



[4080] – 304

**MCA (Semester – III) Management Faculty Examination, 2011**  
**IT – 34 : ADVANCED DATABASE MANAGEMENT SYSTEMS (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. 1 and Q. 6 are compulsory.*  
*2) Solve any 3 from the remaining.*

1. a) Compare RDBMS, OODBMS and ORDBMS. 10  
b) What do you understand by 2 PC protocol ? Explain with the help of example. 10
2. How is recovery dealt with in DDBMS ? 10
3. Explain Association rules for Data Mining with the help two algorithms. 10
4. Explain Architecture of Data Warehouse in detail. 10
5. What do you mean by Inter-Query and Intra-Query Parallelism ? Explain with example. 10
6. Write short note on (**any four**) : (5×4=20)
  - a) Mobile databases
  - b) XML parser
  - c) Knowledge base system
  - d) Predictive data mining
  - e) Homogeneous and heterogenous databases.

**MCA (Semester – IV) (Management Faculty) Examination, 2011**  
**IT- 42 : SOFTWARE TESTING AND QUALITY ASSURANCE (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. 1 and Q. 6 are compulsory.*  
*2) Solve any three from the remaining.*

1. Write a test plan with scope of testing, risks and contingencies, strategy, schedule, pass/fail criteria for a Railway Reservation System. **20**
  2. Define Software Reliability. Explain two reliability models. **10**
  3. Describe Unit Level Testing and Integration Testing in detail with suitable example. **10**
  4. Differentiate (**any two**) : **(5×2=10)**
    - a) Manual Vs. Automatic Testing
    - b) Static Vs. Dynamic Testing
    - c) Blackbox Vs. Whitebox Testing
  5. Write test cases for testing user name and password in a typical application. **10**
  6. Write short notes (**any 4**) : **(4×5=20)**
    - 1) Quality factors
    - 2) Load Testing
    - 3) Code Review
    - 4) Clean Room Software Development
    - 5) Cyclomatic Complexity.
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[4080] – 405

**MCA (Management Faculty) (Semester – IV) Examination, 2011**  
**BM-E1 : MIS FRAMEWORK AND IMPLEMENTATION (New)**  
**(Elective) (2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q.No. 1 and 7 are compulsory.*  
*2) Solve any four questions from remaining.*  
*3) Figures to the right indicate full marks.*

1. Explain the role played by IT infrastructure in Operational Control and Decision Support System in an organization. **10**
2. How information Technology changing the way Finance Function is performed ? **10**
3. Explain the different threats to IT Infrastructure. **10**
4. Explain the informational needs of the managers working at different levels of managerial hierarchy. **10**
5. Explain the impact of IT infrastructure on the socio-economic environment of the organization. **10**
6. Define MIS. Explain its features and limitations. **10**
7. Write short notes on (**any four**) : **20**
  - a) Competitive Advantage
  - b) Group Decision Support System
  - c) Objectives of good IT policy
  - d) Critical success factor in implementing IT applications
  - e) Expert System.



[4080] – 410

**MCA (Semester – IV) (Management Faculty) Examination, 2011**  
**BME – 6 : ENTERPRISE RESOURCE MANAGEMENT (New)**  
**(2008 Pattern) (Elective)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q. 1 and Q. 6 are compulsory.*

*2) Solve **any three** questions from 2 to 5.*

*3) Figures to **right** indicate **full** marks.*

1. Write in detail report about the manufacturing industry. How the information is shared by the various department in order to process and generate the various reports for effective decision making ? **20**
2. a) What is ERP ? Explain various advantages of ERP. **5**  
b) How does information system make SCM more efficient ? **5**
3. a) What is MIS ? Explain the various elements of MIS. **5**  
b) Discuss in detail architecture of Executive Support Systems (ESS). **5**
4. a) List and explain the various guidelines of ERP implementation. **5**  
b) Explain the factors to be considered while selecting ERP package. **5**
5. a) What is GAP analysis ? Discuss. **5**  
b) Discuss in detail need of ERP training. **5**
6. Write short note (**any four**) : **(5×4=20)**
  - a) ERP market
  - b) Data mining
  - c) DSS
  - d) CRM
  - e) ERP maintenance.



[4080] – 502

**MCA (Management Faculty) (Semester – V) Examination, 2011**  
**IT – 52 : SOFTWARE IT PROJECT MANAGEMENT**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. No. 1 and 6 are compulsory.*  
*2) Solve any three from Q. No. 2 to 5.*

1. A) What are different Software Project Cost Estimation methods used by software industry ? Explain any two method in detail. 12  
B) Explain difference between chief programming team and Egoless programming team. 8
2. Explain IT Infrastructure management. 10
3. “Testing is crucial phase in software project”. Comment. 10
4. Explain difference between following terms : 10  
A) CPM and PERT  
B) Version control and Revision control.
5. In recent year, university has computerised its examination system by using various software application.  
You as a software expert needs to find out Risk involved in implementation and administration. 10
6. Write short note on (**any two**) : 20  
A) Project Management Tool – MS project  
B) User role in project management  
C) Configuration Management  
D) FPA.



[4080] – 506

**MCA (Semester – V) (Management Faculty) Examination, 2011  
(Elective) ITE 2 : PROGRAMMING LANGUAGE PARADIGMS  
(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. 1 and 8 are compulsory.  
2) Solve any 4 from the remaining.*

1. Explain analysis of source program and synthesis of object program with suitable block diagram. 15
2. What are the attributes of good programming language ? 10
3. What is Software Simulation ? How a language is actually implemented it ? 10
4. Explain syntactic elements of a programming language. 10
5. Explain binding time classes and its importance in programming language. 10
6. Explain sequence control mechanism between statements with suitable example. 10
7. Explain local data and local referencing environment. 10
8. Write short notes on (**any three**) : (3×5=15)
  - a) Retention and deletion
  - b) Scalar data types
  - c) Direct and Random access files
  - d) Static Storage Management
  - e) Features of JAVA.

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B/II/11/2115



[4080] – 509

**MCA (Management Faculty) (Semester – V) Examination, 2011**  
**ITE – 5 : DISTRIBUTED DATABASE MANAGEMENT SYSTEMS**  
**(2008 Pattern) (Elective)**

Time : 3 Hours

Max. Marks : 70

- Note : 1) Full marks are indicated to the **right** of each question.*  
*2) Draw **suitable** diagram **when** needed.*  
*3) Give **suitable** examples **if** required.*  
*4) **Whenever** necessary state assumptions.*  
*5) Q. 7 is **compulsory**. Solve **any 5** from remaining.*

1. Explain object caching, object clustering and objects migration. **10**
2. Discuss various concurrency control method in a distributed databases. **10**
3. Explain the need for DDBMS and its advantages and disadvantages. **10**
4. Explain query optimization, Query Execution and access plan with suitable example. **10**
5. Define transaction and explain the properties and states of transaction. **10**
6. Explain the following (**any 1**) : **10**
  - a) Top-Down and Bottom-up approach to the design of data distribution.
  - b) Homogeneous and Heterogeneous DDBMS.
7. Write short notes (**any 4**) : **20**
  - 1) Mobile database systems
  - 2) Central and distributed databases
  - 3) Distributed deadlocks
  - 4) Distributed database administration
  - 5) Log for database recovery.

**MCA (Semester III) (Management Faculty) Examination, 2011**  
**IT – 31 : WEB TECHNOLOGY (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note : 1) Q. 1 and Q. 8 are compulsory.*  
*2) Solve any 5 from 2 to 7.*  
*3) Figures to the right indicate full marks.*

1. a) Explain XML parser. 5  
b) Write DTD attributes types and values with examples. 5
2. Write Java script program for displaying score board of cricket match with proper validations (Take suitable fields). 10
3. Write DTD program for online information submission to UID application. (Take suitable elements). 10
  - a) Looking at DTD create XML file and
  - b) Convert XML file into html format with header and footer.
4. Design html form for CAT/SET examination. Insert and display the records with auto generated application number using ASP. 10
5. What is CSS ? Explain list and margin properties with examples. 10
6. Explain session and cookies with examples. 10
7. a) Explain different events in Java script with examples. 5  
b) Explain error handling in VB script. 5
8. Write short notes (any 2) : 10
  - a) String and Date objects in VB script.
  - b) IFRAME and META Tag.
  - c) SOAP.



**MCA (Management Faculty) (Semester – IV) Examination, 2011**  
**IT – 41 : JAVA PROGRAMMING (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions :* i) Question No. 1 and 8 are **compulsory**.  
ii) Solve **any five** from question 2 to 7.

1. Answer the following questions : **10**
  - a) What is Applet tag ?
  - b) Differentiate between abstract and final keywords
  - c) What is Inet Address ?
  - d) Explain checked exceptions.
  - e) Explain Result set Meta Data.
2. Write a JDBC application for complaint registration for home appliances.  
(Assume suitable table structure). **10**
3. a) Write a Java socket program that runs on client and sends a file name to server.  
The program should display appropriate message returned by server. **5**  
b) Write a Java socket program that runs on server, accepts file name from client  
and checks file exists or not and returns proper message to client. **5**
4. Write RMI application to count number of vowels from given string. **10**
5. Explain Key listener with example. **10**
6. Write a program to search for a given word in file. Also display number of  
occurrences of that word. **10**
7. a) Explain Boxing and Unboxing with example. **5**  
b) Explain Thread synchronization. **5**
8. Write short notes on **any 2** : **10**
  - a) Border layout.
  - b) Garbage collection.
  - c) Types of Beans.



[4080] – 409

**MCA (Management Faculty) (Semester – IV) Examination, 2011**  
**BME – 5 : DECISION SUPPORT SYSTEM (Elective) (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Question No. 1 and 7 are compulsory.*  
*2) Solve any four from the remaining.*

1. Explain prototyping with its advantages and disadvantages. Discuss why prototyping is used as a methodology for DSS development. **10**
  2. Discuss the models of ES and DSS integration. **10**
  3. Explain with the help of examples how data mining can be helpful in identifying business opportunity to create sustainable competitive advantage. **10**
  4. Define virtual reality and how it works. Give two examples for virtual reality applications in business. **10**
  5. Explain the database organisation and structures used in DSS. **10**
  6. Define MIS and explain the role of DSS. **10**
  7. Write short notes on **(any 4)** : **(4×5=20)**
    - 1) OLAP
    - 2) GIS
    - 3) AI
    - 4) Compare EIS and DSS
    - 5) Supply Chain Management.
-

**MCA (Semester – V) (Management Faculty) Examination, 2011**  
**IT – 55 : ADVANCED INTERNET TECHNOLOGY**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note: 1) Question 1 and 5 are compulsory.*  
*2) Solve any 2 from the remaining questions.*  
*3) Figures to **right** indicate **full** marks.*

1. a) Explain Digital signature. **5**  
b) Explain CGI Architecture. **5**
2. a) Create a servlet which does online shopping for books having following functions in it.  
→ Add Items to the shopping cart  
→ Delete Items from shopping cart  
→ Display selected Items. **10**  
b) Explain pattern matching in perl. **10**
3. a) Write a jsp code which adds the student education details in a database through Java bean. Also display the student details who have secured first class in their graduation. **10**  
b) Explain Http Servlet Request and Http Servlet Response with suitable examples. **10**
4. a) Explain JSP Directives and JSP Standard Actions. **10**  
b) Write php code for online journal details submission. If user is already registered then accept registration number and display his journal details in tabular format. If new user, then display registration form and store details in table. **10**
5. Write short notes on (**any 4**) : **20**
  - 1) Features of Perl
  - 2) E-cash
  - 3) Servlet Life Cycle
  - 4) Arrays in PHP
  - 5) Http session.



[4079] – 208

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**203-B : Finance Specialization**  
**LEGAL AND PROCEDURAL ASPECTS OF FINANCE**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Attempt **any 5** questions.  
2) **All** questions carry **equal** marks.

1. Explain the Provisions of Company's Act regarding Oppression and mismanagement.
2. A) What is minimum and maximum bonus under the Payment of Bonus Act ?  
B) What is disability under workmen's compensation act (i.e. partial and total disability) ?
3. Explain provisions regarding appointment of auditors of a company.
4. Write note on :
  - a) Corporate Governance Statement
  - b) Auditor's report.
5. Explain the provisions regarding Mergers and Acquisitions as per company's act.
6. As per Companies Act explain.
  - A) Powers and Duties of Directors.
  - B) Director's Responsibility Statement.
7. Write short notes (**any 2**) :
  - a) Payment of gratuity act
  - b) FEMA
  - c) Employees Provident Fund Act
  - d) Minimum Wages Act.

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B/II/11/310



[4079] – 22

**M.M.S./M.B.S. (Semester – II) Examination, 2011**

**FINANCE SPECIALISATION**

**202 (B) : International Finance**

**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

*Instructions :1) Attempt **any four** questions.*

*2) **All** questions carry **equal** marks.*

1. Explain the various types of trade barriers, reasons behind them and their impact.
2. Examine the merits and demerits of the Purchasing Power Parity and Interest Rate Parity theories of exchange rate determination.
3. Discuss the important aspects involved in the financial management of a multinational firm.
4. How does the Export-Credit Guarantee Corporation assist Indian exporters and banks in international financial matters ?
5. Criticize the flexible exchange rate regime from the viewpoint of the proponents of the fixed exchange rate regime.
6. Explain the reasons behind the integration of global markets. What role the World Trade Organisation (WTO) plays in this context ?
7. Write notes on **any two** of the following :
  - a) Exchange Control/regulation in India
  - b) Rupee Convertibility
  - c) Special Drawing Rights
  - d) Foreign Exchange Market.





[4079] – 28

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**COMPUTER SPECIALIZATION**  
**203-C : OOD Concepts & Basic Java**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

*Note :* 1) *Question No. 1 is compulsory. Solve any 4 from the remaining.*  
2) *Question No. 1 carries 20 marks & remaining have 10 marks each.*

1. Solve the following :

- a) What is a command to compile Java program ?
- b) What is identifier ? Give examples.
- c) Write integer data types with their size and default values.
- d) What is local variable ?

2. Write a program to display following pattern

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

3. Write a program to accept 10 integer numbers and arrange them in ascending order. (Use array).
4. Write a program to copy text of one text field to another. (Write assumptions if any).

**P.T.O.**



5. Write an abstract class named “Employee” . Which has subclass named “Manager” ? Write explicit constructors for all over load & override print me method in all classes. (write assumptions if any)
  6. Write short note (**any two**) :
    - a) User defined Exception
    - b) Interfaces
    - c) Overloading and overriding
    - d) Final key word in all context.
-





[4079] – 201

**M.M.S./M.B.S. (Semester – II) (2008 Pattern) Examination, 2011**  
**201 : ENTREPRENEURSHIP DEVELOPMENT AND PROJECT**  
**MANAGEMENT (New)**

Time: 3 Hours

Max. Marks : 70

*Note : 1) Q. 1 is compulsory.*

*2) Solve **any three** out of the remaining.*

*3) Figures to the **right** indicate **full** marks.*

1. a) Elaborate the role and responsibilities of an entrepreneur. **10**  
b) Explain the relevance of entrepreneurship development cycle. **15**
2. Explain the theory of profit putforth by knight, in detail. **15**
3. Elaborate the role played by state government in promoting entrepreneurship development. **15**
4. What are the various external factors influencing entrepreneurship development ? **15**
5. Elaborate the role played by EDII in promoting entrepreneurship development. **15**
6. What are the challenges faced by women entrepreneurs ? **15**
7. Write short notes on (**any three**) : **15**
  - a) Market Analysis
  - b) Creativity
  - c) NEDB
  - d) Angle capitalist
  - e) Entrepreneurial traits.



[4079] – 202

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**MARKETING SPECIALIZATION**  
**202 (A) – Retail and Distribution Management**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

*Instructions :* 1) Answer **any five** questions.  
2) **All** questions carry **equal** marks.

1. What is Retailing ? Explain the significance of Retailing from Consumer, Manufacturer and Economy Point of View.
2. What are the different types of store layouts ? Explain the factors that influence the store layout.
3. “Right selection of location contributes in the success of Retail business”. Comment. Write a note on location selection process.
4. Explain the Horizontal, Vertical and Multichannel marketing systems with suitable examples.
5. List and explain the components of supply chain management.
6. Explain different types of channel conflicts and ways to resolve them.
7. Write short notes on **any two** :
  - a) Private Label Brands.
  - b) Franchising.
  - c) Sales Promotion in Retailing.
  - d) Functions of Wholesaling.



[4079] – 203

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**Finance Specialization**  
**202 B : INTERNATIONAL FINANCE**  
**(New) (2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions: 1) Q.1 is compulsory. From Q.2 to 9 attempt any two questions from Section-I and any two questions from Section-II.*

*2) Figures to the right indicate full marks.*

*3) Use of Non-programmable calculator is allowed.*

1. Explain the nature, scope and significance of International Finance in the globalized economy. 10

SECTION – I

2. What do you mean by 'International Monetary System' ? Explain the role and significance of International Monetary Fund and World Bank in international business. 15
3. Write notes on the following : 15
- a) Role of RBI in Forex markets.
- b) Special Drawing Rights.
- c) Supplier's Credit.
4. Explain the concept of Purchasing Power Parity (PPP). Describe a method for testing whether PPP exists. 15
5. Describe with suitable illustrations the various sources of International Finance. 15

P.T.O.



## SECTION – II

6. a) Explain the concept “Rupee Convertibility”. 8
- b) Calculate the annualised discount on rupees for the three month forward, when spot rate  $S(\text{₹./}\$) = \text{₹ } 31.8756/\$$  and three month forward rate is  $F(\text{₹./}\$) = \text{₹ } 32.1769/\$$ . 7
7. a) Explain the various external hedging tools. 8
- b) If the rate of inflation in India and the USA is 7% and 4% respectively and if interest rate in the USA is 6%, find the rate of interest in India. 7
8. a) Write short note on Foreign exchange risk and its measurement. 8
- b) The exchange rate in two markets is as follows :
- New York : \$ 1.9800 – 10/f
- London : \$ 1.9700 – 10/f
- Find out how arbitrageurs will make gain. 7
9. Write short notes on **any three** of the following : 15
- a) WTO and its impact on International Business.
- b) Impact of Euro currency on Forex market.
- c) Trade settlement methods.
- d) Special Economic Zones. [SEZ's]
- e) International Accounting Standards.



[4079] – 204

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**Computer Specialization**  
**202 (C) – BUSINESS APPLICATION**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

*Instructions :* 1) *Q. No. 6 is compulsory.*  
2) *Solve any four from Q. 1 to Q. 5.*  
3) *Figures to the right indicate full marks.*

1. Explain material procurement procedure in detail. **15**
2. Explain fund management of financial system in detail. **15**
3. Explain employee attendance and leave administration system of any organisation. **15**
4. What is an ERP ? Explain various factors for evaluating and implementing an ERP package. **15**
5. Explain customer order processing system. Also draw layout of Pending customer orders. **15**
6. Write short notes on **any two** : **10**
  - a) BOM
  - b) Capacity planning
  - c) CRM
  - d) Accounts payable.



[4079] – 205

**M.B.S. /M.M.S. (Semester – II) Examination, 2011**  
**202-D : OPERATIONS STRATEGY**  
**(Operations and Materials Management Specialization)**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

*Note : i) Answer **any five** questions.  
ii) **All** questions carry **equal** marks.*

1. Describe a framework for developing operations strategy for a manufacturing organizations.
2. Discuss the relation of following with Operations Strategy:
  - a) Value chain concept
  - b) Core competence.
3. Explain the importance of strategic integration while formulating Operations strategy.
4. Explain the effect of following factors on process choice decisions :
  - a) Product life cycle
  - b) Level of customization
  - c) Demand.
5. Discuss the factors influencing capacity decisions.
6. Discuss the role of IT in implementation of Operations Strategy.
7. What is Manufacturing infrastructure ? Describe the role of manufacturing infrastructure in Operations Strategy.
8. Write notes on **any two** of the followings :
  - a) Focussed manufacturing
  - b) Order winner and Order qualifier
  - c) Technology Strategy
  - d) CIM.



[4079] – 206

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**202-E : HRM Specialisation**  
**TRAINING AND DEVELOPMENT**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

- Note : 1) Question No. 1 is compulsory.*  
*2) Attempt **any four** questions from the remaining questions.*  
*3) Figures to the **right** indicate **full** marks.*

1. Define training. “Training is important function in organisation”. Discuss. **10**
2. Discuss the process and methods of identification of training needs. **15**
3. Design training program for newly joined marketing officer in manufacturing industry. **15**
4. Explain Kirkpatrick model for evaluation of training program. **15**
5. What is learning ? What are the principles of learning ? Explain social learning theory in detail. **15**
6. Write short notes on (**any two**) : **15**
  - a) Multimedia training
  - b) Andragogy
  - c) Training for leadership.







[4079] – 207

**M.M.S./M.B.S. (Semester – II) Examination, 2011**

**Marketing Specialization**

**203A : MARKETING STRATEGY AND RELATIONSHIPS MARKETING  
(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Attempt any five questions.*

*2) All questions carry equal marks.*

1. Explain the concept of 'Marketing Strategy'. Elaborate various steps in formulating Marketing Strategy.
2. Explain various bases of segmentation for consumer goods.
3. Why new products are developed ? How would you organize new product development ? What are the steps involved ?
4. Explain how IT would help in building up competitive marketing strategy to achieve sustaining growth in the business.
5. Explain the importance of database marketing, data warehousing and data mining in CRM.
6. "Value profit chain is based on value equations for customers, employees, partners and investors". Discuss.
7. Write short notes (**any two**) :
  - a) RM in industrial markets and consumer markets
  - b) Customer defections
  - c) Harvesting strategies
  - d) Constraints in marketing strategy implementation.



[4079] – 209

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**203C – Computer Specialization**  
**OOD CONCEPTS AND BASIC JAVA (Old and New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note :** 1) Question 1 is **compulsory**.  
2) Solve **any five** questions from remaining.  
3) Figures to **right** indicate **full** marks.

1. A) Answer the following : 10
  - 1) What is Java ?
  - 2) What is Object ?
  - 3) What is use of static keyword ?
  - 4) Which are different types of constructors ?
  - 5) What is abstract class ?

B) Create class called sports Accessories with attributes AccID, Description, Quantity, rate, usedInGame. Accept details of 10 accessories from user and store it in array of objects. Display details of all accessories used in game “cricket”. 10
2. Write applet application to display left scrolling banner. 10
3. Write an application to create following threads 10
  - a) Display series 1, 1, 2, 3, 5, 8, 13, 21,.....
  - b) Display series 1, 8, 27, 64, 125.....
4. Write an application to count vowels, each separately, from a given file 10

(Use character stream)
5. Define class called computer. Define subclasses of Computer called desk top and laptop. Accept details of 3 categories. Show accepted information by overriding display method (Define at least three attributes in each class. Assume suitable data). 10
6. Explain “Java is object oriented language”. 10
7. Write notes on (**any 2**) : 10
  - a) Applet life cycle
  - b) Thread synchronization
  - c) Exception handling in Java.



[4079] – 21

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**Marketing Mant. Specialization**  
**(202-A) : RETAIL AND DISTRIBUTION MANAGEMENT**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

*Instructions : 1) Attempt **any four** questions.  
2) **All** questions carry **equal** marks.*

1. a) Explain the various types of retailers.  
b) Analyse critically the nature and importance of retailing.
2. Discuss role of wholesalers in physical distribution and different types of wholesalers.
3. Elaborate the various factors which affect location decision.
4. “Material handling, transportation, warehousing and inventories” are the four pillars on which the building of retailer logistics rely upon”. Do you agree with the statement ? Explain in details with practical examples.
5. What are the causes for “channel conflict” and suggest strategies to overcome conflict ?
6. Write short notes on (**any three**) :
  - a) Franchising
  - b) CRM in retailing
  - c) Multilevel marketing
  - d) In-store promotions
  - e) Merchandising.



[4079] – 210

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**(203 D) : MODELING TECHNIQUES AND OPERATIONS**  
**MANAGEMENT**  
**Production and Materials Specialization**  
**(2008 Pattern) (New)**

Time: 3 Hours

Max. Marks: 70

*Notes : 1) Answer any five questions.*

*2) All questions carry equal marks.*

1. Discuss the how application of quantitative models in operations can help organizations in increasing delivery performance and profitability. **14**
  
2. Solve the following linear programming problem using simplex method.  
Maximize  $Z = 6X + 8Y$   
Subject to  
 $2X + 3Y \leq 18$   
 $4X + 2Y \leq 20$   
 $X, Y \geq 0$  **14**
  
3. a) State the steps involved in application of decision tree for decision making. **6**  
  
b) A government committee is considering the economic benefits of a program of preventative flu vaccinations. If vaccinations are not introduced then the estimated cost to the government if flu strikes in the next year is Rs. 700 million with probability 0.1, Rs. 1,000 million with probability 0.3 and Rs. 1,500 million with probability 0.6. It is estimated that such a program will cost Rs. 700 million and that the probability of flu striking in the next year is 0.75.  
One alternative open to the committee is to institute an “early-warning” monitoring scheme (costing Rs. 30 million) which will enable it to detect an outbreak of flu early and hence institute a rush vaccination program (costing Rs. 1,000 million because of the need to vaccinate quickly before the outbreak spreads).  
Draw Decision Tree for the above decision situation. **8**

P.T.O.



4. Explain any five priority sequencing rules and their significance with examples. **14**
5. Using Jackson’s method, find the sequence that minimizes the total elapsed time required to complete the following tasks and compute idleness of each machine. Each job is processed in the order of A-B-C. Calculate idle time on each machine. **14**

JOB	I	II	III	IV	V
Machine A	5	7	6	9	5
Machine B	2	1	4	5	3
Machine C	3	7	5	6	7

6. State the concept of Goal Programming. Describe formulation of Goal Programming model with an example. **14**
7. Describe the salient features of ERP system in context of operations management processes. **14**
8. Write notes on **any two** of the followings : **14**
- a) Steps in model building
  - b) Simulation
  - c) Sensitivity analysis.



[4079] – 211

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**203 – E : HRM SPECIALISATION**  
**Performance Management Systems**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

*Note : i) Q. No. 1 is compulsory.*  
*ii) Attempt any four questions from the remaining questions.*  
*iii) Figures to the right indicate full marks.*

1. Explain Performance Appraisal with its objectives. **10**
2. Explain the importance of compensation management and separation planning in performance management system. **15**
3. Explain the goal setting procedure in detail. **15**
4. Discuss the Straight Ranking Method and Critical Incident Method of Performance Appraisal in detail. **15**
5. Do you agree that counseling can help employees to improve their performance. Justify. **15**
6. Write short note on (**any two**) : **15**
  - a) Assessment centers.
  - b) Employee coaching.
  - c) 360° degree appraisal.



[4079] – 23

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**COMPUTER SPECIALIZATION**  
**202(C) : Business Applications**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 70

**Instructions :** i) *Question No. 6 is compulsory.*  
ii) *Solve any four from Q. No. 1 to Q. 5.*  
iii) *Figures to right indicate marks.*

1. Explain in detail preparation of production plan and master production schedule. **15**
2. Explain in detail customer complaint management system. **15**
3. Explain process of preparation of balance sheet with suitable example. **15**
4. Explain in detail demand forecasting and planning. **15**
5. What is an ERP ? Explain various factors for evaluating and implementing an ERP package. **15**
6. Write short note on **any two** : **10**
  - 1) CRM
  - 2) BOM
  - 3) DEMAT Account
  - 4) Accounts Receivable.

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B/II/11/125







[4079] – 24

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**Production and Materials Specialization**  
**202 – D : MANUFACTURING STRATEGY**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

*Note : i) Answer **any four** questions.  
ii) **All** questions carry **equal** marks.*

1. How manufacturing strategy can be aligned with corporate strategy to achieve market leadership ? Elaborate with examples.
2. Discuss the role and importance of technology and process choice in developing manufacturing strategy.
3. Explain the strategic issues involved in make-buy decisions for components of a high tech electronic consumer product.
4. Explain the concept and principles of to cussed manufacturing. Describe in brief strategic gain / benefits by adopting to cussed manufacturing.
5. Discuss the factors to be considered while making huge investment in infrastructure / plant / machinery for a manufacturing organization.
6. Describe the need for and advantages of linking investment decisions to product life cycle.
7. Write short notes on **any three** of the following :
  - a) Functional goals.
  - b) Technical vs business specifications.
  - c) Technology strategy.
  - d) Customer-Vendor relations.



[4079] – 25

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**202 E : HRM Specialisation**  
**TRAINING AND DEVELOPMENT**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

*Note: 1) Attempt any four questions.*  
*2) All questions carry equal marks.*

1. Explain various methods of Training. **15**
  2. Define Training. Explain need and objectives of training. **15**
  3. Design a training programme for newly joined sales officer in manufacturing industry. **15**
  4. Explain in detail the process of identification of training needs of employees in the organisation. **15**
  5. What is training evaluation ? Explain various techniques to evaluate training. **15**
  6. Write short notes on **(any two)** : **15**
    - a) Resistance of training.
    - b) Budgeting of training.
    - c) Distance learning.
    - d) Sensitivity training.
- 

B/II/11/125



[4079] – 26

**M.M.S. /M.B.S. (Semester – II) Examination, 2011**  
**Marketing Management Spl :**  
**203 A : MARKETING STRATEGY AND SOCIAL MARKETING**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Attempt **any five** questions.  
2) **All** questions carry **equal** marks.*

1. Present an overview of the characteristics and trends of strategic marketing management.
2. Identify and explain the major factors contributing to the pricing strategy of a firm.
3. Explain the significant stages of corporate strategic planning. How does the SWOT analysis contribute to the strategy formulation ?
4. Discuss the major constraints to the 'promotion', in the rural markets. How can these be overcome ? Explain giving examples.
5. Suggest the probable criteria that will be useful in segmenting the rural markets for
  - a) Farming mechanization products and
  - b) FMCG products.
6. What strategies of marketing will you recommend for declining markets ? Explain.
7. Write notes on **any two** :
  - a) Packaging for rural products
  - b) Strategies for entering a foreign market
  - c) Marketing channel strategy.



[4079] – 27

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**203-B Finance Spl.**  
**LEGAL AND PROCEDURAL ASPECTS OF FINANCE**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

**Instructions:** 1) Attempt **any 4** questions.  
2) **All** questions carry **equal** marks.

1. Explain the provisions regarding the appointment and removal of a Director of company.
  2. Explain the provisions of Company's Act regarding oppression and mismanagement.
  3. What are the required qualifications for appointment of Auditors ? Also explain the duties of Auditors.
  4. Write short notes on :
    - a) Audit Reports.
    - b) Director's responsibility statement.
  5. Explain the provisions of Companies Act 1956 regarding Inter Corporate Deposits and Loans.
  6. Explain the role and duties of the Secretary of the company in connection regarding annual general meeting.
  7. Write short notes (**any 3**) :
    - a) Objectives of Payment of Wages Act.
    - b) Payment of Bonus Act.
    - c) Payment of Gratuity Act.
    - d) Corporate governance.
- 

B/II/11/125



[4079] – 29

**(MMS) M.B.S. (Semester – II) Examination, 2011**  
**PRODUCTION AND MATERIALS SPECIALISATION**  
**203 D : Inventory Management**  
**(2005 Pattern) (Old)**

Time: 3 Hours

Max. Marks : 60

*N.B. : 1) Attempt **any four** questions.*

*2) All questions carry **equal** marks.*

1. What is selective inventory control ? What is the basis of 'ABC' analysis ?  
Explain the process of carrying out 'ABC' analysis with graph. **15**
2. Explain the role of 'computer' in inventory management. Cite examples. **15**
3. Explain following :
  - a) Inventory carrying cost and procurement cost. **8**
  - b) Fixed order system and periodic order system. **7**
4. Write a detailed note on, "Just-in-Time (JIT)" with examples. **15**
5. What is, inventory management objectives ? Explain their impact on service level and 'ROI'. **15**
6. Explain the various inventory model with min-max level. **15**
7. Write short notes on **any three** : **15**
  - a) Set up time and SMED
  - b) Excess Inventory A Grave Yard of Business
  - c) A role of 'MRP' in controlling inventories
  - d) Classification of materials.



[4079] – 30

**M.M.S./M.B.S. (Semester – II) Examination, 2011**  
**PERFORMANCE MANAGEMENT SYSTEMS**  
**203(E) : HRM Spl.**  
**(2005 Pattern) (Old)**

Time : 3 Hours

Max. Marks : 60

*Instruction : Attempt any four questions.*

1. Define Performance Appraisal. Discuss objectives in detail. **15**
2. Explain any two traditional methods of Performance Appraisal. **15**
3. What is the importance of 'self-assessment' in Performance Appraisal ? **15**
4. Write in detail about MBO. **15**
5. What is the role of communication in performance management systems ? **15**
6. Write notes on **any two** of the following : **15**
  - a) BARS
  - b) Ranking method of performance appraisal
  - c) Potential appraisal
  - d) Use of technology in performance management systems.

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B/II/11/125





[4080] – 33

**M.C.A. (Semester – III) (Mgt. Faculty) Examination, 2011**  
**BM-33 : MANAGEMENT SUPPORT SYSTEM**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q. 1 and Q. 7 are compulsory.*  
*2) Attempt any four from remaining.*

1. Explain in detail information requirement for inventory function using system approach. **10**
2. Explain the application of law of requisite variety. **10**
3. Define MIS. Explain the characteristics of MIS. **10**
4. Explain the Newell Simon model of Human Information Processing. **10**
5. Explain Herbert Simon model of Decision Making. **10**
6. Define EIS/ESS. Explain characteristics and capabilities of EIS. **10**
7. Write short notes on **(any 4)** : **20**
  - a) Organisation structure
  - b) Quality of information
  - c) Academic disciplines of MIS
  - d) Information overloading
  - e) Simulation.

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B/II/11/190





[4080] – 41

**M.C.A. (Management Faculty) (Semester – IV) Examination, 2011**

**IT-41 : JAVA PROGRAMMING**

**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q. 1 is compulsory.*

*2) Solve any 4 from Q. 2 to Q. 6.*

1. Answer the following with justification : **10**
  - 1) Differentiate between default and public access specifiers.
  - 2) Explain overriding concept in Java.
  - 3) Explain try, catch block.
  - 4) List out the methods in Applet life cycle.
  - 5) Explain 'this' keyword.
2. a) Write an applet to display 'Welcome' message, after every 5 seconds, increase font size by 2 pts. **8**  
b) Explain java.io.File class. **7**
3. a) Write a client-server socket program, client program will accept message from user and send it to server, server will send a Random number to client. **8**  
b) Explain stub and skeleton, Marshalling and unmarshalling in RMI. **7**
4. a) Write JDBC application using servlet for displaying report of Gas booking of customers for current date. (Assume suitable table structure). **8**  
b) Explain Thread Life Cycle. **7**

**P.T.O.**



5. a) Write a Java Program to append the contents of one file into another file,  
accept both file names from user. **8**
- b) Explain inheritance in Java with suitable example. **7**
6. Write short notes on **(any 3)** : **15**
- a) MVC architecture
  - b) Anonymous class
  - c) Final and static keyword
  - d) JDBC drivers.



[4080] – 44

**M.C.A. (Semester – IV) (Mgmt. Faculty) Examination, 2011**  
**MT-41 : OPTIMIZATION TECHNIQUES**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 80

*Instructions :1) Solve any four questions.*

*2) Figures to the right indicate full marks.*

*3) Use of electronic calculator and statistical tables is allowed.*

1. a) Solve the following L.P.P. by using BIG-M method : **10**

$$\text{Maximize } z = -2x_1 - x_2$$

Subject to the constraints

$$3x_1 + x_2 = 3$$

$$4x_1 + 3x_2 \geq 6$$

$$x_1 + 2x_2 \leq 4 \text{ and } x_1, x_2 \geq 0$$

b) Explain quality of L.P.P. with example. **10**

2. a) Solve the following problem **10**

$$\text{Maximize } z = x_1 + 2x_2$$

Subject to the constraints

$$2x_2 \leq 7$$

$$x_1 + x_2 \leq 7$$

$$2x_1 \leq 11$$

$$x_1, x_2 \geq 0$$

and  $x_1, x_2$  are integers

**P.T.O.**



- b) Obtain an optimum solution for the following transportation problem : **10**  
 Find an initial solution by using Least Cost Method (LCM)/Vogel's Approximation Method (VAM).

	<b>D<sub>1</sub></b>	<b>D<sub>2</sub></b>	<b>D<sub>3</sub></b>	<b>D<sub>4</sub></b>	<b>Supply</b>
<b>S<sub>1</sub></b>	19	30	50	10	7
<b>S<sub>2</sub></b>	70	30	40	60	9
<b>S<sub>3</sub></b>	40	8	70	20	18
<b>Demand</b>	5	8	7	14	

3. a) Explain why inventory control models are needed. What are different components of inventory cost ? **10**
- b) An aircraft company uses rivets at an approximate customer rate of 2,500 kg per year. Each unit costs Rs. 30 per Kg and the company personnel estimate that it costs Rs. 130 to place an order, and that the carrying cost of inventory is 10% per year.
- i) How frequency should orders for rivets be placed (number of orders) ?
- ii) Order interval. **10**
4. a) Describe the features of the following Queueing model (M/M/1) : (FCFS/N/∞) with formulae for the relevant quantities. **10**
- b) The inter-arrival times at toolcrib are exponential with an average time of 10 minutes. The length of the service time is assumed to be exponentially distributed, with mean 6 minutes.
- Find :
- i) The probability that a person arriving at the booth will have to wait.
- ii) Average queue length
- iii) Average number of customers in the system
- iv) Average system time. **10**



5. a) Explain the models for replacement of items that fail completely ? **10**
- b) An engineering company is offered a material handling equipment A. It is priced at Rs. 60,000 including cost of installation, and the costs for operation and maintenance are estimated to be Rs. 10,000 for each of the first five years, increasing every year by Rs. 3,000 in the sixth and subsequent years. The company expects a return of 10% on all its investment. What is the optimal replacement period ? **10**
6. a) Define the following terms with illustrations : **10**
- i) Critical paths and critical activities
  - ii) Earliest start and earliest finish
  - iii) Expected project duration
  - iv) Pessimistic time.
- b) A small project is composed of 7 activities whose time estimates are given below :

Activity	Estimated duration (weeks)		
	Optimistic	Most likely	Pessimistic
1-2	1	1	7
1-3	1	4	7
1-4	2	2	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

- i) Draw the network diagram
- ii) Find the expected duration and variance.
- iii) What is the probability that the project will be completed atleast 4 weeks earlier than expected time ? **10**





**M.C.A. (Mgmt. Faculty) (Semester – IV) Examination, 2011**  
**BME-2 : FOUNDATIONS OF DECISION PROCESS (2005 Pattern)**  
**(Elective)**

Time : 3 Hours

Max. Marks : 70

- Instructions :*
- i) Question Number 1 is compulsory.*
  - ii) Solve any two from the remaining.*
  - iii) Figures to the right indicate full marks.*

1. a) Explain the theory of dominance in the solution of rectangular games. **10**
- b) The manager purchases of a Flower Shop promises its customers delivery within four hours on all flower orders. All flowers are purchased on the previous day and delivered to Parker by 08:00 AM the next morning. The daily demand for roses is as follows :

<b>Dozens of Roses</b>	70	80	90	100
<b>Probability</b>	0.1	0.2	0.4	0.3

- The manager purchases roses for Rs. 10 per dozen and sells for Rs. 30. All unsold roses are donated to a local hospital. How many dozens of roses should parker order each evening to maximize its profits ? What is the optimum expected profit ? **10**
- c) Telephone users arrive at a booth following Poisson distribution with an average time of 5 minutes between one arrival and next. The time taken for a telephone call is on an average 3 minutes and it follows exponential distribution. What is the probability that the booth is busy ? How many more booths should be established to reduce the waiting time to less than or equal to half of the present waiting time ? **10**



2. a) A manufacturing company has just developed a new product. On the basis of past experience, a product such as this will either be successful, with an expected gross return of Rs. 1,00,000, or unsuccessful, with an expected gross return of Rs. 20,000. Similar products manufactured by the company have a record of being successful about 50% of the time. The production and marketing costs of the new product are expected to be Rs. 50,000.

The company is considering whether to market this new product or to drop it. Before making its decision, a test marketing effort can be conducted at a cost of Rs. 10,000. Based on past experience, test marketing results have been favorable about 70% of the time. Furthermore, products favorably tested have been successful 80% of the time. However, when the test marketing result has been unfavorable, the product has only been successful 30% of the time. What course of action should the company pursue ?

10

b) Explain the characteristics of Queuing model.

10

3. a) In a small town, there are only two stores, ABC and XYZ that handle sundry goods. The total number of customers is equally divided between the two, because price and quality of goods sold are equal. Both stores have good reputation in the community and they render equally good customer service. Assume that a gain of customers by ABC is a loss to XYZ and vice versa. Both stores plan to run annual pre-diwali sales during the first week of November. Sales are advertised through a local newspaper, radio and television media. With the aid of an advertising firm store ABC constructed the game matrix given below (figures in the matrix represent a gain or loss of customers).

		Strategy of XYZ		
		Newspaper	Radio	Television
Strategy of ABC	Newspaper	30	40	-80
	Radio	0	15	-20
	Television	90	20	50

Determine optimal strategies and the worth of such strategies for both ABC and XYZ.

10





- b) A confectioner sells confectionery items. Past data of demand per week (in hundred kilograms) is given below : **10**

<b>Demand</b>	0	5	10	15	20	25
<b>Frequency</b>	2	11	8	21	5	3

Using the following sequence of random numbers, generate the demand for the next 15 weeks. Also find the average demand per week :

35 52 90 13 23 73 34 57 37 83 94 56 67 66 60

4. Write short notes on **any two** : **20**
- a) Various Queue Models
  - b) Simulation Techniques
  - c) Criteria of Decision Making.



[4080] – 58

**M.C.A. (Semester – V) (Management Faculty) Examination, 2011**  
**IT-4 : MOBILE COMPUTING (Elective)**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions :1) Question No. 1 and 7 are compulsory.*

*2) Attempt any three questions from remaining Q. 2 to Q. 6.*

1. a) Define the following terms (**any five**) : **10**
  - i) GSM
  - ii) Frame Error Rate
  - iii) VLR
  - iv) WTP
  - v) MAC
  - vi) Fading
- b) Explain the features of wireless Network. What are its advantages and disadvantages ? **10**
2. What is cell breathing ? List any four functions of base station controller used in GSM. Explain the impact of framing and logical channels in GSM. **10**
3. What is SIP ? How does SIP handle Call setup teardown of Calls ? What are the basic difference in functionality between H.323 and SIP ? **10**
4. Explain problems faced in 802.11 MAC design. **10**
5. What are the general problems of mobile-IP regarding security and support of QoS ? **10**

P.T.O.



6. a) Explain working of RTS-CTS protocol. 5  
b) Define Distributed Computation with advantages. 5
7. Write short notes (**any four**) : 20
- i) CDMA
  - ii) Mobile Agents
  - iii) Indirect-TCP
  - iv) Blue-tooth
  - v) DHCP
  - vi) Adhoc Networks.
-



[4080] – 302

**M.C.A. (Semester – III) (Management Faculty) Examination, 2011  
IT-32 : DATA COMMUNICATION AND COMPUTER NETWORKS (New)  
(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

**Instructions:** 1) Q. 1 and Q. 8 is **compulsory**.  
2) Attempt **any four** from the remaining.  
3) Draw **neat diagram wherever necessary**.

1. a) Justify with **true** or **false** : **6**
  - i) FTP is more reliable than TFTP.
  - ii) The subnetting is used to expand the network.
  - iii) Device on one network can communicate with device on another network via a gateway.
- b) Explain DHCP scope resolution with example. **9**
2. What is POP ? What are its disadvantages ? Explain IMAP modes of operations. What are the advantages of IMAP over POP ? **10**
3. What is DNS and DNS protocols ? How delegation of authority is executed in DNS ? **10**
4. Describe the differences among ISDN-B,D and H channels. **10**
5. "A sliding window is used to make transmission more efficient as well as to control the flow of data" in TCP. Justify with example. **10**
6. What is VSAT ? Explain different VSAT Network architecture. What are the VSAT Access Technologies ? Explain. **10**
7. a) Differentiate : Virtual circuit and Datagram. **5**  
b) Discuss the design issues of WLAN. **5**
8. Write short notes (**any three**) : **15**
  - a) Router
  - b) Firewall
  - c) X.25 Network
  - d) FTP
  - e) Remote communication protocol.

**M.C.A. (Mgmt. Faculty) (Semester – III) Examination, 2011**  
**IT 33 : OBJECT ORIENTED PROGRAMMING USING C++ (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note* : a) *Q. 1 is compulsory.*  
b) *Solve any six from Q. 2 to Q. 8.*  
c) *Figures to right indicate full marks.*  
d) *Make suitable assumption wherever necessary.*

1. Write outputs with explanation :

(2×5=10)

a) Class sample

```
{
    Public :
    int * ptr ;
    sample ( ) {ptr = NULL;}
    sample (int i )
    { ptr = new int (i) ;
    }
    ~ sample ( ) { delete ptr ; }
    void printVal ( ) {
    Cout << "The value" << *ptr ;
    }
};
Void SomeFunc (Sample x) {
    Cout << "say i am in someFun" << endl;
}
int main ( )
{
    Sample S1 = 10 ;
    Some Func (S1) ;
    S1. PrintVal ( ) ;
}
```



```
b) Class Test {
    Public :
    Test ( ) ;
};
Test :: Test ( ) {
    Cout << "Constructor called \n" ;
}
int main ( ) {
    Cout << "start \n" ;
    Test t1( ) ;
    Cout << "End \n" ;
    return 0 ;
}

c) Class Test
{
    Static int i ;
    int j ;
};
int Test :: i ;
int main ( )
{
    Cout << size of (Test) ;
    return 0 ;
}

d) Void main ( )
{
    int a, * pa, & ra;
    pa = & a ;
    ra = a ;
    Cout << "a =" << a <<" * pa =" <<* pa<< "ra =" <<ra;
}
}
```



```
e) Class Test
{
    Public :
    int operator == (Test t)
    {
        if ( * this == t )
        {
            Cout << "Both are same" ;
            return 1 ;
        }
        else
        {
            Cout << "Both are different" ;
            return 0 ;
        }
    }
};

Void main ( )
{
    Test t1, t2 ;
    t1 == t2 ;
}
```

- 2. a) What is difference between using declaration and using directive ? **5**
- b) What is the need for iterators ? What is their role in STL ? **5**
- 3. Write a stack class and overload + and – operator for push and pop operation. The stack class should throw an exception when the stack underflow and overflow take place. **10**
- 4. a) Why virtual constructors are not possible but virtual destructor is a good idea ? **5**
- b) What is the need for type\_into object ? What is the role of type id operator in the RTTI ? **5**



- 5. Define polar class and cartesian co-ordinate class to store point. Write routines which converts from one type of point to another. **10**
  
- 6. a) Explain the difference between manipulators and ios functions. **5**  
b) Explain the role of seekg ( ), seekp ( ), tellg ( ) and tellp ( ) functions in the process of random access in a binary file. **5**
  
- 7. Write a template function for sort. Also write a person class which having name and age as data member. Write a main function in which create a integer array and person object array. Store 'n' values in both array and call the sort function to sort integer array and also to sort person object array. The person object array sorted by according person name. **10**
  
- 8. Write short notes on (**any two**) : **(5×2=10)**
  - a) Copy constructor.
  - b) Difference between inline function and macro.
  - c) Polymorphic object.

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[4080] – 305

**MCA (Semester – III) ( Management Faculty) Examination, 2011**  
**BM – 31 : MANAGEMENT SUPPORT SYSTEM AND INFORMATION**  
**SYSTEM SECURITY**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q. 1 and 7 are compulsory.*  
*2) Attempt any four from remaining.*

1. Explain in detail Information requirement for financial function using system approach. 10
2. What do you mean by Feedback Control ? Explain the application of negative feedback with management Budget example. 10
3. Define MIS. Explain structure of MIS based on management activity. 10
4. Explain the Newell Simon Model of Human Information Processing. 10
5. 'Sensitivity Analysis helps in Identifying value of additional information to support decision making' comment. 10
6. Discuss how ESS/EIS can help senior Managers make better decisions. 10
7. Write short notes on (**any 4**) : 20
  - a) Herbert Simon Model
  - b) Types of Information
  - c) Business value of DSS
  - d) Need of IS Auditing
  - e) Static and Dynamic Models.



[4080] – 31

**M.C.A. (Semester – III) (Management Faculty) Examination, 2011**  
**IT-31 : WEB SUPPORTING TECHNOLOGIES**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. 1 is compulsory.*  
*2) Solve any four from the remaining.*  
*3) Figures to the right indicate full marks.*

1. Differentiate between DTD and schema. 10
  
2. a) Write code for creating following external style sheet and use it in HTML.
  - i) Set hyperlink without underline
  - ii) Text having 18 font-size, italic and underline
  - iii) Set right margin 20 pixels
  - iv) Text color should be green. 8
  
- b) Explain error handling mechanism in VB script. 7
  
3. a) Design HTML form for entering employee details. Assume suitable fields.  
Write Javascript code for validating any four elements. 8
  
- b) Explain 3-tier architecture with diagram. 7
  
4. a) Design given form using HTML with validations and perform the appropriate operations on click event of the respective button. Use VB script. 8

Enter first number	<input style="width: 100%;" type="text"/>
Enter second number	<input style="width: 100%;" type="text"/>
Result	<input style="width: 100%;" type="text"/>
<input style="width: 20px; height: 20px;" type="button" value="+"/> <input style="width: 20px; height: 20px;" type="button" value="-"/> <input style="width: 20px; height: 20px;" type="button" value="*"/> <input style="width: 20px; height: 20px;" type="button" value="/"/>	

- b) Explain with example Math and Array objects in Javascript. 7

P.T.O.



5. a) Explain the following tags with example. **8**
- 1) < IFRAME >
  - 2) < MAP >
  - 3) < SPAN >
  - 4) < DIV >
- b) Write DTD for patient information, where each patient has child elements patient-id, patient-name, address, room-type. The patient-name element has child elements first-name, middle-name and last-name. **7**
6. Write short note on (**any 3**) : **15**
- a) Classes in CSS
  - b) Date and string objects in VB script
  - c) Client-side image mapping
  - d) WWW, HTTP and W3c.
-



[4080] – 32

**M.C.A. (Management Faculty) (Semester – III) Examination, 2011**  
**IT – 32 : COMPUTER NETWORKS**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q.1 and Q.6 are compulsory.*  
*2) Solve any three from Q.2 to Q.5.*

1. a) Explain e-mail message structure, addressing and sending receiving procedure. **10**  
b) Explain IP addressing schemes with example. **10**
2. Explain various types of security threats. What is birthday attack ? **10**
3. Explain DNS and DNS protocols. **10**
4. Explain and compare connectionless and connection oriented networks. **10**
5. Compare IPV<sub>4</sub> and IPV<sub>6</sub>. **10**
6. Write short notes (**any four**) : **(4×5=20)**
  - i) VSAT
  - ii) Transmission protocols
  - iii) Proxy server
  - iv) Network devices
  - v) Session layer in OSI
  - vi) SNMP agents.



[4080] – 34

**M.C.A. (Semester – III) (Mgt. Faculty) Examination, 2011**  
**IT – 34 : OBJECT ORIENTED PROGRAMMING USING C++**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note :* 1) *Q. 1 is compulsory.*  
2) *Solve any six from Q. 2 to Q. 8.*  
3) *Figures to right indicate full marks.*  
4) *Make suitable assumptions wherever necessary.*

1. Explain output of the following programs. If errors, correct it. **(2×5=10)**

```
1) # include < iostream.h >
   int main ( )
   {
       char str [ ] = {"\0 work\n hard"};
       cout << sizeof (str) <<endl ;
       cout << str ;
       return 0 ;
   }
```

```
2) # include < iostream.h >
   # include < conio.h >
   class base
   {
       Public :
       void disp ( )
       {
           char * ptr = (char*) '0' ;
           int i = 96 ;
           int *j = (int *) & ptr ;
           cout << i/* j ;
       }
   } ;
   void main ( )
   {
       clrscr ( ) ;
       base b;
       b.disp ( ) ;
   }
```

P.T.O.



```
3) # include < iostream.h >
   # include < conio.h >
   class base
   {
       base ( )
       {
           cout <<"hello" ;
       }
   } ;
   void main ( )
   {
       clrscr ( ) ;
       base ( ) ;
   }
```

```
4) # include < iostream.h >
   void execute (int & x, int y = 200)
   {
       int temp = x + y ;
       x += temp ;
       if (y != 200)
           cout << temp << x << y << endl ;
   }
   void main ( )
   {
       int a = 50, b = 20 ;
       execute (b) ;
       cout << a <<b << endl ;
       execute (a, b) ;
       cout << a << b << endl ;
   }
```



```
5) # include < conio.h >
   # include < iostream.h >
   # include < math.h >
   void main ( )
   {
       cout. set f (ios :: left, ios :: adjustfield) ;
       cout.width (9) ;
       cout.fill ('#') ;
       cout.precision (5) ;
       cout << - 5.25 ;
       cout << "\n" ;
       cout.self (ios :: right, ios :: adjustfield) ;
       cout.width (9) ;
       cout.fill ('#') ;
       cout.precision (5) ;
       cout << - 5.25 ;
   }
```

- 2. a) What is virtual function ? Explain with suitable example. **5**
- b) Write a program to demonstrate use of virtual destructor. **5**
- 3. Explain types of inheritance with suitable example of each type. **10**
- 4. Write a program that reads a text file and create another file that is identical except that every sequence of consecutive blank spaces is replaced by a single space. **10**
- 5. What are the rules for operator overloading ? Write a program to demonstrate how insertion and extraction operators are overloaded. **10**
- 6. a) Explain RTTI with suitable example. **5**
- b) Write a program to swap two integer number and 2 real numbers. Use Templates. **5**



7. Design a class employee which includes the following data members : **10**

- a) Emp Number
- b) Emp Name
- c) Basic.

Member functions :

- 1) To Assign initial value
- 2) To calculate net salary
- 3) To display Net salary with employee details.

Calculate the net salary using the formulae

Gross salary = Basic + DA + HRA

Net salary = Gross salary – Deductions

The following conditions apply for the calculations

- 1) DA is 40 % of basic salary
- 2) HRA is 30 % of basic salary
- 3) PF is deduction is 10 % of the basic salary.

8. Write short notes on (any 2) : **(2×5=10)**

- 1) Standard Template Library.
- 2) User defined manipulators.
- 3) Abstract class.





[4080] – 35

**M.C.A. (Semester – III) (Mgt. Faculty) Examination, 2011**  
**IT – 36 : OBJECT ORIENTED ANALYSIS AND DESIGN**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q.1 is compulsory.*

*2) Solve any 5 from the remaining questions.*

1. a) Design an use case and class diagram for the following case :  
“ABC Online Book” purchase system is to be designed having following details :  
Customer can login, select the desired book(s) by searching the author or by entering the subject of the book. After seeing the list of books, the customer selects the books and puts in the cart. He can remove the books from the cart before final bill is generated. Once the bill is generated he has to pay using debit or credit card.  
The new book arrivals are uploaded by website administration. **15**
- b) Inheritance and its types. **5**
2. Draw an activity diagram for online booking of movie tickets of movie in multiplex theater. The payment should be done by credit card. The tickets can be cancelled 3 hours before the show timings. **10**
3. Explain Booch methodology with examples. **10**
4. Draw sequence or collaboration diagram for the following scenario :
  - 1) Change password
  - 2) Retrieving the password which is forgotten. **10**
5. Draw state transition diagram for making a call using coin box machine. Make your own assumptions. **10**
6. Explain RUP in detail. **10**
7. Write short notes on (**any 2**) : **(5×2=10)**
  - 1) Guidelines for creating case plan
  - 2) Object persistence
  - 3) OODBMS
  - 4) CRC.

**MCA (Management Faculty) (Semester – IV) Examination, 2011**  
**IT – 43 : OBJECT ORIENTED ANALYSIS AND DESIGN**  
**(2008 Pattern) (New)**

Time : 3 Hours

Max. Marks : 70

- Note : 1) Question 1 is compulsory.*  
*2) Answer any five from the remaining.*  
*3) Mention the assumptions made for solving case study.*

1. A reputed college is conducting multiple courses. The college has Online Faculty Feedback System. The feedback can be given only by the students studying in the college for current academic year. Each course in the college has many faculties teaching various subjects in various courses.

Students can give Feedback for faculty who has taught him/her for the current semester.

The Online Feedback System should include following :

- 1) Login for Faculty
- 2) Login for Students
- 3) Login for HOD
- 4) One student can fill the Feedback form only once in a semester.
- 5) According to the points given by the students in the feedback, system calculates the grades of faculty.
- 6) Faculty can only view the feedback grades given by the students without seeing name of the student.

Appropriate action will be taken by the HOD, if Feedback of the particular faculty is below certain level.

- a) Draw use case diagram for above case study. **10**
- b) Draw class diagram for above case study. **10**

**P.T.O.**



2. Explain four phases of RUP in detail. **10**
3. a) Draw sequence diagram for forwarding sms to your friend. **5**  
b) Draw collaboration diagram for sending e-mail with attachment. **5**
4. Draw Activity diagram for Accepting Online order and Home Delivery of Pizza (Write your own assumptions). **10**
5. Draw state transition diagram for Biometric (Finger print ) system having following functionalities :
  - 1) Storing finger prints
  - 2) Generating id's
  - 3) Recording In-time/Out time by matching the finger prints
  - 4) Showing Valid/ Invalid Messages
  - 5) Calculating working hours. **10**
6. Compare Grady Booch Methodology with Jacobson Methodology. **10**
7. Write short notes (**Any two**) : **10**
  - 1) Reusability
  - 2) Deployment and Component diagrams
  - 3) Benefits of patterns
  - 4) Test plan Guidelines.



[4080] – 404

**M.C.A. (Semester – IV) (Mgmt. Faculty) Examination, 2011**  
**MT-41 : OPTIMIZATION TECHNIQUES (New)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Instructions:** 1) Q. No. 1 is **compulsory**.  
2) Attempt **any two** questions from Q.No. 2, 3 & 4.  
3) **Use of electronic calculator and statistical tables is allowed.**

1. a)

Activity	Preceding activities	Time Estimate		
		Optimistic	Likely	Pessimistic
A	-	2	4	6
B	-	6	6	6
C	-	6	12	24
D	A	2	5	8
E	A	11	14	23
F	B, D	8	10	12
G	B, D	3	6	9
H	C, F	9	15	27
I	E	4	10	16

- 1) Draw PERT Network of the project.
- 2) Find Expected project duration and variance.
- 3) If there is 30 week deadline to complete the project what is the probability that project will be finished within time limit ?

9

b) Solve the following problem

$$\text{Max } Z = 5x_1 + 7x_2$$

Subject to

$$-2x_1 + 3x_2 \leq 6$$

$$6x_1 + x_2 \leq 30$$

$$x_1, x_2 \geq 0 \text{ and integer}$$

9

P.T.O.



c) A barber shop has six chairs to accommodate waiting people. It is assumed that any customer who comes, when all six chairs are occupied leaves without entering the shop. Rate of arrival is 3 per hour. Each customer spends 15 minutes on an average in the barber chair.

- i) What is the chance that a customer does not have to wait for the hair-cut ?
- ii) Expected number of customers waiting for the hair cut ?
- iii) What are the percentage of potential customers who turned away ?

6

d) In a particular plant there are 4 machines to be installed. There are 5 vacant places available. The cost of installation of machines at different vacant places are given in the following table.

Places Machines	A	B	C	D	E
M <sub>1</sub>	9	11	15	10	11
M <sub>2</sub>	12	9	10	15	9
M <sub>3</sub>	10	13	14	11	7
M <sub>4</sub>	14	8	12	7	8

Find the optimum assignment.

6

2. a) ABC limited has three production shops supplying a product at five warehouses. The cost of production varies from shop to shop and cost of transportation from one shop to a warehouse also varies each shop has a specific production capacity and each warehouse has certain requirement. The cost of transportation is given below

Production Shop	Warehouses					Capacity
	A	B	C	D	E	
X	6	4	4	7	5	100
Y	5	6	7	4	8	125
Z	3	4	6	3	4	175
<b>Requirement</b>	60	80	85	105	70	

Determine the optimal distribution.

9



b) Explain the following terms :

- i) Dummy activity
- ii) Floats
- iii) Critical path.

6

c) The simple Engineering company has a machine whose purchase price is Rs. 80,000. The expected maintenance cost and resale prices in different years are as given'

Year	1	2	3	4	5	6	7
Maintenance cost (Rs.)	1000	1200	1600	2400	3000	3900	5000
Resale value (000 Rs.)	75	72	70	65	58	50	45

After what time interval in your opinion should the machine be replaced.

5

3. a) Find the dual of the following LPP, then solve the dual problem using Big M Method.

$$\text{Max } z = 3x_1 + 5x_2$$

$$\text{Subject to } 2x_1 + 6x_2 \leq 50$$

$$3x_1 + 2x_2 \leq 35$$

$$5x_1 - 3x_2 \leq 10$$

$$x_2 \leq 20$$

$$x_1, x_2 \geq 0.$$

9

b) Describe any one inventory model without shortage.

6

c) The demand for a particular commodity is 15,000 units per year. No shortages are allowed and supply is instantaneous, holding cost per year per unit is Rs. 1.20 and cost of one procurement is Rs. 300/-

Find :

- i) EOQ
- ii) Minimal yearly cost.

5



4. a) The following table gives the activities in a construction project and other relevant information

Activity	Immediate Predecessor	Time		Cost	
		Normal	Crash	Normal	Crash
A	–	4	3	60	90
B	–	6	4	150	250
C	–	2	1	38	60
D	A	5	3	150	250
E	C	2	2	100	100
F	A	7	5	115	175
G	D, B, E	4	2	100	240

Indirect cost vary as follows.

<b>Days</b>	15	14	13	12	11	10	9	8	7
<b>Cost Rs.</b>	600	500	400	250	175	100	75	50	35

Find the project duration with minimum cost.

9

- b) Explain the following queuing model (M/M/1) : (FCFS/N/∞).

6

- c) Anita electric company produces two products P<sub>1</sub> and P<sub>2</sub> that are produced and sold on weekly basis. The weekly production cannot exceed 25 for product P<sub>1</sub> and 35 for product P<sub>2</sub> because of limited facilities. The company employs total of 60 workers product P<sub>1</sub> requires 2 man weeks of labour whereas product P<sub>2</sub> requires only 1. Profit margin on P<sub>1</sub> is Rs. 60 and on P<sub>2</sub> is Rs. 40. Formulate it as a LPP.

5



[4080] – 406

**M.C.A. (Mgmt. Faculty) (Semester – IV) Examination, 2011  
BME2 : FOUNDATION OF DECISION PROCESS (Elective)  
(New) (2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Instructions :**
- 1) Q. No. 1 is **compulsory**.
  - 2) Solve **any two** questions from the remaining.
  - 3) Figures to the **right** indicate **full** marks.
  - 4) Use of Electronic calculator is allowed.

1. a) Describe the steps involved in the process of decision making. **10**
- b) A xerox machine in an office is operated by a person who does other jobs also. The average service time for a job is 6 minutes per customer. On an average every 12 minutes one customer arrives for xeroxing. Find :
- 1) Xerox machine utilisation.
  - 2) Percentage of times that arrival has not to wait.
  - 3) Average time spent by customer.
  - 4) Average queue length.
  - 5) The arrival rate, if the management is willing to deploy the person exclusively for xeroxing when the average time spent by a customer exceeds 15 minutes. **10**
- c) An Engineering firm utilizes re-order level system to replenish stock based on average demand. The demand is given as below :

<b>Demand per week :</b>	0	1	2	3	4	5	6
<b>Frequency :</b>	2	8	22	34	18	9	7

Generate the demand for next 20 weeks using the random numbers given below and calculate average demand.

**Random Numbers :** 68, 46, 87, 32, 78, 72, 27, 60, 06, 40, 83, 39, 97, 11, 06, 77, 49, 31, 71, 92.

**10**  
P.T.O.





2. a) Two breakfast food manufacturing firms A and B are competing for an increased market share, both the firms decide to launch the following strategies.

$A_1, B_1$  – Give coupons  $A_2, B_2$  – Decrease Price

$A_3, B_3$  – Maintain present strategy  $A_4, B_4$  – Increase advertising.

The pay off matrix shown in the following table describes the increase in market share for firm A and decrease in the market share for firm B.

Firm A	Firm B			
	$B_1$	$B_2$	$B_3$	$B_4$
$A_1$	35	65	25	5
$A_2$	30	20	15	0
$A_3$	40	50	0	10
$A_4$	55	60	10	15

2. a) Determine the optimal strategies for each firm and value of the game. 10

- b) Explain with suitable examples maxmax maximin, minimax regret criterion in decision making. 10

3. a) Explain the significance of utility theory as a basis of decision making. 10

- b) The Parker Flower Shop promises its Customer delivery within four hours on all flower orders. All flowers are purchased on the prior day and delivered to Parker by 8:00 the next morning. Parker’s daily demand for roses is as follows :

**Dozen roses :**     7       8       9       10

**Probability :**     0.1    0.2    0.4    0.3

Parker Purchases roses for Rs. 10.00 per dozen and sells them for Rs. 30.00. All unsold roses are donated to a local hospital. How many dozens of roses should Parker order each evening to maximize its profit ? What is the optimum expected profit ?

10



4. a) Write short notes on (**any two**) :

- 1) Pure strategy and mixed strategy game.
- 2) Monto Carlo Simulation.
- 3) Elements of Queuing system.

10

b) Suppose that new razer blades were introduced in the market by three companies at the same time. When they were introduced each company had equal share of the number but during the first year some changes took place which are shown by the following transition matrix.

	A	B	C
A	[	0.9	0.03
B	[	0.1	0.7
C	[	0.1	0.1
	]	0.07	0.2
	]	0.8	]

Assuming that no changes in buying habits of customers occur.

What is the market share of three companies at the end of the 1<sup>st</sup> year and 2<sup>nd</sup> year ? 10

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**M.C.A. (Management Faculty) (Semester – IV) Examination, 2011**  
**BME - 3 : INFORMATION SYSTEM AUDIT AND GOVERNANCE**  
**(2008 Pattern) (New) (Elective)**

Time : 3 Hours

Max. Marks : 70

*Instructions* : 1) Question No. 1 and 6 is **compulsory**.  
2) Attempt **any 3** from Q. 2 to Q. 5.

1. List out possible threats for physical assets for an educational management system.  
Your answer should cover. **20**
  - a) Threats.
  - b) Desired Network Controls.
  - c) Desired Physical Controls.
  - d) List of evidences while auditing such system.
2. Explain ISACA standards in detail. **10**
3. Explain physical and logical access controls in networking. **10**
4. Explain Auditors role in Hardware and Software procurement. **10**
5. a) Explain the importance of evidence collection strategies. **5**  
b) Explain various performance management tools used by Auditor. **5**
6. Write short notes on (**any 4**) : **20**
  - 1) Audit charter
  - 2) Digital signatures
  - 3) Procurement controls
  - 4) e\_commerce
  - 5) Validation controls.



[4080] – 408

**M.C.A. (Mgt. Faculty ) (Semester – IV) Examination, 2011  
(Elective)  
BME-4 : COLLABORATIVE MANAGEMENT (New)  
(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

**Instructions:** 1) Attempt **any five** questions.  
2) Support your answers with **relevant** examples.  
3) **All** the questions carry **equal** marks.

1. Write an essay on Collaborative Management.
2. a) Describe BCG matrix.  
b) Explain GE Nine Cell model. What is the advantage of GE Nine Cell over BCG matrix ?
3. Leadership style, corporate culture, values and ethics play a crucial role in effective implementation strategy. Comment.
4. What do you understand by Mergers and Acquisitions ? What are various types of mergers ? What are the issues in implementing 'merger strategy' successfully ? Cite latest Indian and Global examples relevant to the merger strategy.
5. A value chain is a chain of activities for a firm operating in a specific industry. Explain the concept and discuss its competitive advantages.
6. Elaborate Porter's five forces framework with the help of suitable examples.
7. Write short notes on **any two** :
  - a) SWOT Analysis.
  - b) Value chain.
  - c) Mckinsey's 7s frame work.
  - d) Core competencies.
  - e) Symptoms of malfunctioning of strategy.



[4080] – 42

**M.C.A. (Semester – IV) (Mgt Faculty) Examination, 2011**  
**BM 41 : SOFT SKILLS (2005 Pattern)**

Time : 2 Hours

Max. Marks : 50

- Instructions:* 1) Question No. 1 is **compulsory**.  
2) Solve **any four** from Q.No. 2 to Q.No. 7.  
3) **All** questions carry **equal** marks.

1. Define communication. Discuss any five principles of communication.
2. Compare verbal communication with non-verbal communication give suitable examples.
3. What are Do's and Don'ts of technical presentation in business organization.
4. "Time is the scarcest resource" Peter Drucker. Discuss the statement in light of time management technique.
5. How will you prepare for the public speech on the occasion of introducing chief guest who is a well known software professional.
6. YOU ARE MR. YOGESH SOMAN, FRESH MCA POST GRADUATE - Write a job application for the post of Software Programmer to Managing Director Planet Technologies, Kothrud, Pune. Assume appropriate data.
7. Write short notes on **any two** :
  - 1) Telephone Manners.
  - 2) Group Discussion.
  - 3) Reading Skills.



**M.C.A. (Mgt. Faculty) (Semester – IV) Examination, 2011**  
**IT – 43 : SOFTWARE ENGINEERING**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note :* 1) Q. 1 and 6 are **compulsory**.  
2) Attempt **any three** from the remaining.

1. The railway reservation system functions as follows :

The passenger is required to fill in a reservation form giving details of his journey. The counter clerk ensures whether the place is available. If so, entries are made in a register, tickets are prepared, amount is computed and cash is accepted. A booking statement is prepared in triplicate format from the reservation register. One copy of it is retained as office copy, the other is pasted on compartment and third is passed on to the train conductor. Besides booking statement, cash statement is prepared at the end of each shift.

As a consultant prepare SRS and system specification for the above system. **20**

2. A member of inspection team prepares a check list for inspection of a portal developed for a company. Defects are to be recorded with reference to the check list. Prepare format of check list and defect logging report for the same. **10**

3. Explain CASE tools with its components. **10**

4. Explain the prototyping and spiral models. **10**

5. Design a GUI form for providing student feedback for teaching faculty and infrastructure facilities of the institute. **10**

6. Write short notes on (**any four**) : **(4×5=20)**

- a) Code Design
- b) Web Engineering
- c) Reverse Engineering
- d) Types of documentation
- e) Role of system analyst.



[4080] – 45

**M.C.A. (Management Faculty) (Semester – IV) Examination, 2011**  
**BME-1 : MIS FRAMEWORK AND IMPLEMENTATION (Elective)**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Notes : 1) Q. No. 1 and 7 are compulsory.*  
*2) Solve any four questions from remaining.*  
*3) Figures to the right indicate full marks.*

1. Explain the impact of information system on organizations planning and control functions. **10**
2. How information technology changing the way marketing function is performed ? **10**
3. “The IT infrastructure should aim at providing information not only to managers but also to all other who are associated with the enterprise”. Comment by identifying other users of corporate IT infrastructure. **10**
4. Explain the informational needs of the managers working at different levels of managerial hierarchy. **10**
5. Explain the impact of IT infrastructure on the socio-economic environment of the organization. **10**
6. What is DSS ? Explain components of DSS. **10**
7. Write short notes on (**any four**) : **20**
  - a) Features of MIS
  - b) Group Decision Support System
  - c) Objectives of good IT policy
  - d) Critical success factor in implementing IT applications
  - e) Expert system.







[4080] – 47

**M.C.A. (Mgmt. Faculty) (Semester IV) Examination, 2011**  
**BME – 3 : INFORMATION SYSTEM AUDIT**  
**(2005 Pattern) (Elective)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Question No.1 and 6 are compulsory.*  
*2) Attempt any 3 Q.s from Q.2 to Q.5.*

1. a) Explain Auditing Objectives in detail. 10  
b) Explain the various steps involved in Risk Management. 10
2. Explain the need and importance of digital signatures. 10
3. Explain Auditors role in S.D.L.C. 10
4. Explain IS Audit steps in detail. 10
5. What are performance measurement tools ? Explain them in detail. 10
6. Write short notes on **any 4** : 20
  - 1) Steering Committee
  - 2) Code of Professional Ethics
  - 3) Network Controls
  - 4) Evidence Collection Techniques
  - 5) Data Validation Controls.



[4080] – 49

**M.C.A. (Mgmt. Faculty) (Semester – IV) Examination, 2011**  
**BME-5 : DECISION SUPPORT SYSTEM (Elective)**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note :* 1) *Q.1 and Q.7 are compulsory.*  
2) *Attempt any four from the remaining.*

1. What is Data Mining ? Explain the classification of data mining tools and techniques. **10**
2. Explain the concept of EIS and list the major benefits of EIS. **10**
3. Explain the database organisation and structures used in DSS. **10**
4. Define MSS and detail the generic models of MSS. **10**
5. Define Virtual Reality. Give few examples for virtual reality applications in business. **10**
6. Discuss SDLC as a methodology for DSS development. **10**
7. Write short notes on **(any four)** : **(4×5=20)**
  - 1) Frontline DSS.
  - 2) AI.
  - 3) OLAP.
  - 4) Supply Chain Management.
  - 5) GIS.

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B/II/11/210



[4080] – 50

**M.C.A. (Management-Faculty) (Semester – IV) Examination, 2011**  
**BME-6 : INVESTMENT TECHNOLOGY (Elective)**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions :* 1) Attempt **any five** questions.  
2) **All** questions carry **equal** marks.

1. Explain portfolio theory. Explain Markowitz graphical portfolio analysis and capital market theory in brief.
2. Explain in detail how earning and risk are estimated with respect to equity shares and debentures.
3. Write short notes on **any two** :
  - a) Fundamental analysis
  - b) Behavior of share prices-technical analysis
  - c) Sources of investment information.
4. “Are investors attracted to mutual funds due to “risk in other investment opportunities” ? Discuss on the background of present share market conditions.
5. What is “Credit Rating” ? How it is useful for investors ? Specify three popular credit rating agencies in India.
6. Explain the concept fundamental analysis and technical analysis and also discuss their utility for investors point of view.
7. How debts securities are valued ? How they are difficult from valuation of warrants and convertibles ?



**M.C.A. (Semester – V) (Management Faculty) Examination, 2011**  
**IT – 51 : HUMAN COMPUTER INTERFACE**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note : 1) Question No. 1 is compulsory.*  
*2) Answer any five from remaining.*  
*3) Figure at **right** hand indicates **full** marks.*

1. Answer **any four** : **(5×4=20)**
  - a) Describe the five human factors that should be taken into account during user interface design.
  - b) What are the principles used for interface design.
  - c) What is participatory design ? Explain with suitable example.
  - d) Explain the Multimedia Document Search.
  - e) State and explain the goals of Co-operation.
2. a) Discuss GOMS model in detail. **(5×2=10)**  
b) Explain guidelines for data entry.
3. a) What do you mean by Co-ordination of Multiple windows ? Explain. **(5×2=10)**  
b) Explain any two specification methods for interface design.
4. Explain the guidelines for form filling. Also explain the guidelines for phrasing of menu items. **10**
5. Describe usability testing. Also explain the different steps involved in usability testing. **10**
6. Explain the five-phase framework to clarify user interfaces for textual search. **10**
7. Write short notes on (**any two**) : **(5×2=10)**
  - a) Acceptability (Acceptance) Test.
  - b) Shared Editor.
  - c) Stages of LUCID.



[4080] – 503

**MCA (Management Faculty) (Semester – V) Examination, 2011**  
**IT – 53 : EMERGING TRENDS IN INFORMATION TECHNOLOGY**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) *Question 1 and 7 are compulsory.*  
2) *Attempt any four from remaining.*

1. A reputed institute of management want to start executive MBA programme only for working students. Institute is interested in having online admission process, fee payment process, teaching learning process and online examination process. Suggest various models of e-learning and find out best model for their requirements. **15**
2. Explain and compare E-commerce and E-business. **10**
3. Define BPO and also explain the laws of BPO. **10**
4. What is E-logistics ? Explain warehouse management and transportation management. **10**
5. What is E- banking ? Suggest various securities required. **10**
6. What is GIS ? How does GIS works ? **10**
7. Write short notes (**Any three**) : **15**
  - a) Types of embedded system
  - b) Retina scanning
  - c) Knowledge management type
  - d) Business Continuity Plan (BCP)
  - e) Digital signature.

**M.C.A. (Management Faculty) (Semester - V) Examination, 2011**  
**(Elective) ITE-1 : CYBER LAW AND IT SECURITY**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Question 1 and Question 7 are compulsory.*  
*2) Solve any three from remaining questions.*

1. a) Explain in detail scope of IT Act. 10  
b) Explain provisions in cyber law for publishing obscene information in electronic form. 10
2. Explain Cryptography in detail. How Public Key Encryption plays role in Cryptography ? 10
3. Explain use of electronic records and digital signatures in Government and its agencies. 10
4. Explain jurisdiction in Trademark Disputes. 10
5. Explain offences and penalties related to Digital Signature under Cyber Crimes. 10
6. Explain establishment and composition of appellate tribunal under Cyber Regulations. 10
7. Write short notes (**any four**) : (4×5=20)
  - a) RSA Algorithm
  - b) Asymmetric Cryptography
  - c) Reverse Hijacking
  - d) Domain Names
  - e) Framing
  - f) Genesis of Cyber Law.



[4080] – 507

**M.C.A. (Management Faculty) (Semester – V) Examination, 2011**  
**IT – E-3 : ADVANCED UNIX (Elective)**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions* : 1) *Q. 1 and Q. 7 are compulsory.*  
2) *Solve any four from remaining.*  
3) *Draw diagrams wherever necessary.*

1. Explain the following system calls : (5×2=10)
  - a) alarm ( )
  - b) lseek ( )
  - c) unlink ( )
  - d) dup ( )
  - e) chmod ( )
2. What is a process ? Explain different ways in which a process can be terminated. 10
3. What are message Queues ? Explain the structure of information maintained by Kernel for every message Queue. 10
4. Explain pipes. Write a program to create a pipe from parent to child process and send data through the pipe. 10
5. Explain wait ( ) and waitpid ( ) functions in detail. 10
6. Explain file sharing between two processes and the concept of file descriptor duplication. 10
7. Write short notes on (any 4) : (5×4=20)
  - a) Orphan process
  - b) Race condition
  - c) Sessions and process groups
  - d) Environment variables
  - e) Record Locking.





[4080] – 508

**MCA (Semester – V) (Management Faculty) Examination, 2011**  
**ITE – 4 : MOBILE WIRELESS COMPUTING**  
**(2008 Pattern) (Elective)**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Question No. 1 and 6 are **compulsory**.  
2) Attempt **any three** from remaining.

1. a) Define the following terms (**any five**) : **10**
  - i) WTP
  - ii) BSC
  - iii) MSC
  - iv) GPRS
  - v) IMEI
  - vi) SIM.
- b) Explain the features of wireless network. **10**
2. Explain functions of each layer in WAP architecture. **10**
3. Explain problems faced in 802.11 MAC design. **10**
4. What are the database used in GSM network ? What are its functions ? **10**
5. What is snooping ? Why it is used in TCP ? **10**
6. Write short notes on (**any four**) : **20**
  - a) Location Management
  - b) Mobile Agents
  - c) Bluetooth
  - d) Routing in AdHoc network
  - e) Disconnected operations
  - f) Quality of Service in wireless.



[4080] – 51

**M.C.A. (Semester – V) (Mgmt. Faculty) Examination, 2011**  
**IT – 51 : SOFTWARE TESTING AND QUALITY ASSURANCE**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q.1 and Q.6 are compulsory.*  
*2) Solve any three from remaining.*

1. a) Explain V & V model with suitable diagram. 10  
b) Compare Manual and Automatic Testing. 10
2. Check the cyclomatic complexity for a program of adding 50 integers. Design test cases for such code. 10
3. Explain ISO and CMM in detail. 10
4. Explain similarities and difference between software inspection and walkthrough. 10
5. Write a test case for validating e.mail ID entered by user in a form. 10
6. Write short notes (**any 4**) : (4×5)
  - 1) Quality Metrics
  - 2) Boundary Value Analysis
  - 3) Acceptance Testing
  - 4) CAST
  - 5) White Box Testing.



[4080] – 52

**MCA (Semester – V) (Mgmt. Faculty) Examination, 2011**  
**IT – 52 : ADVANCED INTERNET TECHNOLOGY**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. 1 is compulsory.*

*2) Solve any 3 from remaining questions.*

1. What is digital signature ? Explain its advantages and disadvantages. **10**
2. a) Write a asp code which shows the working of Hit Counter. **10**  
b) Write a CGI program which accepts registration details from the user and store it in a file. **10**
3. a) Explain cookies in PHP with an example. **10**  
b) Explain JSP action tags and directives. **10**
4. a) Explain server object with example also explain Global.asa. **10**  
b) Write a PHP code which stores registration details in the database (Assume the table structure). **10**
5. a) Explain default objects in JSP. **10**  
b) Write a JSP program which explains session handling. **10**

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[4080] – 53

**M.C.A. (Mgmt. Faculty) (Semester – V) Examination, 2011**  
**IT-53: EMERGING TRENDS IN INFORMATION TECHNOLOGY**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Note: 1) Question 1 and Q.7 are compulsory.*  
*2) Attempt any four from remaining.*

1. “ABC company” own 100 cars for rent purpose. All cars are fitted with Satellite Tracking System (GPS). You as an expert, create a GIS system for ABC car company’s control room to keep track of whereabouts the rented cars. Solve the problem with the help of necessary assumptions. **15**
2. What is E-Commerce ? Discuss its advantages and disadvantages. **10**
3. What is E-Banking ? Suggest various securities required. **10**
4. Explain supply chain management and E-Logistics. **10**
5. Explain various tools for Knowledge Management. **10**
6. What is Biometric identification in context of Information Security ? **10**
7. Write short notes on (**any three**) : **15**
  - a) Embedded System.
  - b) RFID.
  - c) E-Agriculture.
  - d) Types of E-learning.
  - e) Warehouse Management.



[4080] – 54

**M.C.A. (Mgmt Faculty) (Semester – V) Examination, 2011**  
**BM – 51 : SOFTWARE PROJECT MANAGEMENT**  
**(2005 Pattern)**

Time: 3 Hours

Max. Marks: 70

*Note : i) Q. No. 7 is compulsory.*

*ii) Solve any five questions from remaining.*

*iii) Figures to the right indicate full marks.*

1. Explain various techniques used for time estimation in the project management. **10**
2. Explain various risk associated with software project. How they are managed ? **10**
3. Explain in detail change management procedure. **10**
4. Compare ISO and CMM. **10**
5. Explain user's role in project management. **10**
6. Explain various factors considered while forming teams. **10**
7. Write short note on **any four** : **20**
  - a) Function point analysis
  - b) COCOMO
  - c) Walkthrough
  - d) Project repository
  - e) Features of MS. Project.



[4080] – 55

**M.C.A. (Management Faculty) (Semester – V) Examination, 2011  
IT-1 – DISTRIBUTED DATABASE MANAGEMENT SYSTEM  
(Elective) (2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

- Note :* 1) Full marks are indicated to the right of **each** question.  
2) **Whenever** necessary, state assumptions.  
3) Give examples if required.  
4) Q. No. 7 is **compulsory**, solve **any five** from remaining.

1. Compare the features of centralized database management system to that of Distributed Database Management System. **10**
2. Describe deadlock management in distributed Databases. **10**
3. What are the different types of fragmentations ? **10**
4. Discuss architecture of Heterogeneous Distributed Database Management System. **10**
5. Discuss how data is recovered in case of node and link failure. **10**
6. Discuss the detection and resolution strategies for inconsistencies in DDBMS. **10**
7. Write short note on (**any 4**) : **20**
  - a) ODBC
  - b) Distributed data administrator
  - c) Checkpoints
  - d) Client server database
  - e) Global query.



[4080] – 56

**M.C.A. (Semester – V) (Management Faculty) Examination, 2011  
(2005 Pattern) (Elective)  
IT-2 : ARTIFICIAL INTELLIGENCE**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) *Q. 1 is compulsory.*  
2) *Solve any five questions from Q. 2 to Q.7.*  
3) *Figures to right indicate full marks.*  
4) *Draw neat and suitable diagram wherever necessary.*

1. a) Define AI. Explain various AI techniques. **10**  
b) Discuss with the help of forward and backward reasoning. **10**
2. a) Explain breadth first search algorithm with the help of suitable example. **5**  
b) List the drawbacks of heuristic search technique. **5**
3. a) Discuss the various issues for the design of search program. **5**  
b) What is meant by Procedural Vs. Declarative knowledge ? **5**
4. a) Write an algorithm for Best-First technique. **5**  
b) Explain the natural language processing and its importance in AI. **5**
5. a) What are the qualities of good knowledge representation system ? **5**  
b) Discuss Min-Max algorithm with suitable example. **5**
6. Write a space representation for the Monkey– Banana problem. Analyze the problem with respect to seven problem characteristics. **10**
7. Write short notes (**any two**) : **(2×5=10)**
  - a) Expert System.
  - b) Genetic Algorithm.
  - c) Problem Decomposition.







[4080] – 57

**M.C.A. (Management Faculty) (Semester – V) Examination, 2011**  
**IT-3 : NETWORK SECURITY (Elective)**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

*Instructions : 1) Q.1 and Q.6 are compulsory.*

*2) Solve any three from Q.2 to Q.5*

*3) Give appropriate examples wherever necessary.*

1. a) Explain Clark-Wilson Access Control Model. How transformation in this model helps in integrity of data ? **10**  
b) Explain Data Encryption Standard (DES) algorithm and DES function with example. **10**
2. Explain Kerberos authentication protocol with operations in it. Why it is called as three headed dog ? **10**
3. Explain four protocols defined by SSL, for web security. **10**
4. Explain various services provided by PGP for e-mail security. **10**
5. Explain with example Encryption, Decryption and Restriction in RSA. **10**
6. Write short notes (**any four**) : **(4×5=20)**
  - a) Access matrix
  - b) X.509
  - c) Secure Hash
  - d) HRU
  - e) MIME
  - f) IDEA.



[4080] – 59

**M.C.A. (Management Faculty) (Semester – V) Examination, 2011  
(2005 Pattern)  
IT-5 : VISUAL C++  
(Elective)**

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) *Que. 1 is compulsory.*  
2) *Attempt any three questions from the remaining.*  
3) *Figures to right indicate full marks.*

1. a) Design a class 'item' having i\_code, i\_name, i\_qty are the data members.  
Write a menu driven programme to do following task by using the concept of i/o file in c++.
  - 1) Add item record
  - 2) View item record
  - 3) Delete item record. 10
- b) Write a C++ programme which read a text file and print every alternative character from file. 10
- c) What is Message Map ? Explain with suitable example. 5
2. a) Explain various message functions for procedure oriented windows application development. 10
- b) Explain Error handling with suitable example. 5
3. a) Design C++ class to implement linear linked list. 10
- b) Write short note on common dialog control. 5
4. a) Write a programme using SDK to draw freehand drawing. 10
- b) Explain abstract class with suitable example. 5
5. a) Design vector array class and overload + to merge array. 10
- b) Write note on scope operator. 5



[4080] – 60

**M.C.A. (Semester – V) (Mgt. Faculty) Examination, 2011**  
**IT – 6 : HUMAN COMPUTER INTERFACE (Elective)**  
**(2005 Pattern)**

Time: 3 Hours

Max. Marks : 70

- Instructions :** 1) *Q. 1 is compulsory.*  
2) *Solve any five from remaining.*  
3) *Figures to right indicate full marks.*

1. Answer **any four** : **(5×4=20)**
  - a) Explain the guidelines for data entry.
  - b) List and explain 5 challenges of programming in the user interface. (PITUI).
  - c) Explain quality of services with help of display rate and response time.
  - d) Explain guidelines for the design of effective error messages.
  - e) Compare synchronous Vs. Asynchronous interaction style.
2. Describe the five phases of framework to clarify user interfaces for textual search. **10**
3. Explain any five methods, might be used as a part of an expert review. **10**
4. Explain hypertext and hyper media in detail. **10**
5. State and explain various interactive devices. **10**
6. Explain the different Human Diversities involved in user Interface design. Also the five measurable human factors. **10**
7. Write short notes on the following (**any 2**) : **(5×2=10)**
  - 1) GOMS model.
  - 2) Online Vs. Printed manuals
  - 3) Different types of menus.



[4080] – 61

**M.C.A. (Semester – V) (Mgt. Faculty) Examination, 2011**  
**ITE-7 : PARALLEL COMPUTING**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Question No.1 is **compulsory**.  
2) Solve **any five** questions from **remaining**.

1. Discuss the following (**any four**) : **(4×5=20)**
  - a) Grid computing
  - b) Multithreading
  - c) Parallel virtual machine
  - d) Gantt chart
  - e) Communication latency
  - f) Grain packing.
2. Define performance. What are the primary attributes used to measure the performance of a parallel computer system ? Explain. **10**
3. Differentiate between control flow and data flow computing concept with example. **10**
4. Write a parallel program for Gaussian elimination. **10**
5. Explain self scheduling and indirect scheduling with examples. **10**
6. What is Flynn's classification of computer system ? Explain with examples. **10**
7. Define vector processing and scalar processing. Explain the architecture of pipeline processing. **10**
8. Write short notes (**any two**) : **(2×5=10)**
  - a) Race condition
  - b) Tightly coupled system
  - c) Spin lock
  - d) n-child processes.



[4080] – 62

**M.C.A. (Semester – V) (Mgmt. Faculty) Examination, 2011**  
**IT – 8 : ADVANCED UNIX (Elective)**  
**(2005 Pattern)**

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) *Q. 1 and Q. 7 are compulsory.*  
2) *Solve any four from remaining.*  
3) *Draw diagrams wherever necessary.*

1. Explain the directory related system calls with example. **10**
2. Explain memory management routines in unix. **10**
3. What are semaphores ? Write program to create semaphores. **10**
4. Explain in detail about the unix operating system structure. **10**
5. Explain various ways a process can be terminated. **10**
6. What is race condition ? Why race condition occurs ? **10**
7. Write short notes on (**any 4**) : **(5×4=20)**
  - i) Environment variable in unix.
  - ii) I/O multiplexing
  - iii) Streams
  - iv) Reliable signal
  - v) Effective User ID.



[4080] – 63

**M.C.A. (Management Faculty) (Semester – V) Examination, 2011**  
**IT-9 : PROGRAMMING LANGUAGES PARADIGMS**  
**(2005 Pattern) (Elective)**

Time : 3 Hours

Max. Marks : 70

*Note : 1) Q. 8 is compulsory.*  
*2) Solve any 5 from the remaining.*

1. What are the reasons to study programming language ? 10
2. Explain major components involved in organization of a conventional computer. 10
3. Explain the structure of compiler for converting source program into object program. 10
4. Explain the significance of binding time classes. 10
5. Explain implicit and explicit sequence control. 10
6. Distinguish between programmer and system control storage. 10
7. Explain referencing environment of sub-program. 10
8. Write short notes on (**any four**) : (4×5 = 20)
  - a) Firmware computer
  - b) Perl overview
  - c) Scalar data types
  - d) Fixed size elements
  - e) Actual and formal parameters
  - f) Encapsulation.

