

MIM II

JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES,
UNIVERSITY OF MUMBAI
MIM SECOND YEAR SECOND SEMESTER
Subject: STRUCTURED LANGUAGES

DATE: 19th April 2010

TIME: 2:00 PM to 5:00 PM (3 hours)

MARKS: 100

Instructions:

1. This question paper contains total 5 pages inclusive of this page.
2. All Questions carry equal marks.
3. Question 1 is compulsory.
4. Solve any 4 questions from question 2 to question 6.
5. Explain your answers with code snippets, diagrams.
6. Assume suitable data if necessary & indicate accordingly.

Question 1

Marks 20

Write answer in complete one sentence.

1. Members of a class can be access by object using _____
a) dot operator
b) stream insertion operator
c) none of these
d) cin object
2. It is possible to access a data member before declaring any object of that class, if that member is declared as _____
a) Inline
b) Private
c) Public
d) Static
e) none of these
3. A Constructor function with zero parameter is called as _____
a) Arbitrator function
b) Default constructor
c) Standalone function
d) Empty constructor
e) none of these
4. Consider the definition class car: protected vehicle, what is being protected?
a) Future inherited classes
b) Base class members
c) Derived class data
d) Derived class functions
e) none of these

5. When you derive a class privately, a protected base class member becomes †

- a) public
- b) private
- c) not inherited
- d) protected
- e) none of these

6. When the compiler decides binding an overloaded member, it is called

- a) Local binding
- b) Safe binding
- c) static binding
- d) dynamic binding
- e) none of these

7. Which of the following is a correct comment?

- a) /* Comments */
- b) ** Comment **
- c) /* Comment */
- d) {comment}
- e) none of these

8. Dynamic binding is necessary when we refer to derived class object with †

- f) Global pointer
- g) Derived class pointer
- h) Base class pointer
- i) No pointer variable
- j) none of these

9. When the _____ is present in front of a variable name, it represents the address of that variable.

- a) Asterisk (*)
- b) Conditional operator
- c) Ampersand (&)
- d) semicolon
- e) none of these

10. When a class serves as base class for many derived classes, this situation called _____.

- a) Multiple Inheritance
- b) Hierarchical Inheritance
- c) Multilevel inheritance
- d) Encapsulation
- e) None of these

11. The operator % can not be applied to

- a) Integer
- b) float
- c) character
- d) all of above
- e) None of these

12. When we define a member function outside the class definition, the definition starts with

- a) name of the first object
- b) class name, followed by the scope resolution operator
- c) class name, followed by semicolon
- d) access specifier private
- e) none of these

13. Which of the following header file is required for strcpy() function?

- a) conio.h
- b) string.h
- c) strings.h
- d) stdio.h
- e) none of these

14. In C++ The file iostream includes

- a) The declarations of the basic standard input-output library.
- b) The declarations of the basic console input-output library.
- c) The streams of includes and outputs of program effect.
- d) Both of these
- e) None of these

15. The Constructor function has to be the name of

- a) The first object of the class
- b) The first public data member
- c) Class
- d) The first private data member
- e) none of these

16. Ability to take more than one forms is called as

- a) encapsulation
- b) polymorphism
- c) inheritance
- d) member function
- e) none of these

17. Every function in C++ are followed by

- a) Parameters
- b) Parenthesis
- c) Curly braces
- d) Square brackets
- e) None of these

18. continue statement is used

- a) to go to the next iteration in a loop
- b) come out of a loop
- c) exit and return to the main function
- d) restarts iterations from beginning of loop restarts
- e) none of these

19. Identify the invalid pointer arithmetic

- a) Addition of float value to a pointer
- b) Comparison of pointers that do not point to the element of the same array
- c) Subtracting an integer from a pointer
- d) Assigning the value 0 to a pointer variable
- e) All of above

20. Explicit type conversion is known as

- a) Casting
- b) Conversion
- c) Disjunction
- d) Separation
- e) none of these

Question 2:

Marks 20

- a) What is a structure? Explain with example. How structure is different from array? Distinguish between structure and class (8marks)
- b) Describe all the various features of Java (8marks)
- c) What is pointer variable how it is differ from reference variable? (4marks)

Question 3:

Marks 20

- a) What is the meaning of abstract method? What is the advantage of declaring class as 'abstract'? What is the difference between abstract and final class? (8marks)
- b) What are different types of function declarations? How will you declare a function outside and inside the class? (8marks)
- c) Compare class and object with suitable Example (4marks)

Question 4:

Marks 20

- a) What is object oriented paradigm? Explain the various features of object oriented programming with example. (8 marks)
- b) Explain practical usage of interface with example? Describe how it differ from class (8 Marks)
- c) What do you mean by Exception handling? What are the types of exception? Compare them. (4 Marks)

Question 5

Marks 20

- a) Compare and contrast C++ and Java (8marks)
- b) Write Brief note on 1) JVM 2) Development Tools for JDK (8marks)
- c) What are the uses of keyword 'final' in Java? Give Example (4Marks)

Question 6

Marks 20

- a) What is array? Write example for each type of array. Describe two ways to declare array in Java. How do you get size of an array? Is index checking is supported by Java? (8 marks)
- b) What is a friend function? Describe their benefits and limitations. Give suitable example. (6 Marks)
- c) What is the need of dynamic method dispatch? Explain with example. (6Marks)

X

University of Mumbai
Jamnalal Bajaj Institute of Management Studies
Second Year Second Semester 2008-2009

MIM

Sub : Structured Languages

Wednesday, 22-04-2009

(3 Hours)

(Total Marks 100)

Notes:

Attempt any FIVE questions.

All questions carry equal marks.

Marks for sub-questions are indicated against them.

Where necessary make appropriate assumptions and state them clearly.

1. a) Against each of the following declarations, mark (D) for declarations or (F) for definition. For those marked with (D), write a definition for them, while for those marked as (F), write a declaration which is not a definition—(8)
 - i) char ch;
 - ii) struct Date {int d, m, y};
 - iii) int day(Date *p){return p->d};
 - iv) double sum(double, double);
- b) What kinds of objects are allocated on STACK in a typical 'C' program? (4)
2. a) What do you mean by - Declaration, Definition and Usage? Illustrate with an example of each. (6)
- b) "'Byte code' is the key that allows Java to solve both the security and portability problems". Explain.(6)
3. a) What is the mechanism in C++ for extending it by providing user defined type? Explain with an example.(5)
- b) Compare 'Passing parameter by value' with 'Passing parameter by reference'. Illustrate with an example.(5)
- c) Why was 'C' named so?(2)
4. a) "Java is NOT an enhanced HTML". Explain.(5)
- b) What do mean by 'Structure' in Structured Languages? Discuss.(4)
- c) Why was Java's earlier name 'Oak' changed? Explain. (3)
5. a) What are the rules for forming identifiers in 'C'? Illustrate.(4)
- b) What are the identifying characteristics of a Object-Oriented Programming paradigm?(4)
- c) What are the characteristics of structured programming languages? Discuss.(4)
6. a) Briefly describe history and evolution of Java.(4)
- b) Briefly describe history and evolution of C++.(4)
- c) "Standard C++ has stronger type checking as compared to ANSI C". Discuss.(4)
7. a) "Java is a strongly typed language." Discuss. (4)
- b) "It is simpler to manage STACK memory than HEAP memory". Discuss. (4)
- c) "Function can be considered as derived type as well as user-defined type". Discuss.(4)

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End of Question paper
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UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

THREE YEAR PART-TIME MASTER'S IN MANAGEMENT STUDIES
MHRDM/MIMM/MIM/MFM EXAMINATION II YEAR II SEMESTER
2006-2007

SUBJECT: STRUCTURED LANGUAGES

DATE: 28 APRIL 2007

MARKS: 100

TIME: 3 OT 6 PM

Total marks: 70 ✓

Attempt any FIVE questions

All questions carry equal marks

Marks for sub-questions is indicated against them

Where necessary make appropriate assumptions and state them clearly

1. ✓
- a) Compare C and C++ with respect to features supported by both. (4)
 - b) Compare 'declaration' of a variable with its 'definition'. Explain with examples. (4)
 - c) Compare 'class' and 'object' with suitable examples. (6)

2. ✓
- a) Is it always necessary that a function be declared before it is used (in C)? If 'yes' why? If 'no' when is it not required to be declared? Illustrate with example. (5)
 - b) What is the mechanism in C for extending it with the help of user-defined types? Explain with an example. (5)
 - c) What do you understand by function with default parameters? Illustrate with a suitable example. (4)

3. ✓
- a) Is it possible to create an user-defined parameterized type in C++? If 'no', why? If 'yes' how? Explain with an example. (6)
 - b) Explain and compare 'translation unit', 'object code' and 'executable code'. Are they linked in some way? Illustrate. (6)
 - c) Explain the purpose of 'main' function. (2)

4. ✓
- a) Under what situations 'C' may be preferable over 'C++'? Describe. (4)
 - b) Compare 'inline' functions of C++ with '#define' macros of C. (3)
 - c) Compare '#define' with 'const'. (3)
 - d) How do you compare formal parameters of a function with its actual parameters. Illustrate with appropriate example. (4)

5. ✓
- a) Briefly describe history and evolution of C. (4)
 - b) "C++ is a procedural programming language with Object-Oriented extensions." Explain. (5)
 - c) Compare function declaration with function definition. Illustrate with a suitable example. (5)

6. ✓
- a) Explain 'function overloading' with appropriate example. (6)

b) ✓

```
#include <stdio.h>
int f(int a, int b)
{
    return a // this is c-style comment // b
}
main()
{
    printf("%d\n", f(10,5));
}
```

Above program is saved in files a1.c and a2.cpp respectively. They were compiled and executed by Standard C and Standard C++ compilers respectively. What will be the output produced by a1 and a2? Why? Explain your answer. (8)

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M I M U

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

MIM - SECOND YEAR (SECOND SEMESTER - 2005-06)

SUBJECT : STRUCTURED LANGUAGES

DATE : 27TH APRIL, 2006

TIME : 3 HOURS

MARKS : 100

- All questions carry equal marks.
- Solve any five questions.
- Explain your answers with code snippets, flowcharts and diagrams.

Q 1) What is a package? Explain any one package in Java in detail.

Q 2)

A) What is meant by Platform Independence? How is it achieved in Java?

B) Which are the different primitive datatypes in Java? Where are they used?

Q 3)

A) Explain general coding structure of a class with coding example. List a few coding conventions followed in the language.

B) How are methods defined in Java? Explain the usage of most common keywords used in method definition.

Q 4) What is Object Oriented Programming? Enumerate and explain various features of OOP with suitable code examples.

Q 5) Write Short notes --

A) String Class

B) Constructors

C) Java Collections

D) Wrapper Classes

Q 6) What is Method Overloading? Where is it used? How is it different than Method Overriding?

Q 7) Explain salient features, advantages and disadvantages of Java as programming language. How does this language compare with other programming languages? What are the practical applications of Java? Explain a few.

Q 8)

A) What is a container software?

B) What are the different types of EJBs? Where are EJBs used?

SPL

University of Mumbai
Jamnalal Bajaj Institute of Management Studies.

MIM - Second Year - Second Semester (2003-04)

Subject : Structured Languages

Date : 17th May, 2004

Time : 3 hours

Marks: 100

Instructions: -

- Solve any five questions.
- All questions carry equal marks

- 2006/2003 ✓ 1. What is object oriented programming. Explain features, advantages and disadvantages of object oriented programming.
- 2006 ✓ 2. What are ²⁰⁰⁶ constructors? How are objects created and destroyed in the Java Virtual Machine? Explain briefly, the functioning of Garbage Collection in JVM.
- 2006/2003 ✓ 3. What is method / constructor over loading? How is it used in programming?
4. Explain various data types, their uses with examples. What is the difference between primitive and object data types?
(x r java ans)
- 2006 ✓ 5. What is package? Explain any one package in detail?
- 2003 ✓ 6. What is threading? Explain the applications and common problems in threading?
7. What is loop (control) structure. Explain 3 types of loop structure with small code snippets.
8. What is JDBC? What are the different types of JDBC drivers?

Q.10
 while (i < 10)
 {
 i++
 }
 }
 }
 }
 }

WAC

JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
UNIVERSITY OF MUMBAI
MIM SECOND YEAR SECOND SEMESTER

Date : 23/05/2003

Time : 2.00 pm to 5.00 pm

Marks : 100

All questions carry equal marks
Solve any FIVE questions
Logic and flow chart carry equal marks

Q1 a) What is "Threading"? How the "Threading" mode in JAVA works?
b) What are the common problems encountered in "Multithreading" programs and how they are solved?

Q2. What is a package? How packages are created in JAVA?
Explain any one package in JAVA, with brief descriptions of its interfaces, classes and exceptions.

Q3. Explain following programming structures with suitable examples.

- a) try ----- catch ----- finally
- b) do ----- while
- c) if ----- else if ----- else
- d) logical operators

Q4. Write short notes on

- a) Object serialization
- b) Immutable objects
- c) Java security model
- d) Method overloading

Q5 a) what is overriding? Explain with example.

b) Explain the practical usage of interfaces with example.

Q6. Write suitable codes (flow charts and logic can also be used)

- a) Read from a text file located at c:\temp\sample.txt and print the contents on the screen. This program should contain proper exceptional handling.
- b) Create a vector, insert names of ten students in the vector and sort it ascending order.
- c) Take two number arguments from the user and print on the bigger number on the screen.

Q7. Explain the following classes with their practical applications.

- a) String
- b) Runtime
- c) System
- d) Inputstream
- e) Hashmap

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110

Finals

ACT

150 marks

?

c. program mutual exclusion;

const n = . . . ; (num procs)

var bolt: integer;

procedure P(i: integer);

begin

repeat

repeat {nothing} until testset(bolt);

< CS >

bolt := 0;

<remainder>

forever

d. program mutual exclusion;

const n = . . . ; (num procs)

var bolt: integer;

procedure P(i: integer);

var keyi: integer;

begin

repeat

keyi := i;

exchange(keyi, bolt);

< CS >

repeat

exchange(keyi, bolt) until keyi = 0;

<remainder>

forever

6) Do you need hardware support for the implementation of semaphores? Why?

7) What is the difference between a safe, an unsafe, and a deadlocked system?

8) Explain the conditions under which process can be deadlocked.

9) Identify the five requirements that memory management is intended to satisfy.

A. No process should be subject to unwanted interference from another process, whether accidental or intentional.

B. Controlled access to shared areas of memory must be allowed, without compromising essential protection.

C. Since we cannot know ahead of time where in memory a program should be placed, and since a program may be moved from one memory area to another, our memory management must provide for...

D. The task of finding areas of main memory and secondary memory for a program and of moving information between the two levels of memory.

E. Providing for the programmer useful concepts for program organization, which may or may not exact physical parallels.

10) Explain the significance of using Direct Memory Access in the modern computer configurations.

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Hint -
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JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
UNIVERSITY OF MUMBAI

MIM II SEMSTER II

21ST April 2011

Web Based Technologies

Total Points :100

Duration : 3 hours

NOTES:

- a. All questions are compulsory. Each question has 20 points.
 - b. Usage of Pictorial representation in form of Block, Diagram, Flow Chart, etc. is encouraged.
 - c. Provide examples of benefits in business terms (wherever applicable).
 - d. Please provide response in "readable" writing and limit text in the overall response to maximum two full pages per sub-question.
-
1. "The Internet has revolutionized the way business is transacted in various Industries today as compared to the pre-Internet era". (a) Please discuss this with suitable examples by selecting an industry and covering aspects such as improvement in productivity/ customer reach/ response time/ lead time, and other suitable parameters. (b) Discuss with reference to various systems and applications being used by leading organisations.
 2. Short Notes (maximum 1 page per response):
 - a. RSS feeds (most commonly expanded as Really Simple Syndication)
 - b. Name 10 CRM (Customer Relationship Management) packages
 - c. Name 10 ERP (Enterprise Resource Management) packages
 - d. Names 10 SCM (Supply Chain Management) Packages
 - e. Name 10 Web programming language
 - f. Name 10 Web / Application servers
 - g. IP Address, SMTP, POP3
 - h. Discuss multi-tier architecture in context of web technologies
 - i. WML, XML, DHTML, PHP
 - j. VOIP
 3. (a) "You have to be a 24x7 shop open at all times in the eCommerce age". Explain with suitable examples.
 3. (b) Explain the workflow in an eProcurement application. Discuss advantages of the Internet in this business function in terms of business benefits.
 4. (a) Discuss various Business Models on the Internet. Explain various revenue generation avenues.
 4. (b) Discuss the Social issues with the advent of Internet era.
 4. (c) Discuss the issues (technical as well as others) in implementing an Internet/ Web application
 - 4 (d) What is Convergence ? Discuss issues in Convergence.
 5. (a) Why is Internet security important. What aspects of communication are address by Internet Security techniques.
 5. (b) Discuss Public / Private Key cryptography technique.
 5. (c) What is the role of Firewalls in Internet Security?
 5. (d) Discuss Ethical hacking. Name 5 Antivirus packages.

JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
UNIVERSITY OF MUMBAI
MIM SECOND YEAR SECOND SEMESTER
Subject: WEB TECHNOLOGY

DATE: 20TH APRIL 2010 TIME: 2:00 PM to 5:00 PM (3 hours) MARKS: 100

Instructions:

1. Assume suitable data if necessary & indicate accordingly.
2. All questions carry equal marks.

Q.1. Explain: (i) XML
(ii) PHP

Q.2. Describe the various technologies available in the tiers from Microsoft and Sun Microsystems (Java).

Q.3. What is the difference between Client-Server applications and Web-based applications?

Q.4. What is the difference between symmetric key and asymmetric key cryptography?

Q.5. Discuss in brief history of Internet?

Q.6. What is the fundamental service provided by an Internet Service Provider (ISP)? What are the optional features it provides?

Q.7. Discuss POP and SMTP in brief. How is IMAP different from POP?

Q.8. Discuss the three tiers in modern web applications. What are the advantages of 3-tier applications over 2-tier applications?

Q.9. Explain business side of WAP.

Q.10. What are digital certificates? How are they useful?

Web

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

THREE YEAR PART-TIME MASTER'S IN MANAGEMENT STUDIES
MHRDM/MMM/MIM/MFM EXAMINATION II YEAR II SEMESTER
2006-2007

SUBJECT: WEB BASED TECHNOLOGIES

DATE: 21st APRIL, 2007

MARKS: 100

TIME 3 OT 6 PM

ALL QUESTIONS ARE COMPULSORY

1) In reliable retail the board after considering the cost of real estate thought of going for Online model of business (like Dell) and decided to sell only branded items on line. You as a CIO is asked to give TOTAL idea as to how the various e-business strategy you will like to adopt and bring the business model live.

2) Write short notes on (Only Two)

a) RSS b) AJAX c) FTP d) HTTP e) SOA-P

f) Various protocols in TCP/IP Model

only Branded items online

Telnet, FTP, SMTP, DNS

TCP UDP

IP

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UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

MIM - SECOND YEAR - SECOND SEMESTER (2005-06)

SUBJECT : WEB BASED TECHNOLOGY

DATE : 28TH APRIL, 2006

TIME : 3 HOURS

MARKS : 100

ALL QUESTIONS ARE COMPULSORY

All questions carry equal marks.

Q 1 Compare competing server side technology (Any two).

Q 2 Effective CRM and SCM without internet technology is really achievable. Justify.

Q 3 Networking security has become essential part of computerization. explain various security aspects.

Q 4 Evolution and development of Internet protocols in light of convergence of technology - data, video, voice over etc.

Q 5

Write notes on

- Manchester encoding
- 802.11 protocol and services
- Ego-casting, Broadcasting
- PPP Protocol
- Bluetooth protocol and services

University of Mumbai
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
Three Year Part-Time Master's Degree Programme (MIM)
Second Year - Second Semester Examination - 2003-04

Web Based Technology

Date : 18th May 2004

Time : 2.00 p.m. to 5.00 p.m.

Marks : 100

Note :

- 1) This question paper contain total ____ pages inclusive of this page.
- 2) There are 2 Sections and all questions are compulsory.
- 3) Objective Section has maximum 50 Marks.
- 4) Subjective section has 50 Marks.
- 5) Candidates are requested not to write anything on the question paper.

Section I (Objective Type) 50 Marks

Q.1. Fill in the blanks (40 Marks)

- 1) _____ Protocol is used for transferring files from server to client
a) SMTP b) FTP c) HTTP d) Telnet
- 2) _____ is used to protect data from outside unauthorized users in Internet.
a) Encryption b) Firewalls c) Cyclic Redundancy Check d) System Software
- 3) IIS, PWS are the software which are used for _____
a) Javascript b) ColdFusion c) ASP d) JAVA
- 4) _____ is defined as the process converting plain text to Cipher Text
a) Encryption b) Decryption c) Encapsulation d) Binding
- 5) _____ is the protocol used for transferring mails from client to servers and one terminal to another
a) POP b) SMTP c) TELNET d) IMAP

6) A style sheet is set of instruction that tells a browser to display a particular type of Element. May 2012

a) Coldfusion b) ASP c) Javascript d) HTML

7) _____ is a tool that enables program to develop web based application that access database effectively at server end.

a) HTML b) ASP c) JAVASCRIPT d) Coldfusion

In TCP/IP Model

8) _____ and _____ networks are there in Physical and data link layers

9) _____ protocols are there in Transport layer.

10) _____ are there in Application layers.

11) The short comings of text and message written only in English and expressed in ASCII was overcome using _____

a) DNS b) MIME c) SMTP d) POP

12) COOKIE is a small i) _____ residing on ii) _____ Systems

i) a) Variables b) Text c) Executable Program d) File containing data fields
j) a) Server b) Clients c) ISP Hard Disks d) CD-Rom Drive of client

13) Javascript can be used to make _____ in HTML pages.

a) Modification b) Verification c) Validation d) Interactive

14) To write programs on Server side following technology is used

a) Javascript b) ASP, PHP, CGI c) HTML d) Java Applets

15) Methods used to transfer data collection in HTML forms

a) TRANSFER b) GET c) POST d) SEND

16) Java is a _____ object oriented programming language for web development.

- a) Platform independent b) Platform dependent c) Platform polarized d) None of above

17) _____ integrates the entire enterprise starting from supplier/vendor to customer covering Financials, Logistics and HR

- a) EDP b) SCM c) CRM d) ERP

18) Which of these attributes of a <FORM> tag determines where the data will be sent?

- a) ACTION b) METHOD c) NAME

19) _____ of string object converts a string in upper case.

20) To extract _____ at a known position within a string _____ method is used.

Q.2. TRUE / FALSE (10 Marks)

- T 1) PWS is used to install ASP in Windows NT Server.
- F 2) HTML can perform data validation on user forms.
- T 3) XML can perform all the functions of HTML.
- F 4) HTTP is a protocol used for downloading web pages from the internet.
- F 5) Active Server Pages is used for client side scripting.
- T 6) Intranet can have an access to internet but vice-versa is not necessary.
- T 7) Gateways are used to convert the data in one protocol to another.
- T 8) PHP is a server side scripting.
- T 9) Through MIME you can write text in any language.
- T 10) In Javascript arrays object can be defined of multiple dimensions.

viii) Internet was tested between Stanford Research Institute and

- a) UCLA
- c) BLUS

- b) MIT
- d) ORUTX

ix) _____ is the protocol used for transferring mails from the client to server.

- a) POP
- c) IMAP

- b) Telnet
- d) SMTP

x) _____ is the art of managing the organizational resources for the ultimate satisfaction of the customers.

- a) ERP
- c) CRM

- b) SCM
- d) EDI

xi) A style sheet is a set of instructions that tells a browser how to display a particular type of _____ element.

- a) HTML
- c) Java

- b) ColdFusion
- d) ASP

xii) In SMTP, _____ is used to initiate a mail transaction in which the mail data is delivered to one or more terminals and mailboxes.

- a) SOML
- c) MAIL

- b) SAML
- d) DATA

xiii) In SMTP, _____ is used to initiate a mail transaction in which the mail data is delivered to one or more terminals or mailbox.

- a) SOML
- c) MAIL

- b) SAML
- d) MPUT

xiv) _____ is a tool that enables programmers to develop web-based applications that access databases.

- a) Cold Fusion
- c) ERP

- b) Broad Vision
- d) HTML

- xv) _____ allows you to communicate with a database and the web server to process and send data to the client browser.
- a) CFQUERY
 - b) CFOUTPUT
 - c) CFQUERY
 - d) CFABORT
- xvi) In _____ more emphasis is given to understanding the details of an existing system or a proposed one and then deciding whether the proposed system is desirable or not and whether the existing system needs improvements.
- a) System Analysis
 - b) System Design
 - c) System Development
 - d) System Testing
- xvii) _____ provides functionality and offers an enterprise solution for web-site creation and management.
- a) BroadVision
 - b) Cold Fusion
 - c) ASP
 - d) Java
- xviii) _____ is a technique that allows exchange of data electronically.
- a) ERP
 - b) SCM
 - c) EDI
 - d) Java
- xix) _____ integrates the entire enterprise starting from supplier/vendor to customer, covering Financials, Logistics and Human Resources.
- a) ERP
 - b) SCM
 - c) EDI
 - d) CRM
- xx) Java is a _____ object oriented programming language.
- a) platform independent
 - b) platform dependent
 - c) platform biased
 - d) None Of the Above

Q.2) True and False

- T a) Internet Society (ISOC) is the main group that oversees the continuing evolution of the Internet.
- F b) In ISOC, CERT is the acronym for Computer Emergency Response Team (CERT)
- F c) Internet Architecture Board is responsible for setting standards and resolving disagreements.
- T d) Intranet can have access to Internet but vice-versa is not necessary.
- T e) The L2TP packet uses IP as the transmission protocol.
- F f) Active Server Pages is used for client-side scripting.
- T g) Using XML, the users can create customized tags of their choice.
- T h) PHP is a Server side scripting language.
- F i) In Java, the size of source file is greater than class files.
- T j) The language used with Cold Fusion is known as CFML.
- T k) Web is defined as the physical part of Internet.
- F l) Embedded stylesheet has the largest precedence among Stylesheets.
- T m) PWS is used to install ASP on Windows NT Server.
- T n) XML is used for better data management and faster search.
- F o) HTML can perform data validation on user forms.
- T p) XML can perform all the functions of HTML.
- T q) HTTP is a protocol used for downloading web pages from the Internet.
- F r) Hackers are the people who enter the system with malicious intent of devastating the system.
- T s) Gateways are used to convert the data in one protocol to another.
- F t) IPX/SPX is the protocol used by Apple Computers.

Subjective Type (60 marks)

Please read the following instructions

- 1) Select any 2 questions among Q.1, Q.2, Q.3 and Q.4
- 2) Q.5 is compulsory and carries 20 marks

Q.1) Write Short Notes on:

(5marks * 4 = 20 marks)

- a) Virtual Private Network
- b) History and Evolution of Internet
- c) File Transfer Protocol
- d) ASP: Need and Application.

Q.2) Explain the following:

(7marks+7 marks+6marks=20 marks)

- a) Why is Java called Platform Independent language? Explain in detail? What are the features of Java?
- b) What are the 2 different types of programs in Java? Explain with examples of each? Also mention the difference between the 2 types of programs?
- c) Explain Symmetric and Asymmetric Encryption.

Q.3) Explain the following:

(6marks+10marks+4marks=20 marks)

- a) What is ColdFusion? Explain the need for such a technology?
- b) What is the language associated with ColdFusion? Name and explain any 4 tags used in ColdFusion with examples?
- c) What is StyleSheets? Explain their significance?

Q.4) Explain the following:

(4marks+6marks+5marks+5marks=20 marks)

- a) What is a model of a system? How is a model helpful for developing a system.
- b) What is Waterfall Model? Explain its advantages and limitations?
- c) What is Prototyping Model? Explain its features?
- d) What is meant by preliminary analysis? What are the different procedures involved in it?

Q.5) Given below is a case scenario. Read it carefully.

Scenario 1

Mr. Patil wants to start a website by the name Patil Infosystems. He wants to create an IT consulting firm wherein people can log on and register themselves by giving their details which includes Name, Age, Address,

Applic
aut
ab
Patil

SP 5 /

Gender, Qualification. Also the user should specify a password of his/her choice. There should also be a provision for reconfirming the entered password. The web page created should have 2 buttons Submit and Clear.

a) You are required to create a Web Page in HTML satisfying his above stated requirements (5 marks)

Scenario 2

The web page created should also check if all the details are filled properly and no field is left blank.

When the user clicks on Submit button, the details should go and update a database present on the Windows NT Server. The Server should validate all the data that is being sent.

b) You are requested to advice and convince Mr Patil on which languages or technologies can be used for implementing the very same. (3 marks)

Scenario 3

Mr.Patil is apprehensive of the security and privacy of his users data traveling from all across the world. He also wants his data on the Server to be safeguarded.

c) You are requested to suggest the different techniques that he can adopt to maintain the secrecy and security of data. (5 marks)

Scenario 4

Mr Patil has registered his email id as askme@patilinfosystems.com.

Using this email id, he would like the users to sent his queries to him for which he can respond back.

d) You are supposed to update Mr.Patil on the different technologies that are used for mailing. (3 marks)

Scenario 5

Mr.Patil is happy his systems are working properly. He decides to expand his consulting firm to USA, Argentina and Norway outside India.

e) You are required to update Mr.Patil of the different technical, administrative and legal hurdles that he might face. Also try to provide the solutions for implementing the same. (4 marks)

**** All the Best ****

DHCP

IMAP

DNS
POP
SMTP
BSMTP
(sec)
etc

20

University of Mumbai
Jamnalal Bajaj Institute of Management Studies
MBA - II Year
Data Management & System Analysis
SEMESTER

SECTION II (50 MARKS)

Q.1. Write a Short Note on

- a) Various Data Transfer Protocols
- b) ASP : Need and Application *M. 2003*
- c) History and Evolution of Internet *M. 2003* (15 Marks)

Q.2. I) Write a HTML program with script to design a Registration Form with following fields (use creative HTML tags and javascript methods)

- a) User Name b) Age c) E-Mail Address d) Telephone Number (10 Marks)

II) Validate the Input in following manner. (20 Marks - 5 Marks Each)

- a) User name cannot be left blank
- b) E-Mail address should contain @ sign
- c) Telephone number must be 7 digits
- d) Only MAJOR should register

III) The user wants to keep database of the maximum 1000 user Which technology he should use to store data? Suggest. (5 Marks)

University of Mumbai
Jamnalal Bajaj Institute of Management Studies

MIM - II Year (Part Time Systems) Second Semester
Data Management & System Software

Date: 17th April 2011

Marks: 50

Duration: 2 hours

Note:

1. Attempt all questions
2. Question number 1 carries 10 marks
3. Question number 2 and 3 carries 20 marks each

Q.1. Answer *any five* of the following: (2 marks each)

- 1.1. Explain the term 'OLTP' and 'OLAP' with suitable example.
- 1.2. What are the key differences between 'file system' and 'DBMS' that led to the creation of DBMS?
- 1.3. What the term 'DS/DD' stands for? Explain them with suitable example.
- 1.4. Explain the role of DBA and DA in an information management organization.
- 1.5. Explain the term 'DDL' and 'DML' with suitable example.
- 1.6. Explain the term 'indexing' and 'sorting' using suitable example.

Q.2. Answer *any two* of the following: (20 marks)

- 2.1. What is client-server architecture? Explain with suitable diagram, how an organization can connect multiple application in client-server architecture model? State at least four advantages to business by adopting this model.
- 2.2. What is meant by Data warehouse? How is it different from Data Mart? Explain data warehouse architecture with special reference to source, ETL layer, repository layer and presentation layer.
- 2.3. What is 'Normalization'? Explain different forms of normalization with examples.

Q.3 Answer *any two* of the following: (20 marks)

- 3.1. What is an operating system? Explain briefly various features added to the operating system over a period of time stating the need for such addition.
- 3.2. What are virtual machines? Explain briefly its working mechanism with suitable example. List two advantages of using virtual machines in our day to day business / work environment.
- 3.3. What is an operating system? Explain briefly at least six components of an operating system.

University of Mumbai
Jamnalal Bajaj Institute of Management Studies

Part Time MIM (Systems)-II
Data Management & Systems Software

Date: 21 April 2010

Marks: 100

Duration: 2 ½ hours

Note:

1. Attempt any FOUR questions.
2. Each question carries 25 marks.

1. Write Short notes on:

- a. Centralized processing and Distributed processing
- b. Data Modeling (Physical, logical and conceptual)
- c. Stored procedure and triggers
- d. Concurrency control and locks

X

- a. Describe different types of database models. Explain advantages and disadvantages of relational database model over others.
- b. Name and explain any two relational operators used in RDBMS.
- c. What is structured query language (SQL)? List any three operators and three functions used for SQL statement and explain the same with suitable example.
- d. Distinguish between RDBMS, OODBMS and ORDBMS with respect to feature support, usage, structured query language, and performance.

3.

- a. Write a brief note on Normalization with suitable example to explain first, second and third normal form.
- b. What do you understand by the term "indexing"? Name and explain any two types of indexing.
- c. What do you understand by the term static (archived) and dynamic (live or transactional) data? Describe Data-warehousing and Data Mining? Explain the term ETL (extraction, transformation and loading) used in the creation of a data warehouse.

University of Mumbai
Jainnalal Bajaj Institute of Management Studies

Part Time MIM (Systems)-II
Data Management & Systems Software

Date: 24 April 2009
Duration: 3 hours

Marks: 100

Note:

1. Attempt any five questions from 1 to 7. Question 8 is mandatory.
2. Questions numbers 1 to 7 carry 15 marks each.
3. Question number 8 carry 25 marks.

1. Explain the four characteristics of data warehousing with respect to (a) subject oriented, (b) integrated, (c) time variant, and (d) non-volatile
2. Describe in details the traditional three major database models with suitable examples. What is ODBMS? How is it similar to ORDBMS?
3. How does data partitioning (both vertical and horizontal) provide data granularity? What is the advantage of creating granular database for a typical retail enterprise or an airline company?
4. What are virtual machines? Give two advantages and disadvantages of having a virtual machine. Explain or describe Java virtual machine.
5. How does a web application work? Explain with suitable diagram how a single tier and multi-tier application work? What is two phase commit? How does 'roll back / roll forward' and 'commit' work?
6. Explain each of the following term with suitable example: (a) multi-processing; (b) multi-tasking; (c) multi-threading; and (d) multi-programming
7. What is an operating system? Name the major components in any operating system. Explain briefly role of any two components in the operating system.
8. Write Short notes on (Any five):
 - a. ER diagram
 - b. Database Schema (physical, conceptual & external)
 - c. Online Transaction Processing (OLTP)
 - d. Online Application Processing (OLAP)
 - e. Centralized processing
 - f. Decentralized processing
 - g. Distributed processing

25 marks

* * *

MIM 2nd Year Sem IV

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Date
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MIM
II

University of Mumbai
Jawahar Bajaj Institute of Management Studies

Part Time MIM (Systems)-II
Data Management & Systems Software

Date: 24 April 2007
Duration: 2 1/2 hours

Marks: 100

Note:

1. Attempt any five questions.
2. All questions carry 20 marks each.

1. Describe in details various database models. Explain advantages and disadvantages of relational database model over others.
2. What do you understand by the term static (archival) and dynamic (live) data? Describe Data-warehousing and Data Mining? Explain its role in MIS and DSS.
3. Explain the term primary key, secondary key and foreign key. Explain how these key help in linking data between different tables within a database. Explain normalization of Data.
4. What is the purpose or need for creating an operating system? Describe at least four primary functions of an operating system?
5. Discuss in detail multiprogramming, Multitasking, Batch Processing and real time processing.
6. Describe the need for the following with suitable examples -
 - a. Utility software
 - b. Device drivers
7. Write Short notes on any two:
 - a. Online Transaction Processing (OLTP)
 - b. Centralized processing
 - c. Distributed processing

Data comparison

30:

120
30/04
1/5

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

MIM - SECOND YEAR, SECOND SEMESTER
EXAMINATION APRIL / MAY 2006

DATA MANAGEMENT AND SYSTEMS SOFTWARE

Note : Solve any five questions out of eight
All questions carry equal marks

Date : 29.04.06

100 marks : 3hrs.

-
- Q. 1. Explain the concept of Database with its objectives and importance?
What are the different types of Databases?
What is the Distinction between convention files and data base files?
- Q. 2 A. Briefly explain the concept DBMS?
B. What is Data Model? Explain the three models of DBMS i.e. Hierarchical / Network / Relational with examples?
- Q. 3 What is Normalization? Describe the process of normalisation with examples?
- Q. 4 Explain in detail the meaning and objectives of a data warehouse?
What are its characteristics and advantages?
- Q. 5 What is System Software? Discuss different types of system software's with an examples?
- Q. 6 A. What are the different components and purpose of an operating system?
B. Explain the concept of Time sharing / Batch Processing / Real time / Multitasking
- Q. 7 Explain in detail the concept of Decision Support System with examples?
- Q. 8 Write short notes on (Any Four)
1. Knowledge Management
 2. Application Software's
 3. OLAP
 4. OODBMS
 5. Utility software's
 6. DDBMS

06

University of Mumbai
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
Three Year Part-Time Master's Degree Programme (MIM)
Second Year – Second Semester Examination – 2003-04

Data Management & Systems Software

Date : 20th May 2004

Time : 2.00 p.m. to 5.00 p.m.

Marks : 100

Section A (Marks 50)
Data Management

- Note : 1) Please read the questions carefully before answering
 2) All questions are compulsory
 3) Please answer all questions in the same order.

*Compulsory
 Answer
 Less checked*

Q.1. Define and differentiate in the following : (10 Marks)

- a) Data and Information
- b) Hierarchical and Relational

Q.2. Discuss the following concepts briefly with examples. (10 Marks)

- a) Single User and Multi User
- b) Batch-System and On-Line System

Q.3. Please discuss in brief the need for databases, the benefits, advantages and their usage along with illustrations. Also, discuss the storage and retrieval in an RDBMS. (30 Marks)

Section B (50 Marks)
Systems Software

Q.1. What is an OS? Define and discuss its objectives and functions. (15 Marks)

Q.2. What do you understand by Time Sharing System and Real Time Operating System? (20 Marks)

Q.3. Explain what you understand of: (15 Marks)

- a) Assemblers
- b) Compilers
- c) Resource Allocation v/s Resource Deadlock

*2
 168
 38
 142*

15.15 01 I 07 II II Section II

University of Mumbai
Jamaalal Bajaj Institute of Management Studies,
Masters in Information Management,
Systems Software & Data Management – May 2003.
Date : 20th May, 2003 Time: 3 Hrs Marks : 100

INSTRUCTIONS :

- There are 2 sections.
- Each section has 7 questions.
- Each question carry equal marks.
- Attempt all of them.

Section I – Systems Software

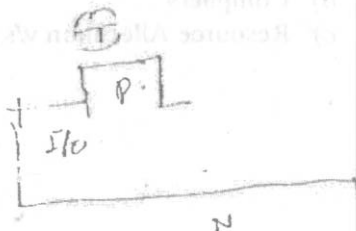
1) Suppose that we have a multiprogrammed computer in which each job has identical characteristics. In one computation period, T , for a job, half the time is spent in I/O & other half in the processor activity. Each job runs for a total of N periods. Assume that a simple round-robin priority is used & that I/O operations & can overlap with processor operation. Define the following quantities –

- a) Turnaround time = actual time to complete the job
- b) Throughput = average number of jobs completed per time period T .
- c) Processor Utilization = percentage of time the processor is active (not waiting)

Compute these quantities for one, two and four simultaneous jobs assuming that the period T is distributed in each of the following ways:

- a) I/O first half, processor second half
- b) I/O first & fourth quarters, processor second & third quarters.

2) Describe the major activities of an operating system with respect to process management, Also justify their existence for a computing machine.



University of Mumbai
Jamnalal Bajaj Institute of Management Studies

Part Time MIM (Systems)-II
Networking and Telecommunication

Date: 22 April 2010

Duration: 2 ½ hours

Note:

Marks: 100

1. Attempt any FOUR questions.
2. Each question carries 25 marks.

1.
 - a. Describe the three fundamental elements involved in data communication.
 - b. Explain briefly various tasks performed such as Data System Utilization, Interfacing, Signal Generation, Synchronization, Exchange Management, Error Detection & Correction, and Flow Control and its purpose in data communication.
2.
 - a. What is a computer network?
 - b. What are network protocols?
 - c. Name the seven layers of OSI model
 - d. Explain the function of each of these layers using appropriate protocols.
3.
 - a. Explain using a single network diagram the following network devices –
 - i. hub,
 - ii. repeater,
 - iii. bridge,
 - iv. router, and
 - v. switch.
 - b. What are network interface cards?
 - c. Explain briefly different types of network interface cards with suitable application in the industry.
4.
 - a. What does VSAT mean to business?
 - b. How does it work?
 - c. What are the various applications for which VSAT technology can be used?
 - d. What are its alternatives and explain briefly when to choose VSAT technology over its alternatives?
5.
 - a. Describe briefly two advantages and two disadvantages of star, bus, ring, and mesh topologies.
 - b. Describe local, wide, campus and metropolitan area networks giving suitable application for each one of these.
 - c. Describe client-server, net-centric and web-centric architecture with suitable examples.

* * *

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

THREE YEAR PART-TIME MASTER'S IN MANAGEMENT STUDIES
MHRDM/MIMM/MIM/MIEM EXAMINATION MIM II YEAR II SEMESTER
2006-2007

SUBJECT: NETWORKING & COMMUNICATIONS

DATE: 25th APRIL, 2007

MARKS: 100

TIME: 3 OT 6 PM

Note:

Attempt any 5 questions.

	Marks
1 ✓ Write a Short Note on any 4 topics	20
<ul style="list-style-type: none"> a) Why do we need for Networks? b) Proprietary Technology v/s Open Technology c) Analog and Digital Signals, their comparison d) Noise and Attenuation of signals and measures to reduce e) Various bodies that form standards for networking & communication 	
✓ Describe OSI Reference Model and functions at each layer. How error correction is handled in OSI reference model.	20
✓ Local Area Networks	20
<ul style="list-style-type: none"> a) Describe various topologies for LAN b) What are the media's used for LAN and their choice c) CSMA/CD and how Ethernet tackles it d) Functions of Hub, Bridge and Switch 	
Wide Area Networks	20
<ul style="list-style-type: none"> a) Various alternatives for connectivity between locations b) Choice of topologies c) Routing Protocols and their selection d) Performance Criterion for WAN 	
45 Network Addressing	20
<ul style="list-style-type: none"> a) What is MAC Address, it's structure b) IP Addressing Scheme, Class A B C Networks c) Subnet Mask and Gateway d) Using subnet mask to: <ul style="list-style-type: none"> - Split a class C network - Combine more than one class C network 	
6 ✓ Write Short Notes on any 4 of following:	20
<ul style="list-style-type: none"> a) DHCP How does it efficiently used IP addresses b) VPNs- their utility c) ATM Technology d) Circuit Switched and Packet Switched Networks e) Voice Over IP 	

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Shortest path

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

MIM - SECOND YEAR, SECOND SEMESTER
EXAMINATION APRIL / MAY 2006

NETWORKING AND COMMUNICATIONS

Note : Solve any five questions out of eight
All questions carry equal marks

Date : 2 /05/06
100 marks ; 3hrs.

-
- Q. 1 A. Define the term communication ? How does telecommunications differ from data communications ? Explain the process of telecommunication ?
- B. What advantages and disadvantages are associated with the use of client / server computing ?
- Q. 2 What is protocol ? Describe the objectives and distinguish between OSP and TCP / IP protocols ?
- Q. 3 What is switching networks ? Explain different types of switching networks with examples ? Elaborate the concept of frame relay ?
- Q. 4 Explain in detail the various types of communication networks with examples ?
- Q. 5 " Internet has changed the outlook of communication explain giving advantages and disadvantages of Internet communication ?
- Q. 6 What are the business applications of telecommunications ?
- Q. 7 Describe the followings ? (Any Two)
- A. Ethernet
 - B. Data Warehousing
 - C. Network Operating System
 - D. Components of client server applications
- Q. 8 Describe the followings ? (Any Two)
- A. Electronic Data Interchange
 - B. Transmission Mode and Directions
 - C. Emerging Technologies in Telecommunications
 - D. ISDN

University of Mumbai
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
Three Year Part-Time Master's Degree Programme (MIM)
Second Year – Second Semester Examination – 2003-04

Networking & Communication

Date : 19th May 2004

Time : 2.00 p.m. to 5.00 p.m.

Marks : 100

Notes:

1. This paper is for 75 Marks. Assignment carries 25 Marks (Total 100 Marks)
2. Please attempt any 5 questions

- | | Marks |
|--|---------------------|
| 1. Write short notes on any of 5 topics | 3x5= 15 |
| <ul style="list-style-type: none"> a) Need for Networks b) Advantages of open standards vis a vis proprietary technology c) Modulation, it's need and methods d) MAC addressing e) VPNs f) Circuit Switched and Packet Switched Telecom Networks g) Advantages of digital signals over analogue | |
| 2. A) Match the correct pairs: | |
| a) IEEE |) MAC Address ✓ |
| b) International Standards Org. |) Frames |
| c) NIC |) Reference Model ✓ |
| d) Layer-3 |) Standard 802.3 |
| e) Layer-2 |) Packets |
| B) Fill in the blanks: | |
| 1) On 100Mbps LAN UTP cat5 cable can be used up to.....meters | 1 |
| 2) First six digits of hexadecimal Mac. address indicate..... | 1 |
| 3) Subnet mask for a Class B network will be | 1 |
| 4) Leased lines are available from kbps onwards | 1 |
| 5) PPP protocol is used fornetworking | 1 |
| C) Write full forms, relevant to Networking: | |
| 1) TCP/IP | 1 |
| 2) ATM | 1 |
| 3) ISDN | 1 |
| 4) FDDI | 1 |
| 5) OSPF | 1 |
| 3. Describe OSI reference Model and various layers. Elaborate on functions of Layers 1 to 4 and error correction. | 15 |
| Describe following: | |
| A) LAN topologies and advantages | 5 |
| B) Collision CSMA/CD and ways to minimize | 5 |
| C) Difference between Switch, Hub and Bridge | 5 |

Jamialal Bajaj Institute of Management Studies

MIM II Year 2004

Networking & Communication

3 Hours

- 5 Explain :
- a) IP address, subnet mask and gateway 3
 - b) Explain Class A, B and C Networks 3
 - c) How can you use subnet mask to split a class C network? 3
 - d) How can you do supernetting? 3
 - e) Difference between internal IP address and valid IP 3
- 6 Describe following:
- a) WAN Topologies and selection criterion 5
 - b) Routing Protocols and selection criterion 5
 - c) Choices available for connectivity e.g. leased line and selection criterion for the same 5
- 7 Explain following for a Local Area Network
- a) Choice of Media available, working principal 5
 - b) Speed and Distance limitation for various media 5
 - c) Address resolution in a LAN 5

LAN

23rd - Software Proj Mgmt

22nd - Network

21st - DMZ

20th Apr - WebTech

19th - Shuchand boy

llk

University of Mumbai
Jamnalal Bajaj Institute of Management Sciences
MIM - IInd Year - Second Semester

Subject : Networking and Communication
Maximum Marks : 100

Date : 20th May, 2003
Time : 2.00 to 5.00p.m. (3 hours)

- ✓ 1. Define the following (8 * 1 = 8 Marks)
 - a. ATM
 - b. PPP
 - c. OSI
 - d. DHCP
 - e. STP - *Spanning Tree*
 - f. UDP
 - g. NetBEUI
 - h. ISDN
- ✓ 2. Write Notes on (8 * 4 = 32 Marks)
 - a. VPN
 - b. LAN Topologies
 - c. LAN Communication Devices
 - d. MAC Address and LAN Addressing
- ✓ 3. Discuss Spanning Tree Protocol (10 Marks)
- ✓ 4. Describe in Detail the OSI Reference Models (15 Marks)
- ✓ 5. Discuss TCP/IP Addressing Mechanism, Classes and IP Sub-netting, Super netting. Advantages of such addressing mechanisms (20 Marks)
- ✓ 6. Discuss Routing and Switching. Highlight the differences between them (5 Marks)
- ✓ 7. Discuss DNS and DHCP as TCP/IP Services (5 Marks)
- ✓ 8. Differentiate between LAN and WAN and also highlight the differences between the Protocols used in these two technologies. (5 Marks)

P

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POTS

15
60x3
18
45 (20)

2-2

39

2-1

28

1-191
192-231

3 4 2 1

28P

28P

UKC

Section II – Data Management

1) Compare the relational, hierarchical & network model of data organization. Describe the capabilities that should be provided by a DBMS.

2) Composite & Multivalued attribute can be nested to any number of levels. Suppose we want to design an attribute for a student entity type to keep track of previous college education. Such an attribute will have one entry for each college previously attended, and each entry will be composed of college name, start & end dates, degree entries (degree awarded at any college, if any). Each degree entry contains the degree name and month, year & grade. Design the attribute hierarchy to hold this information.

Now, Assume that the same information has to be stored in relational tables instead of single attribute, what would be table structure.

3) Consider the relation

Class (Course#, Univ_Section#, Instructor Name, Semester, BuildingCode, Room#, TimePeriod, Weekdays, CreditHours)

This represents the classes taught in a university, with unique Univ_Section#. Identify what you think should be various candidate keys, and also describe the constraints under which each candidate keys should be valid.

4) Consider the relation for published books.

BOOK (Book_Title, Authername, Book_Type, ListPrice, Author_affil, Publisher)

Author_affil refers to the affiliation of author. Suppose the following dependencies exist:

- Book_Title → Publisher, Book_Type
- Book_Type → Listprice
- Authername → Author_affil

--- Entity (n) = 1000
--- Multiple values
--- Composite

- a) What normal for the relation is in?
- b) Apply normalization until you cannot decompose the relation further. State the reasons behind each composition.

5) See below a & b.

- a) What is the system log used for? What are the typical records in a system log? What are the transaction commit points & why are they important?
- b) Discuss the serializability of schedules?

6) See below a & b.

- a) Discuss the ACID properties of the transaction?
- b) Describe the violations caused by each of the following - dirty read, repeatable read & phantoms.

7) Discuss the different file organization that can be used to store information.



Index
System

Commit
Serializable

Seq SS, S, S
Hash
etc

A FAT - 3
Allocation

Part Time MIM (Systems)-II
Data Management & Systems Software

Question Pool from different topics within syllabus based on presentations

Part 1: Data Management

1. Name and explain any two relational operators used in RDBMS. [Hint: Join, Union, Select, Product, Division, Intersection, Division, etc.]
2. Write a brief note on Normalization with suitable example to explain first, second and third normal form.
3. What is structured query language (SQL)? List any three operators and three functions used for SQL statement and explain the same with suitable example.
4. What do you understand by the term "indexing"? Name and explain any two types of indexing.
5. Describe different types of database models. Explain advantages and disadvantages of relational database model over others.
6. What do you understand by the term static (archived) and dynamic (live or transactional) data? Describe Data-warehousing and Data Mining? Explain its role in MIS and DSS.
7. Explain the term primary key, secondary key and foreign key. Explain how these key help in linking data between different tables within a database. Explain normalization of Data.
8. Distinguish between RDBMS, OODBMS and ORDBMS with respect to feature support, usage, sq language, and performance.
9. Write Short notes on any two:
 - a. Online Transaction Processing (OLTP)
 - b. Centralized processing
 - c. Distributed processing
 - d. Data Modeling (Physical, logical and conceptual)
 - e. Stored procedure and triggers
 - f. Concurrency control and locks

Part 2: Systems Software

10. Explain briefly (i) Process Management, (ii) Main-Memory Management, (iii) File Management, (iv) I/O System Management, and (v) Secondary Storage Management present in an operating system.
11. What are utility programs within an operating system? Explain briefly any three of the following – (i) Start Menu, (ii) Taskbar, (iii) Windows Explorer, (iv) Internet Explorer, (v) Search, (vi) Windows Disk Defragmenter, (vii) Event Viewer
12. What are device drivers? Name and explain any two device drivers.
13. What is the purpose or need for creating an operating system? Describe at least four primary functions of an operating system?
14. Discuss in detail multiprogramming, Multitasking, Batch Processing and real time processing.
15. Describe the need for the following with suitable examples –
 - a. Utility software
 - b. Device drivers

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[LAUT] MIM - II - DBMS (TYENGER)

2-4-09

Question Bank on Data Management and Systems Software for MIM-II PT

Data Management

- Q1. Explain advantages and disadvantages of relational database model.
- Q2. Describe in details the traditional three major database models with suitable examples.
- Q3. Describe in details the ACID (Atomicity, Consistency, Isolation, Durability) Principle.
- Q4. What are the key factors that a systems manager need to consider while procuring a DBMS for an enterprise?
- Q5. What is ODBMS? How is it similar to ORDBMS?
- Q6. What is Data-warehousing, Data Mining, Data cube and data mart? Explain with suitable example.
- Q7. What is Structured Query Language? What are the key parts of an SQL (DDL, DML & DCL)? Explain each one of them in brief?
- Q8. Explain different normalization process for data management within a database? 124
- Q9. What is two phase commit? How does 'roll back / roll forward' and 'commit' work?
- Q10. Write Short notes on:
- ER diagram
 - Database Schema (internal and external) (physical, conceptual & external)
 - Online Transaction Processing (OLTP)
 - Online Application Processing (OLAP)
 - Centralized processing.
 - Decentralized processing
 - Distributed processing
- Q11. What do you understand by the term "triggers" and "stored procedures"? How do they work?
- Q12. The statement "study of data warehousing is said to be subject oriented while that of dynamic data or operational database is application oriented". Justify this statement with suitable example.
- Q13. How does data partitioning (both vertical and horizontal) provide data granularity? What is the advantage of creating granular database for a typical retail enterprise or an airline company?
- Q14. What does the term such as "primary key", "secondary key", "super key", and "foreign key" stand for in the study of database management system? Explain with suitable example on how they work in connecting tables within a DBMS.
- Q15. How does a web application work? Explain with suitable diagram how a single tier and multi-tier application work?
- Q16. Explain the four characteristics of data warehousing with respect to (a) subject oriented, (b) integrated, (c) time variant, and (d) non-volatile
- Q17.

Systems Software

- Q1. Explain the need for device drivers (system software) with suitable example.
- Q2. Explain the need for utility software with examples.
- Q3. Explain each of the following term with suitable example: (a) multi-processing; (b) multi-tasking; (c) multi-threading; and (d) multi-programming.
- Q4. Differentiate/Discuss in detail multiprogramming, Multitasking, Batch Processing and real time processing.
- Q5. What is the purpose or need for creating an operating system? Describe at least four primary functions of an operating system?
- Q6. Differentiate between Application software and System Software.
- Q7. What is an operating system? Name the major components in any operating system. Explain briefly role of any two components in the operating system.
- Q8. What do you understand by the terms: (a) process management, (b) file management, (c) device management, (d) memory management, and (e) I/O management with reference to an operating system?
- Q9. Write Short notes on:
- Device Drivers
 - Utility Software
 - Batch processing
 - Time-sharing system
 - Real-time system
- Q10. What are virtual machines? Give two advantages and disadvantages of having a virtual machine. Explain or describe Java virtual machine.

University of Mumbai
Jamnalal Bajaj Institute of Management Studies
Networking and Communication
MIM - II Year (Part Time Systems) Second Semester

Date: 18th April 2011

Marks: 50

Duration: 2 hours

Note:

1. Attempt all questions
2. Question number 1 carries 10 marks (2 mark each)
3. Question number 2 carries 40 marks (10 marks each)

Q.1. Answer *any* five of the following: (2 mark each)

- 1.1. Explain the term Bandwidth, Data Terminal Equipment (DTE), and Data circuit-terminating equipment (DCE).
- 1.2. What is your understanding about the term Amplitude modulation, Frequency modulation and Phase modulation with suitable diagram?
- 1.3. What is your understanding about the term CODEC and MODEM using suitable example?
- 1.4. Explain at least three transmission media each for wired and wireless with suitable examples.
- 1.5. Explain the term 'Switch' and outline at least two major characteristics of it.
- 1.6. What is Network Address Translation (NAT) and what is its role in a network?

Q.2. Answer *any four* of the following: (10 marks each)

- 2.1. Describe 'wired' and 'wireless' communication with suitable diagram describing Ethernet, token ring, FDDI, ATM, Bluetooth, Wi-Fi, Wi-Max and VSAT technologies.
- 2.2. Write note on VSAT covering its characteristics, technologies, advantages, disadvantages, and applications.
- 2.3. Describe the role of each layer present in ISO's OSI Model for managing heterogeneous network. How does it compare with TCP/IP model?
- 2.4. What does the term 'network topology' and 'network architecture' mean? Explain at least four types of topology and four types of architecture with one or more suitable diagram giving their advantages, disadvantages and application in real world situation.
- 2.5. Describe network management with respect to its performance, fault, configuration, security and quality of service (availability).

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UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
Second Year (Second Semester) 2009-2010
MIM

Subjects: Software Project Management & IT Resources Management

Friday, 23-04-2010

(3 Hours)

(Total Marks 100)

- (i) Answer any **FIVE** questions
- (ii) Supplement your answers with live examples.
- (iii) All questions carry equal marks

Q1) Explain any **TWO** of the following:

- (a) Role of quality in projects
- (b) Multi-Skilling in projects
- (c) Distinguish between: SDLC Vs Service life cycle
- (d) Disaster Management

Q2) Define Project Management. What are key phases in a project life cycle?

Q3) Describe the role of metrics in a project.

Q4) What are the common causes of failure in a project? Enumerate measures.

Q5) Project planning is a crucial phase in managing projects. Explain in detail.

Q6) Risk management is an integral part of project management. Justify.

Q7) Write short notes on any **FOUR** of the following:

- (a) Project reviews
- (b) Productivity
- (c) Contingency
- (d) Customer interactions
- (e) Competency Management
- (f) Project Charter
- (g) IT resource management
- (h) Outsourcing

Q8) Explain the importance of security management within IT projects.

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
UNIVERSITY OF MUMBAI
MIM II SEMESTER II
SOFTWARE PROJECT MANAGEMENT AND RESOURCES MANAGEMENT

DURATION 3 HRS

19th April 2011

TOTAL MARKS 100

- (i) Answer any **FIVE** questions
- (ii) Supplement your answers with live examples.
- (iii) All questions carry equal marks

Q1) Define Project Management. What are key phases in a project life cycle?

Q2) You cannot improve what you cannot measure. Describe in context to project management..

Q3) Why do projects fail? Enumerate measures.

Q4) One cannot avoid 'Planning' in managing projects. Explain in detail.

Q5) Risk management is critical for successful project completion. Justify.

Q6) Write short notes on any **FOUR** of the following:

- (a) Competency Management
- (b) Outsourcing
- (c) Multi-Skilling in projects
- (d) Distinguish between: SDLC Vs Service life cycle
- (e) Project reviews
- (f) Productivity
- (g) Contingency
- (h) Customer interactions

Q7) Explain the importance of security management within IT projects.

Q8) Explain any **TWO** of the following:

- (a) IT resource management
- (b) Project Charter
- (c) Role of quality in projects
- (d) Disaster Management

University of Mumbai
Jamnalal Bajaj Institute of Management Studies
Second Year Second Semester 2008-2009

MIM

Sub : Software Project Management & IT Resources Management

Tuesday, 28-04-2009

(3 Hours)

(Total Marks 100)

- Notes : a) Answer any Five Questions
b) All questions carry equal marks
c) Total Marks: 100

- 1) What do you understand by Project Management and its frame work?
- 2) Describe tools and techniques used during project life cycle and its importance
- 3) Assume you are a Project Manager of ERP project , What will be the critical success factors you would consider and what are the precautions you will take in selecting the team members.
- 4) If you are a project leader what are the qualities you should have and various factors you consider to deliver the result as per the project schedule.
- 5) What are the issues you face as a Project Manager during the implementation of project and What are the common causes of failures in project and how do you over come them
- 6) What do you understand by Change Management and its importance in organisation and project management
- 7) Explain Project Cost Management and Project Time Management
- 8) Write Short Notes on following - any two
 - a) Optimisation of resources
 - b) Help desk
 - c) Out sourcing

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
MIM- SECOND YEAR SEMESTER - II
SUBJECT SOFTWARE PROJECT MANAGEMENT AND IT
RESOURCES MANAGEMENT

DATE : 3RD MAY, 2006 MARKS : 100 TIME : 3 HOURS

NOTES :

1. QUESTION NO.1 IS COMPULSORY
2. SOLVE ANY 6 QUESTIONS FROM Q2 TO Q9
3. QUESTION NO.1 CARRIES 20 MARKS
4. ALL OTHER QUESTIONS CARRY 12 MARKS EACH
5. PLEASE MENTION CLEARLY ASSUMPTIONS MADE, IF ANY, WITH JUSTIFICATIONS.
6. ANSWERS SHOULD BE PRECISE AND TO THE POINT.

Q1. Smart Infotech Ltd. is a fast growing IT company that has just won a project against stiff competition for setting up an on-line book store system. Due to the changes in the requirement at the last minute during commercial negotiations at the project finalisation stage, the marketing team had done some quick cost estimates. Since the project is now inhouse after the contract has been bagged, the division head has issued instructions stating that prior to the beginning of the execution of the project, the estimates of the marketing department need to be revisited by the project manager. The company is growing and it needs 10 days to recruit or internally manage the resources as per the skill sets required for this project and specifically mentioned in SRS. Further the number of resources will become clear after the project planning is completed. Deployment of multiple programmers for coding will take 10% more time for this activity. Recruitment/transfers will take 10 days. The project team can be effective after 5 days of intensive training. While DFD preparation and analysis will take 8 days, the FP calculation & SRS will take 15 days each. Thereafter the detailed project planning activity will take 10 days. HLD/DD review and system test/integration test will need 15 days each; totaling to 30 days for these two activities. HLD/DD together will take 20 days. Once the acceptance test lasting over 7 days is completed, the project can be handed over after 10 days. Actual documentation will also be completed in this period. Coding will take 35 days for one person. All the number of days mentioned above are person days.

The division head wants you, as a project manager, to complete the following activities :-

- i) Draw up a phase wise project plan
- ii) Prepare an activity network
- iii) Prepare an activity bar chart
- iv) Find out the number of resources needed
- v) Prepare an allocation table for resources
- vi) Prepare staff allocation vs time chart

UNIVERSITY OF MUMBAI
JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

MIM - SECOND YEAR - SECOND SEMESTER

SUBJECT : SOFTWARE PROJECT MANAGEMENT AND IT RESOURCES MANAGEMENT

DATE : 21ST MAY, 2004

TIME : 3.00 P.M. TO 5.00 P.M.

N.B.: ATTEMPT Q(1) TO Q(4) AND ANY FOUR FROM THE OTHERS
ANSWERS TO THE QUESTIONS SHOULD BE BRIEF

Q(1) Mikado Solutions is a software development organization based at California. (20)
They want to develop a software for their client Pegasus Network Technologies, who are network solutions provider to various organizations. After defining the objectives clearly and specifying assumptions made by you, briefly work out the various steps as to how you would go about executing this project, giving details of the study, defining the scope, identifying and evaluating problems, constraints, resources required, cost and time involved, the quality aspects and the completion activities.

Q(2) Fill in the blanks of any FOUR of the following : (8)

- (a) Project is ---- (Temporary, Depending on Clients requirement, Permanent)
- (b) Projects mainly involve ---- (People, Equipments, Money)
- (c) Project Creep means project becomes ---- (Bigger, Smaller, A Change)
- (d) Activities in Projects can be ---- (In parallel, In sequence, Both)
- (e) PERT uses ---- time (Weighted Average, Optimistic, Most Likely)
- (f) Late Start & Late Finish is a ---- pass (Backward, Forward, Normal)
- (g) For success in Projects, we should ---- (Plan Well, Control Resources, Execute Efficiently)
- (h) Ideal Projects Organization is ---- (Functional Type, Project Wise, Matrix Type)

Q(3) Explain with reasons any TWO of the following : (12)

- (a) Project team should focus on Customer Need and Quality.
- (b) Finance is prominent in Projects.
- (c) Budgeting is very important in Project Mgt.
- (d) Project Monitoring is very essential for the success of the Project.

Q(4) Write short notes on any TWO of the following : (12)

- (a) Project Managers functions and responsibilities.
- (b) Project Development Life Cycle.
- (c) Functions of a Systems Analyst.
- (d) Gantt Chart.

Q2. (a) What is a software metric? How and Why is metric used in software project management?

Q2. (b) Explain the functions and roles of modern IT department.

Q3. (a) Explain the key issues in maintaining the following IT resources

- (i) Mainframes
- (ii) Software professionals

Q3. (b) Why should an organization have an IT policy? What are the contents of a typical IT policy?

Q4. (a) What is IT security? Explain the issues to be considered while planning application security.

Q4. (b) What are the common causes of failure in IT projects? How can one overcome them?

Q5. (a) What is PDB? Explain with example its purpose and use.

Q5. (b) If a program for an application costs 'C' the software developed for this application cost '9C'. Explain by giving an example.

Q6. (a) What is SCM? What are the items covered by SCM?

Q6. (b) What is PCB? How is it developed? What is its use?

Q7. (a) What are the various models of software development? Explain any one of them in detail.

Q7. (b) What is a function point? How is it used for size estimation?

Q8. (a) Compare and contrast software project management with project management for the brick and mortar projects.

Q8. (b) Explain the concept of use case. How are use cases used for size and effort estimation?

Q9. Write short notes on (any three)

- (a) SRS
- (b) V & V
- (c) CMM
- (d) Process Assets
- (e) Disaster Management
- (f) Strategies in migrating to new technologies

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- (c) CMM
- (d) Process Assets
- (e) Disaster Management
- (f) Strategies in migrating to new technologies

10/10
10/10/10

Q(5) (a) Define Project Management. What are the concepts of Project Mgt? (12)
(b) Explain the main constraints of Project Management

Q(6) (a) What is a Work Breakdown Structure? Explain the use of it? (12)
(b) How and when do you create a WBS? Explain.

Q(7) (a) Define Activity. What is the importance of sequencing? (12)
(b) What are the critical elements of a good Project Plan? Explain.

Q(8) (a) Explain the PERT Method used in a Project. What is CPM? (12)
(b) How can you reduce the project time? and at what cost? Explain.

Q(9) (a) Budgeting is an important exercise in Project Cost Management. Explain. (12)
(b) What is Earned Value Analysis? Why is it the preferred method for measuring project performance.

Q(10) (a) Estimates and schedules of Manpower Resources are very critical in a (12)
Software Development Project. Why? Explain.
(b) How is the Cost estimated in a Software Project? and why?

Q(11) (a) Explain the key project processes and outputs of the Project Closing Process. (12)
(b) Before completion of the project what is the role & conduct of Audit?

University of Mumbai
Jamnalal Bajaj Institute of Management Studies

MIM - II Year (Part Time Systems) Second Semester
Data Management & Operating System

Date: 30 April 2014
Duration: 2 hours

Marks: 60

Note:

1. Attempt any TWO questions from 1 to 3. Each question carries 15 marks.
2. Attempt any TWO questions from 4 to 6. Each question carries 15 marks.

Data Management

1. List two similarities and two dissimilarities between:
 - a. RDBMS and ORDBMS
 - b. OODBMS and ORDBMS
 - c. OLAP and OLTP
 - d. Data warehouse and Data mart
2. Explain RDBMS with reference to Database Normalization. What are Normal Forms? Explain the rules of Normalization.
3. What does the term "Data Warehouse" mean to CTO or CIO? Explain the fundamental concept involved in building, operating and transferring a "data warehouse" to any one of these vertical market segment (ticketing in airline OR card issuance based on facilities provided to a customer versus features the bank has OR product marketing by an FMCG)

System Software

1. Explain the purpose of an Operating System, its feature and benefit using suitable example.
2. What is Memory Management? Explain how does it function at the host system using a suitable block diagram?
3. Describe the 'evolution of Operating systems' based on the need for the next generation arising out of short comings of the previous generation.

Total - 58

University of Mumbai
Jamnalal Bajaj Institute of Management Studies

MIM - II Year (Part Time Systems) Second Semester
Networking and Communication

Date: 2 May 2014
Duration: 2 hours

Marks: 60

Note:

1. Attempt any Three Questions. Each question carries 20 marks.

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1. Explain or define in your own words the word "network" as applicable to today's Information and Communication Technology (ICT) industry? Explain with suitable diagram various essential components of a Computer network installed in a medium to large company.
2. Explain OSI model with suitable diagram and explain how it is different from the TCP Model. Name and explain at least one protocol from network layer to application layer in an OSI model.
3. Name and describe any three topologies of a network and three architectures of network using suitable example.
Differentiate between Circuit and Packet Switching. How and where will you deploy this for the modern telecom company?
4. Describe applicable basic components involved in wired and wireless type of Data Communication?
Differentiate between Analog and Digital signals used data communication. Differentiate between Synchronous and Asynchronous communication.

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JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES
UNIVERSITY OF MUMBAI
MIM II SEMESTER IV

Total Marks: 60

3rd May 2014

Duration 2.5 hrs

Subject: Software Project Management & IT Resource Management

Attempt any 4 from given 8 questions
Each question carries equal marks

1. Comment on the practices & tools, in controlling of software projects. [15]
2. Comment on different kinds of hardware resources & relevant management issues. [15]
3. Explain the significance of a company wide IT policies. [15]
4. Comment on vendor management. [15]
5. Explain the process & aspects of IT budgeting. [15]
6. Distinguish between IT management & MIS. [15]
7. Explain the different kinds of IT resources. State their classifications. [15]
8. Short notes [15]
 - a. Project Management
 - b. RFP
 - c. Waterfall

