: Cost Variance (CV), Schedule Variance (SV), Cost Performance Index (CPI)
- Topic No.32: Error tracking, cost benefit evaluation techniques
- Topic No.33: Inspections, Desk checks, Walkthroughs, Code Reviews, Pair Programming

**Unit No.3-B: Managing contracts and people**

- Topic No.34: Introduction, types of contract, stages in contract, placement
- Topic No.35: typical terms of a contract, contract management, acceptance



- Topic No.36: Introduction, understanding behavior, organizational behavior: a back ground  
Topic No.37: selecting the right person for the job, instruction in the best methods  
Topic No.38: motivation, working in groups, becoming a team, decision making, leadership  
Topic No.39: organizational structures, conclusion, further exercises

#### Unit No.4: Software quality Assurance and Testing

- Topic No.40: Testing Objectives, Testing Principles, Test Plans, Test Cases  
Topic No.41: Types of Testing, Levels of Testing, Test Strategies, Program Correctness  
Topic No.42: Program Verification & validation  
Topic No.43: Concept of Software Quality, Software Quality Attributes  
Topic No.44: Software Quality Metrics and Indicators  
Topic No.45: The SEI Capability Maturity Model CMM, SQA Activities  
Topic No.46: Formal SQA Approaches, Proof of correctness, Statistical quality assurance, Clean room process.  
Topic No.47: Software Project Management Tools, CASE Tools, Planning and Scheduling Tools  
Topic No.48: MS-Project

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
3	1		4	25	75	3 hours	100

#### TEXT BOOKS:

1. Software Project Management (2nd Edition), by Bob Hughes and Mike Cotterell, 1999, TMH

#### REFERENCE BOOKS:

1. Software Engineering – A Practitioner’s approach, Roger S. Pressman (5th edi), 2001, MGH
2. Software Project Management, Walker Royce, 1998, Addison Wesley.
3. Project Management 2/c. Maylor
4. Managing Global software Projects, Ramesh, 2001, TMH.
5. S. A. Kelkar, Software Project Management, PHI Publication. Implementing and Developing Cloud Computing Applications: David E.Y Sarna, CRC Press.

#### Note:

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**SYLLABUS: B Tech (CSE)**

**Department: Computer Science & Engineering – 8<sup>th</sup> Semester**

**Subject: WIRELESS COMMUNICATION (Theory)**

**Subject Code: CSE 456B**

**Detailed Content**

**Unit No.1: INTRODUCTION TO WIRELESS and MODERN WIRELESS COMMUNICATION SYSTEMS**

- Topic No.1 : Evolution of mobile radio Communications, examples of wireless comm. systems
- Topic No.2 : Paging systems Cordless telephone systems, comparison of various wireless systems.
- Topic No.3 : Second generation cellular networks, third generation wireless networks
- Topic No.4 : wireless in local loop, wireless local area network
- Topic No.5 : Blue tooth, Personal Area networks

**Unit No.2: INTRODUCTION TO CELLULAR MOBILE SYSTEMS and CELLULAR SYSTEM DESIGN FUNDAMENTALS**

- Topic No.6 : Spectrum Allocation, basic Cellular Systems, performance Criteria
- Topic No.7 : Operation of cellular systems
- Topic No.8 : analog cellular systems and digital Cellular Systems
- Topic No.9 : Frequency Reuse, channel assignment strategies
- Topic No.10: handoff Strategies, Interference and system capacity
- Topic No.11: tracking and trade off service, improving coverage and capacity

**Unit No.3: MULTIPLE ACCESS TECHNIQUES FOR WIRELESS COMMUNICATION**

- Topic No.12: Introduction to Multiple Access
- Topic No.13: FDMA, TDMA, Spread Spectrum multiple Access, space division multiple access, packet ratio
- Topic No.14: Capacity of cellular systems

**Unit No.4: WIRELESS NETWORKING, INTELLIGENT CELL CONCEPT AND APPLICATION**

- Topic No.15: Difference between wireless and fixed telephone Networks
- Topic No.16: development of wireless networks, fixed network transmission hierarchy
- Topic No.17: traffic routing in wireless networks
- Topic No.18: wireless data services
- Topic No.19: common channel signaling, ISDN (Integrated Services digital Networks), advanced intelligent network
- Topic No.20: Intelligent cell concept, applications of intelligent micro-cell Systems, in-Building Communication
- Topic No.21: CDMA, cellular Radio Networks

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
4			4	25	75	3 hours	100

**TEXT BOOKS:**

1. Wireless Communications: Theodore S. Rappaport; Pearsons.
2. Mobile Cellular Telecommunication: W.C.Y.Lee; McGraw Hill

**REFERENCE BOOKS:**

1. Mobile Communications: Jochen Schiller; Pearson

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**SYLLABUS: B Tech (CSE)**

**Department: Computer Science & Engineering – 8<sup>th</sup> Semester**

**Subject: EMBEDDED SYSTEMS (Theory)**

**Subject Code: CSE 466 B**

**Detailed Content**

**Unit No.1 -A: Introduction Of Embedded Systems**

- Topic No.1 : Definition, ingredients of embedded system, requirements & challenges of embedded system design
- Topic No.2 : different types of microcontrollers: Embedded microcontrollers, external memory microcontrollers etc
- Topic No.3 : processor architectures: Harvard V/S Princeton, CISC V/S RISC
- Topic No.4 : Microcontrollers memory types, microcontrollers features
- Topic No.5 : clocking, i/o pins, interrupts, peripherals.

**Unit No.1-B: Software For Embedded System Design**

- Topic No.6 : Development tools, environments
- Topic No.7 : Assembly language programming style
- Topic No.8 : Interpreters
- Topic No.9 : High level languages
- Topic No.10: Intel hex format object files
- Topic No.11: Debugging

**Unit No.2-A: 8051 Microcontroller**

- Topic No.12: pin diagram explanation, internal diagram 8051
- Topic No.13: Instruction Set, Addressing mode
- Topic No.14: data transfer instruction, logical, arithmetic instruction, bit instruction, branching instruction

**Unit No.2-B: Timers, Serial Interface & Interrupts Of 8051 Microcontroller**

- Topic No.15: Timer: Introduction, Control Word, simple, generation of square wave
- Topic No.16: Serial interface: Introduction, Control Word, mode of serial interface, simple programming in serial interface
- Topic No.17: Interrupts Introduction, Control word, Simple Programming in Interrupts, generation of waveforms using Interrupt, serial interface using interrupt

**Unit No.3: Pic Microcontroller**

- Topic No.18: Introduction to PIC microcontrollers
- Topic No.19: features of PIC family microcontrollers, architecture of PIC microcontrollers
- Topic No.20: pipelining, program memory considerations
- Topic No.21: addressing modes, CPU registers Instruction set, simple operation
- Topic No.22: Timer: Introduction, Control Word, simple, generation of square wave, Watch-dog timer
- Topic No.23: Serial interface: Introduction, Control Word, mode of serial interface, simple programming in serial interface
- Topic No.24: Interrupts Introduction, Control word, Simple Programming in Interrupts, generation of waveforms using

**Unit No.4: Applications Based On 8051 Microcontroller**

- Topic No.25: Interfacing of memory
- Topic No.26: intelligent LCD, LED display, Bio-metric system, Bio-metric system Music box
- Topic No.27: 8255 PPI chip
- Topic No.28: ADC, DAC
- Topic No.29: Interfacing of Graphical Display, Memory Card
- Topic No.30: Applications like Mouse wheel turning
- Topic No.31: PWM motor control, ultrasonic distance measuring
- Topic No.32: Temperature Sensor, Pressure Sensor, Magnetic Field



# PM

## COLLEGE OF ENGINEERING

A Unit of Puran Murti Educational Society  
Approved by AICTE, Ministry of HRD, Govt. of India,  
Affiliated to Deenbandhu Chhotu Ram University of Science & Technology

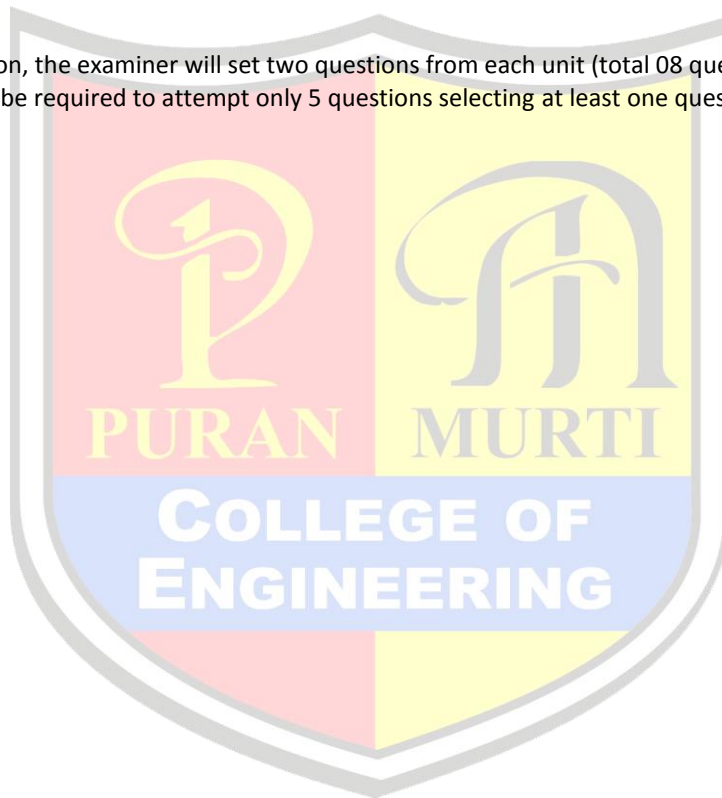
Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
4			4	25	75	3 hours	

### BOOKS:

1. 8051, Scott Mackenzie, PHI, Englewood Cliffs, New Jersey.
2. Programming & Customizing the 8051 Microcontroller, MykePredko, Tata McGraw-Hill Pub. Co. Ltd., New Delhi.
3. 8051 Architecture Programming & Applications, K. J. Ayala, Penram International Publishers, India.
4. Programming & Customizing the PIC Microcontroller, MykePredko, Tata McGraw-Hill Pub. Co. Ltd., New Delhi.

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**SYLLABUS: B Tech (CSE)**

**Department: Computer Science & Engineering – 8<sup>th</sup> Semester**

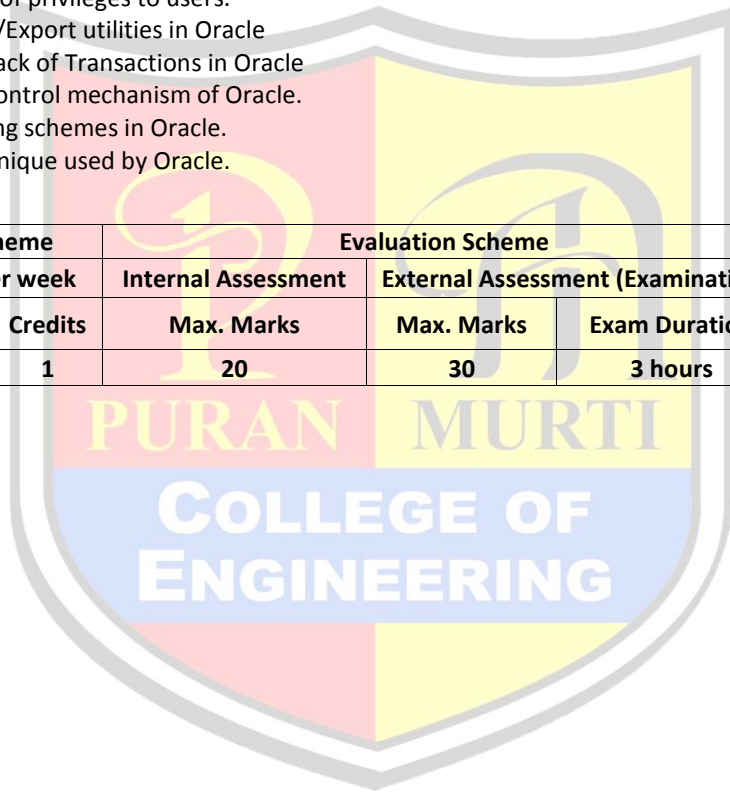
**Subject: DATABASE ADMINISTRATION (Lab)**

**Subject Code: CSE 422B**

**List of Practicals**

1. To Study architecture of the oracle DBMS.
2. To study the installation of the Oracle DBMS.( standalone mode and Client Server Mode) in windows environment
3. To study the installation of MySQL DBMS.( standalone mode and Client Server Mode) in windows environment
4. To study different types of users and create users in Oracle (using command prompt as well as GUI )
5. Study of various types of privileges to the users in Oracle.
6. Granting and Revoking of privileges to users.
7. To study Use of Import/Export utilities in Oracle
8. Study of Commit/Rollback of Transactions in Oracle
9. Study of concurrency control mechanism of Oracle.
10. Analysing various locking schemes in Oracle.
11. Study of Recovery technique used by Oracle.

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
		2	1	20	30	3 hours	50







### SYLLABUS: B Tech (CSE)

Department: Computer Science & Engineering – 8<sup>th</sup> Semester

Subject: SEMINAR

Subject Code: CSE 412B

#### Detailed Content

The objectives of the course remains

- To learn how to carry out literature search
- To learn the art of technical report writing
- To learn the art of verbal communication with the help of modern presentation techniques

A student will select a topic in emerging areas of Engineering & Technology and will carry out the task under the observation of a teacher assigned by the department.

He/ She will give a seminar talk on the same before a committee constituted by the chairperson of the department. The committee should comprise of three faculty members from different specializations.

The teacher associated in the committee will be assigned 2 hours teaching load per week. However, guiding students' seminar will not be considered towards teaching load.

The format of the cover page and the organization of the body of the seminar report for all the undergraduate programs will be finalized and circulated by the Dean, Faculty of Engineering and Technology.

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week		Credits	Internal Assessment	External Assessment (Examination)			
L	T		P	Max. Marks	Max. Marks	Exam Duration	
		2	2	50	-	-	50

COLLEGE OF  
ENGINEERING



### SYLLABUS: B Tech (CSE)

Department: Computer Science & Engineering – 8<sup>th</sup> Semester

Subject: PROJECT

Subject Code: CSE 414B

#### Detailed Content

The project started in VII Semester will be completed in VIII Semester and will be evaluated through a panel of examiners consisting of the following:

**Chairman of Department** : **Chairperson**

**Project coordinator** : **Member Secretary**

**External expert: to be appointed by the University**

The student will be required to submit two copies of his/her project report to the department for record (one copy each for the department and participating teacher).

Project coordinator will be assigned the project load of, maximum of 2 hrs per week including his guiding load of one hour. However, the guiding teacher will be assigned maximum of one period of teaching load irrespective of number of students/groups under him/her.

The format of the cover page and the organization of the report for all the B. Tech. will be finalized and circulated by the Dean, Faculty of Engineering and Technology.

Study Scheme				Evaluation Scheme			Total Marks
Lectures per week				Internal Assessment	External Assessment (Examination)		
L	T	P	Credits	Max. Marks	Max. Marks	Exam Duration	
		8	8	75	125	-	
							200



**SYLLABUS: B Tech (CSE)**

**Department: Computer Science & Engineering – 8<sup>th</sup> Semester**

**Subject: GENERAL FITNESS FOR THE PROFESSION**

**Subject Code: GPCSE 402B**

**Detailed Content**

The purpose of this course is to inculcate a sense of professionalism in a student along with personality development in terms of quality such as receiving, responding, temperament, attitude and outlook. The student efforts will be evaluated on the basis of his/ her performance / achievements in different walks of life.

The evaluation will be made by the committee of examiners constituted as under:

- |   |                             |
|---|-----------------------------|
| 1. Dean, Faculty of Engineering & Technology/ Director /Principal of affiliated college : | Chairperson                 |
| 2. Chairperson of the department :  | Member                      |
| 3. External expert :  | Appointed by the university |

**A. The student will present a written report before the committee with following in view:**

The student will present before the committee his/her achievements during the current academic session in the form of a written report highlighting followings:

- |  |                   |
|--|-------------------|
| I. Academic Performance -----  |                   |
| II. Extra Curricular Activities / Community Service, Hostel Activities | <b>(12 Marks)</b> |
| III Technical Activities / Industrial, Educational tour                | <b>(12 Marks)</b> |
| IV Sports/games  | <b>(16Marks)</b>  |

**Note:** Report submitted by the students should be typed on both sides of the paper.

**B. A student will support his/her achievement and verbal & communicative skill through presentation before the examiners.**

**(40 Marks)**

**C. Faculty Counselor Assignment**

**(20 Marks)**

It will be the duty of the student to get evaluated by respective faculty counselor and to submit the counselor assessment marks in a sealed envelope to the committee.

A counselor will assess the student which reflects his/her learning graph including followings:

1. Discipline throughout the year
2. Sincerity towards study
3. How quickly the student assimilates professional value system etc.
4. Moral values & Ethics- Syllabus (one lecture/week on the topics of Human

Study Scheme				Evaluation Scheme			Total Marks
L	T	P	Credits	Internal Assessment Max. Marks	External Assessment (Examination) Max. Marks	Exam Duration	
1			4		100	-	100