Enclosure to Item No. 4
Appendix 15/4

New Syllabus.

2nd year. III & IV

UNIVERSITY OF MUMBAI

Revised Syllabus

of

(Semester III & IV)

M.C.A. Degree Course

(With effect from the academic year 2008-2009)

Master of Computer Application
Second Year Semester-III

Sr.No.	Code	Subject	No.of Periods per Week (60 min each)			Duration Of Theory Paper	Marks				
			Lectures	Practicals	Tutorials		Theory paper	Term Work	Practical	Oral	Total
1	3.1	Objected Oriented Programming C++	4	3	-	3	100	25	25	25	175
2	3.2	Data Base Management Systems	4	3	-	3	100	25	25	25	175
3	3.3	Data Communication Networks	4	3	-	3	100	25	25	25	175
4	3.4	Operation Research	4	-	1	3	100	25	-	-	125
5	3.5	Software Engineering	4	-	1	3	100	25	-	-	125
6	3.6	Management Information System	4	-	1	3	100	25	-	-	125
		Total	24	9	3	18	600	150	75	75	900

Second Year Semester-IV

Sr.No.	Code	Subject	No.of Periods per Week (60 min each)			Duration Of Theory Paper	Marks				
			Lectures	Practicals	Tutorials		Theory paper	Term Work	Practical	Oral	Total
1	4.1	Java Programming	4	3	-	3	100	25	25	25	175
2	4.2	Object Oriented Modeling and Design Using UML	4	3	-	3	100	25	25	25	175
3	4.3	Network Security	4	-	1	3	100	25	-	-	125
4	4.4	Advance Database Techniques	4	3	-	3	100	25	25	25	175
5	4.5	Software Project Management	4	-	1	3	100	25	-	-	125
6	4.6	Elective I	4	-	1	3	100	25	-	-	125
		Total	20	9	2	-	500	125	75	75	775

Out of the following elective subject student will chosse one subjects as Elective I (Sem IV)

1	E. Business
2	Embedded Systems
3	Geographic Information System
4	Customer Relationship Management
5	Artificial Intelligence

Syllabus of Master of Computer Application

Semester - III

	Object Oriented Programming C++	
	Lectures: 4 Hrs/week	Practical: 3 Hrs/week
	One paper: 100 marks / 3 Hrs duration	Practical exam: 50 marks
	Term Work : 25 marks	
1	Introduction What is object-oriented programming? Why Do We Need Object-Oriented Programming characteristics of Object-Oriented Languages. C++ And C	4 Hrs
2	C++ Programming Basics: Output Using cout. Directives. Input With cin. Type bool. The setw Manipulator. Type Conversions.	4 Hrs
3	Functions: Returning values From Factions. Reference Arguments. Overloaded Function. Inline Function. Default Arguments. Returning By Reference.	4 Hrs
4	Object And Classes: Making sense of core object concepts (Encapsulation Abstraction. Polymorphism, Classes, Massages Association. Interfaces) Implementation of Class in C++, C++ Objects As Physical Object, C++ Object As Data Types Constructor. Object As Function Arguments. The Default Copy Constructor. Returning Object From Function. Structures And Classes. Classes Objects And Memory Static Class Data. Const Data.Const And Classes.	6 Hrs
5	Arrays and String Arrays Fundamentals. Arrays as Class Member Data. Arrays Of Object. String. The Standard C++ - String Class.	3Hrs
6	Operator Overloading: Overloading Unary Operators. Overloading. Binary Operators. Data Conversion. Pitfalls of Operators Overloading And Conversion. Keywords Explicit And Mutable	4 Hrs
7	Inheritance: Concept of Inheritance. Derived Class And Base Class. Derived Class Constructors. Overriding Member Function, Inheritance In The English Distance Class. Class Hierarchies. Inheritance And Graphics Shapes. Public And Private Inheritance. Levels Of Inheritance. Multiple Inheritance. Ambiguity In Multiply Inheritance. Aggregation: Classes Within Classes. Inheritance And program Development	4 Hrs
8	Pointers: Addresses And pointer. The Address-of Operator & Pointer And Arrays. Pointer And Function. Pointer And C- Types String. Memory Management: New And Delete. Pointers To Objects. Debugging pointers.	4Hrs

9	**Virtual Function** Virtual Function, Friend Function, Static Function, Assignment And Copy Initialization, This Pointer, Dynamic Type Information.	4Hrs
10	**Streams and Files.** Streams Classes, Stream Errors, Disk File I/O with Streams, File Pointers, ErrorHandling In File I/O File I/O With Member Function, Overloading the Extraction And Insertion Operators Memory As A Stream Object, Command line Arguments, and Printer Out put.	2 Hrs
11	**Templates And Exceptions** Function Templates, Class Templates Exceptions.	2Hrs
12	**The Standard Template Library** Introduction Algorithms, Sequence Containers, Iteators, Specialized Iteators, Associative Containers, Storing User- Defined Object, Function Objects.	4Hrs

Term work/Assignment: Each candidate will submit a journal in which at least 10 assignments based on the above syllabus and the internal test paper. Test will be graded for 10 marks and assignments will be graded for 15 marks.

References :-

1. Object Oriented Programming in-C++ By Robert Lafore Technedia Publication
2. The Complete Reference C++ By Herbert Schlidt Tata Megraw-hill publication
3. Object Oriented Programming in C++ Saurav Sahay Oxford University Press
4. Object Oriented Programming and C++ R. Rajaram New Age International Publishers 2nd
5. OOPS C++ Big C++ Cay Horstmann Wiley Publication

Practical For C++

Programming exercises and Project using C++ programming languages, to study various features of the languages. Stress to be laid on writing well structured modular and readable programs accompanied by good documentation.

The topic wise assignments are as follows:

1. Function Blocks
   - Handing default Reference Arguments
   - Handling Inline and Overloaded Function.
2. Objects and Classes
   - Creating UDT using classes and object.
3. Arrays and String as objects
   - Insertion, Deletion, reversal Sorting of elements into a single

Database Management Systems

Lectures: 4 Hrs/week | Practical: 3 Hrs /week

One paper: 100 marks / 3 Hrs duration | Practical exam: 50 marks

Term Work : 25 marks

1. **Overview:** Overview of Database Management System: Limitation of Data Processing environment, Data Independence, Three Levels of Abstraction, data models. DBMS Architecture, People who with Database, Overview of conventional data models- Hierarchical,Network models — *4 Hrs*

2. **Entity Relation Model:** Entity, attributes, keys, relation. Cardinality, participation. Weak entities, ER Diagram Generalization Specialization and aggregation. Conceptual design with ER Model. Entity versus Attribute, Entity versus, Relationship Binary Versus Ternary relationship. Aggregate versus Ternary relationship. — *4 Hrs*

3. **Relational Model:** Introduction to relational model, Creating and modifying relations using SQL, Integrity Constraints over relation. Logical database design: ER to relational,Relational Algebra — *6 Hrs*

4. **SQL:** Data definition commands. Constraints, Views, Data manipulation Commands, Queries SELECT- FROM-WHERE, Aggregate Queries, NULL values. Outer JOINS. Nested Queries- Correlated queries. Embedded SQL. Dynamic SQL Triggers.. — *6 Hrs*

5. **One Database application development** — *3 Hrs*

6. **Overview of Storage and Indexing:** Storage Hierarchies, Tree structured indexing and Hash Based Indexing — *4 Hrs*

7. **Query Evaluation Overview:** Overview of Query optimization- Query evaluation plan, Relational Optimization – Cost of a plan estimating result Sizes. — *3 Hrs*

8. **Schema refinement and Normal Forms:** Functional Dependencies, First, Second Third, Fourth and Fifth Normal form, BCNF ,Comparison of 3 NF and BCNF Lossless and dependency preserving decomposition, Closure of dependencies, Minimal Closure — *6 Hrs*

9. **Transaction processing:** Transaction Concurrency control recovery of Transaction failure, Serilazibility, Log based recovery, locking techniques. Granularity in locks. Time stamping techniques, Two phase locking system, Deadlock Handling — *7 Hrs*

10. **Security and Authorization.** Grant and revoke. Permissions Access Control — *2 Hrs*

Term Work :- Term work/Assignment :- Each candidate will submit a journal in which at least 10 assignments based on the above syllabus and the internal test paper. Test will be graded for 10 marks and assignments will be graded for 15 marks.

References

1. "Database Managements Systems," Raghu Ramakrishnan, Johannes Gehrke Third Edition, McGraw Hill
2. Database Manegament Pratt & Adamski Thomson 7th Edition
3. "Database Systems Concepts" Korth Silerchatz, McGraw Hill.
4. "Fundamental of DBMS" Mark Gillenson Wiley Publication
5. "Fundamental of Database System". Elmasari and Navathe, Benjamin Cummins.
6. "Database Systems design, implementation and managements", Rob Coronel. Course Technologies.
7. " Introduction to Database Management Systems" C. J. Date
8. Modern Database Management Jaffrey A. Hoffer ., Mary B. Prescott, and Fred R McFadden Pearson 7th

8 Web enabled Commerical ... Ivan Bayross
2 Teach yourself database tech Bayross

Practicals

1. SQL commands for DDL, Creation of simple dada tables with insertion of data Create table, Create index Pkey creation.
2. SQL command for manipulation of data using select...from...where...sequences with variation.
3. Write embedded code for getting the data from table-embedding using
   i. Pro*C/Pro*Coboi/PL/SQL- basic idea is to be able to work with coerces and record accessing
4. Design and analysis of an application like: Travel agency. Online Placement service. Hostel accounting systems. Library management system, Bank front office management etc.
5. Creating of the database.
6. Five queries for the database created.
7. Five input screen for data output

Data Communications And Networking

Lectures: 4 Hrs/week
One paper: 100 marks / 3 Hrs duration
Term Work : 25 marks

Practical: 3 Hrs /week
Practical exam: 50 marks

Fundamental in communication *(6hrs)*

Concepts of data transmission
- Signal encoding
- Synchronization
- Coding methods
- Multiplexing
  - -FDM
  - -TDM
  - -WDM
- Modulation methods
  - -Amplitude
  - -Frequency
  - -Phase
- Frequency, phase and digital modulation such as PAM, PWM, PCM.
- Modes of communication
  - Simplex
  - Half Duplex
  - Full Duplex.
- Switching techniques
  - Circuit switching Message switching Packet switching.

Introductions *(4 hrs)*

Uses of computer network,
- LANs, MANs, WANs, Wireless Networks, Internetwork
- The OSI Reference Model
- The TCP/IP Reference model
- A comparison of the OSL and TCP Reference Models

The Physical layer (3 hrs)

Transmission Media- Magnetic media
- Twisted Pair
- Coaxial Cable
- Fiber optics
- Wireless Transmissions

The electromagnetic Spectrum
- Radio Transmission
- Microwave Transmission
- Infrared and millimeter Waves
- Light wave Transmission.

4	**The Data link layer** Data Link Layer Design Issues Error detection and correction Elementary Data Link Protocols Sliding Window Protocols Example – HDLC	(7 hrs)
5	**The Medium Access Sub layer.** Multiple Access Protocols ALOHA (Pure, slotted, Reservation) Carrier Sense Multiple Access Protocols Collision free Protocols. IEEE Standard 802.3, 802.4, 802.5,802.6 High speed LANs – FDDI Satellite Networks – Polling, ALOHA, FDMA, TDMA, CDMA, categories of satellites GEO, MEO, LEO	(6 hrs)
6	**The Network Layer** Network Layer Design Issues Routing Algorithms The Optimality Principal Shortest Path Routing Flooding Distance Vector Routing Link state Routing Broadcast Routing Multicast Routing. Internetworking The Network layer in the Internet – Address mapping (ARP, RARP, BOOTP, DHCP), IP Addresses, Subnets, IP Protocols –Ipv4, IPv6, ICMP, IGMP	(7 hrs)
7	**The Transport Layer** The Transport Protocols The Internet Transport Protocols – The TCP Services Model, The TCP protocol and The TCP Segment Header, UDP Congestion control and quality of service	(6 hrs)
8	**The Application layer** WWW, HTTP, DNS, SNMP, FTP, Remote logging, E-mail, Cryptography, symmetric key and asymmetric key cryptography, DES, RSA algorithms, security services - message and entity	(6 hrs)
	Term Work :- Term work/Assignment :- Each candidate will submit a journal in which at least 10 assignments based on the above syllabus and the internal test paper. Test will be graded for 10 marks and assignments will be graded for 15 marks.	

References:

1. Tanenebaum A. S- Computer Network (3rd ed) –
2. Stalling William – Data Computer Communications
3. Computer communications & Networking Technologies Michael A. Gallo and William M. Hancock Thomson
4. Data Communication and Computer Networks ISRD Group The Tata McGraw-Hill Companies
5. Behrouz Forouzan – Data Communications and networking TMH publication
6. Douglas Comer – Data Communication
7. Jerry FitzGerald, Alan Dennnis - Business data communications and networking (8th edition) Wiley publication
8. Black U. – Computer Network – Protocols, Standards and Interfaces.
9. Voutu Zheng. Shakil Akhtar – Networks for Computer Scientists and Engineers

DC by JCFAI

DCN Practical List

1. Write a program to implement VRC and LRC method.
2. Write a program to implement CRC where user will accept the data and the CRC polynomial.
3. Write a program to implement checksum method.
4. Write a program to check and correct the error in the data at receiver end by implementing hamming code.
5. Write a program to generate chipping sequence using Walsh matrix method.
6. Write a program to implement character level encryption by monoalphabetic encryption method.
7. Write a program to implement character level encryption by polyalhabetic encryption method.
8. Write a program to implement stop and wait ARQ.
9. Write a program for shortest path routing algorithm (Dijkstra's algorithm).
10. Write a program to generate sink tree for given network.
11. Write a program to implement DES algorithm using C.
12. Write a program to implement sliding window protocol using C.
13. Write a program to implement (Go back n) allows multiple outstanding frames using C.
14. Write a program to implement client server application using C.
15. Write a program to implement Distance Vector Routing algorithm using C.
16. Write a program to demonstrate setting up a simple dumbell network by setting up TCP connection using NS2.
17. Write a program to implement network topology for 4 to 6 nodes using UDP connection using NS2 simulator.
18. Write a program to implement Unicast or Multicast routing between the source node and destination node.
19. Write a script in NS2 to implement Diffserv.

Data communication & network - Behrouz Forouz

DC - Hujeo D

DC Halsal Shay Mansfield 2

DC Miller Kochan 2

DC Gupta Peterson

DCN Godbole Pecerson 1

Computer networking Kurose 1

Operations Research

Lectures: 4 Hrs/week — Tutorial :- 1 Hr / week

One paper: 100 marks / 3 Hrs duration — Term Work : 25 marks

1	Nature of Operation Research 1. History 2. Nature of OR 3. Impact of OR 4. Application Areas	*1 hr*
2	Overview of Modeling Approach 1. Formulating the problem 2. Construction a Mathematical Model 3. Deriving a solution 4. Testing the Model and the Solution 5. Establishing Control over the solution 6. Implementation issues	*1 hrs*
3	Linear Programming 1. Introduction 2. Graphical solution 3. Graphical sensitivity analysis 4. The standard form of linear programming problems 5. Basic feasible solutions 6. simplex algorithm 7. Artificial variables 8. Big M and two phase method 9. Degeneracy 10. alternative optima 11. unbounded solutions 12 Infeasible solutions.	*10 hrs*
4	Dual problem 1. Relation between primal and dual problems 2. Dual simplex method	*3 hrs*
5	Transportation Problem 1. Starting solutions, North West corner Rule - lowest cost method–Vogels approximation method 2. MODI Method	*4 hrs*

6	Assignment problem 1. Hungarian Method.	2 hrs
7	Travelling Salesman Problem 1. Branch & Bound Technique 2. Hungarian Method	3 hrs
8	Sequencing Problem 1. 2 machines n jobs 2. 3 machines n jobs 3. n machines m job	2hrs
9	Pert and CPM 1. arrow network 2. time estimates ,earliest expected time, latest allowable occurrence time, latest allowable occurrence time and slack 3. critical path 4. probability of meeting scheduled date of completion of project 5. calculation of CPM network 6. various floats for activities 7. Project Crashing	5 hrs
10	Integer Programming 1. Branch and Bound Algorithm 2. Cutting plane algorithm.	3 hrs
11	Deterministic Inventory Models 1. Static EOQ Models 2. Dynamic EOQ models.	5hrs
12	Game theory 1. Two person Zero Sum Games 2. Solving simple games.	3hrs
13	Replacement theory 1. Replacement of items that deteriorate 2. Replacement of items that fail group replacement and individual replacement.	3hrs
	Term Work :- Term work/Assignment :- Each candidate will submit a journal in which at least 10 assignments based on the above syllabus and the internal test paper. Test will be graded for 10marks and assignments will be graded for 15 marks.	

References:

1. Gillet, B.E.., "Introduction to Operation Research : a computer oriented algorithmic approach " Tata McGraw Hill, NY.
2. Hillier F., and Lieberman, G. J. , "Introduction to Operation Research", Holden Day , NY.
3. Operations Research Applications and Algorithms Waynel L. Winston Thomson
4. Optimization Methods K.V.Mital & Mohan New Age
5. Operations Research Operation Reaearch: Principles and Practice 2nd edition Ravindran wiley Publication
6. Kambo, N.S.., "Mathematical Programming Techniques", McGraw Hill.
7. Kanti Swaroop, Gupta P. K., Man Mohan, "Operations Research", Sultan Chand and Sons.
8. Taha, H. A.., "Operations Research – An Introduction", McMillan Publishing Company, NY.
9. Operation Research – S. D. Sharma
10. Operations Research By P.K.Gupta & Hira,S.Chand

Software Engineering

Lectures: 4 Hrs/week — Tutorial :- 1 Hr / week

One paper: 100 marks / 3 Hrs duratic a — Term Work : 25 marks

1	**Introduction :** a. Software Crisis & Software Scope b. What is Software Engineering c. Terminologies in Software Engineering d. Role of Management in Software Development	*4 hrs*
2	**Software Planning** a. projects planning- problem, Process b. Project Size Estimation Metric: Measures, Metrics and Indicaters, Line of Code (LOC) Function Pair metric, Features Point metric c. Decomposition Techniques d. Software Estimation: Empirical Estimation Techniques – COCOMO II Model, Heuristic Techniques. e. Analytical Estimation Techniques: Expert Judgment make- Bye Decision f. The Putman Resource Allocation Model	*4 hrs*
3	**Project Scheduling and Tracking** a. Relationship between people and Effort: Staffing Levei Estimation, Effect of schedule Change on Cost b. Selecting Software Engineering Tasks: Degree of Rigor, Task set selector, Task Network c. Schedules: Work breakdown Structure. Task Network/Activity Networks, Gantt Charts, PERT Charts d. Organizations and Team Structures: Organization Structures. Team Structures	*6 hrs*
4	**Software Risk Management:** a. Reactive & proactive risk Strategies b. Risk Identification, c. Risk Assessment, and Risk Projection. Risk Containment, d. Risk Mitigation, Monitoring and Management e. RMM Plan	*6 hrs*
5	**Software Configuration Management:** a. Necessity of Software Configuration Management Baseline SCM Process and SCI. b. Configuration Audit Version Control Source Code Control Systems (SCCS) c. Change Control, Configuration Audit , Status Reporting	*4 hrs*
6	**Overview of Requirements Analysis and Specification** a. Requirements Analysis b. Software Requirements Specification (SRS): SRS Documents, Characteristics of	*3 hrs*

	a Good SRS Documents, Organization of the SRS Documents, Techniques for Representing Complex Logic Formal Systems Development Techniques	
7	**Software Design** a. What is Good Software Design? b. Cohesion and Coupling: Classification of Cohesiveness, Classification of Coupling c. Software Design Approaches: Function-Oriented Design, Object- Orient d Design	3 hr
8	**Function-Oriented Software Design** a. Overview of the SSAD Methodology b. Structure Analysis c. Data Flow Diagrams (DFDs) d. Extending the DFD Techniques to Real Time Systems e. structures design	3 hr
9	**Software Testing** a. Testing Overview: Verification vs Validation, Design of test cases b. Black- Box testing: Equivalence Class Partitioning, Graph based testing Boundary Value analysis c. White- Box Testing: Statement Coverage, Branch Coverage, Condition Coverage, Path Coverage, Cycloramic Complexity Metric Data Plow- Based Testing d. Testing specialized Environments: Testing GUI, Testing Client / Server Architectures e. Integration Testing: Top down Testing, Bottom Up testing, Regression Testing, phased vs Incremental Integration testing f. Systems Testing: Stress Testing Recovery Testing Security Testing. g. Debugging Techniques, Approaches, Tools	6 hr
10	**Software Quality Concepts** a. Software Quality Management Systems b. Software Quality Assurance c. Software reviews d. Formal Technical Reviews e. Overview of ISO 9001 , SEI Capability Maturity Model, Mc Calls Quality Model	5 hr
11	**Software Reliability** a. Software Reliability b. Reliability Metrics c. Reliability Growth Modeling	1 hr
12	**Software Maintenance** a Software Reveres Engineering b Software Maintenance Costs c Estimation of Maintenance Costs	2 hr

Term Work :- Term work/Assignment :- Each candidate will submit a journal in which at least 10 assignments based on the above syllabus and the internal test paper. Test will be graded for 10 marks and assignments will be graded for 15 marks.

References : Jalote Bonka

1. Software Engineering By Roger Pressman Tata McGraw hill
2. Software Engineering James Peters Wiley Publicatio
3. Software Engineering by Rajib Mall
4. Software Engineering by K.K. Agarwal , Yogesh Singh New Age Publication
5. Software Metrics By Norman E.Fenton & Shari Lawrence Pfleeger,Thompson
6. Software Testing Technique By Scott Loveland,SPD

Assignments

There are no practical for this subject in the syllabus. However, group project are done by assigning project to the group. The project is from following topics: Travel agency Online placement services Hostel accounting systems Library management systems, Bank front office management etc. The following document are product for the project:

- Project proposal
- Systems requirement study and analysis
- Project analysis and design
- Project estimation plan
- Risk mitigation monitoring and management plan the project.
- Project schedule and timeline charts
- Project code
- Project test plans

S E Pawadekar

Approach - Darnell

Management Information Systems

Lectures: 4 Hrs/week — Tutorial :- 1 Hr / week

One paper: 100 marks / 3 Hrs duration — Term Work : 25 marks

1 **Managing the Digital Firm** — 2 hr
- Why Information System?
- Perspectives on Information System
- Contemporary approach to Information System
- Learning to Use Information Systems : New Opportunities with Technology

2 **Information System in the Enterprise** — 3 hr
- Major Types of System in Organisation
- Systems from Functional Perspectives
- Integrating Functions and Business Processes : Introduction to Enterprise Application

3 **Information Systems, Organisations, Management and Strategy** — 4 hr
- Organisations and Information Systems
- How Information System impact Organisations and Business Firms
- The Impact of IT on Management Decision Making
- Information Business and Business Strategy

4 **Decision making** — 5 hr
- Decision Making Concepts
- Decision Methods, Tools and Procedures
- Behavioral concepts in Decision Making
- Organizational Decision Making
- MIS and Decision Making Concepts

5 **Information** — 5 hr
- Information Concepts
- Information : A quality Product
- Classification of Information
- Methods of Data and Information Collection
- Value of Information
- General Model of a Human as a Information Processor
- Summary of Information Concepts and their implications
- Organisation and Information
- MIS and Information Concepts

6 **Development of MIS** — 6 hr
- Development of Long Range Plans of MIS
- Ascertaining the class of Information
- Determining the Information Requirement
- Development and Implementation of MIS
- Management of Quality in MIS

Organisation for development of MIS
MIS : the Factors for Success and Failure

7 **Choice of Information Technology** *5 hrs*

Introduction : Nature of IT Decision
Strategic Decision
Configuration Decision
Evaluation
Information Technology Implementation Plan
Choice of the Information Technology and the Management Information System

8 **Enterprise Applications and Business Process Integration** *4 hrs*

Enterprise Systems
Supply chain Management Systems
Customer Relationship Management Systems
Enterprise Integration Trends

9 **Decision Support System** *4 hrs*

DSS : Concepts and Philosophy
DSS : Deterministic Systems
AI Systems
Knowledge Based Expert System
MIS and Role of DSS

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Reference Books

1. Management Information System, Oz Thomson Learning 5th Edition
2. Management Information Systems, W. S. Jawadekar, 3rd Edition, TMH.
3. Management Information System, James O'Brien, 7th edition. TMH.
4. Information Systems the Foundation of E-Business, Steven Alter, 4th Edition, Pearson Education.
5. Information Technology for Management, Turban, McLean, Wetherbe, 4th edition, Wiley
6. Management Information Systems, Loudon and Loudon, 10th Edition, Pearson Educations.
7. Management Information Systems, Jaiswal Oxford Press

Case based approach can be adopted to explain various concepts during tutorials (Internal Evaluation)

Assignments

USE of IS in different domains as Hospitality, Retail, Supply Chain, Vendor management, Inventory, etc..

At least 5 website's critical analysis in any of the domain as a market survey for designing the website for the particular business.

*Research Paper on any topic of their interest of this paper.

*Optional