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[4972]-1001

M.C.M. (First Semester) EXAMINATION, 2016

101 : FUNDAMENTALS OF INFORMATION TECHNOLOGY

(2013 PATTERN)

Time : 2½ Hours

Maximum Marks : 50

N.B. :— (i) Q. Nos. 1 and 6 are compulsory.

(ii) Solve any *three* questions.

(iii) Figures to the right indicate full marks.

1. Define Operating system. Explain different functions of Operating System. [10]
2. What do you mean by computer networking ? Explain different types of networks. [10]
3. (a) Distinguish Compiler, Interpreter and Assembler [5]
(b) Explain number system in detail. [5]
4. (a) What is scanner ? Explain Optical scanner. [5]
(b) Differentiate between Windows and Open source Operating System. [5]

P.T.O.

5. Explain Digital Block Diagram and function of each units. [10]

6. Write short notes on any *two* [10]

(a) MICR

(b) Hard Disk

(c) Microprocessor

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[4972]-1002

M.C.M. (First Semester) EXAMINATION, 2016
C PROGRAMMING AND DATA STRUCTURE
(2013 PATTERN)

Time : 2½ Hours

Maximum Marks : 50

- N.B. :—** (i) Q. No. 1 is compulsory.
(ii) Solve any *four* questions from the remaining.
(iii) Figures to the right indicate full marks.

1. (A) Trace the output and justify the answer. Assume suitable header files. [6]

```
(a) void fun(int *, int*);
    void main( )
    {
    int i=5, j=2
    fun(&l, &j);
    printf("\ti=%d and j=%d",l, j);
    }
    void fun(int *l,int*j)
    {
    *i = *j**l;
    *j = *j**j;
    }
```

```
(b) # define SQR(x) x*x
    void main( )
    {
    int x=3;
    printf("\n Rusult is = %d", SQR(3-1));
    }
```

P.T.O.

- (B) Explain the following (any *two*) : [4]
- (a) Queues
 - (b) Recursive function
 - (c) Dynamic memory allocation
2. WAP to display the following pattern using nested loops : [10]
- ```
ABCDEF
BCDEFG
CDEFGH
```
3. WAP to accept multiline text from the user ended by character '9' and the program should display :
- (1) no. of tab spaces
  - (2) no. of blank spaces
  - (3) no. of lines
  - (4) no. of alphabets in a given text. [10]
4. Write a recursive function which receives the number and return the factorial value that number. [10]
5. Write a program to accept itcode, desc, rate and qty of 30 items. Display all the records in tabular form. [10]
6. Write a program to accept the two file names from the user and append the contents of first file to the second file. [10]
7. Write a program to accept the 10 numbers and display the lowest, highest and average value from these nos. [10]

Total No. of Questions—5]

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**[4972]-1003**

**M.C.M. (First Semester) EXAMINATION, 2016**  
**103 : SOFTWARE ENGINEERING WITH UML**  
**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Q. No. 1 and 5 are compulsory.

(ii) Solve any *two* question from remaining.

(iii) Neat diagrams carry marks.

1. The institute offers variety of courses under various streams. Each course is made up of set of subjects. Faculties in the institute are assigned courses to teach according to the core area of the faculty and their availability. The institute publishes and maintains calendar of different courses and assigned faculty every year. Each course has a course coordinator who manages the courses including course content, assign courses to the faculty and define course schedule. Academic record of the student is maintained by concerned faculty and submitted to course coordinator.

(a) Draw E-R diagram [7]

(b) Design any four table layouts. [7]

2. (a) Draw use case diagram for registering new E-mail account. [6]

(b) Explain RUP with four major phases. [6]

3. (a) Explain different types of requirements. [6]

(b) Describe input and output design. [6]

P.T.O.

4. Draw Decision Tree and Decision Table for following : [12]

On the orders books on or before 29-7-2015, offer a discount of 10% on the items displayed in the advertisements. Addition 2% discount is offered to appointed dealers. If customer is within Maharashtra State, then no sales tax is charged, otherwise 8% sales tax is charged on the sale value. Customer from outside Maharashtra state also has to pay 4% Central Sales Tax. For charging excise duty there are two categories. For category A 10% and category B 5% excise duty has been charged.

5. Write short notes (any *three*) : [12]

- (a) Role of system analyst
- (b) Spiral Model of SDLC
- (c) Class diagram and its relationship
- (d) Data Abstraction and data Encapsulation.

Total No. of Questions—5]

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[4972]-1004

**M.C.M. (First Semester) EXAMINATION, 2016**

**104 : DATABASE MANAGEMENT SYSTEM**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Q. Nos. 1 and 5 are compulsory.

(ii) Solve any *two* questions from Q. Nos. 2, 3 and 4.

1. (a) Normalize the following upto 3NF. Write each normal form in detail : [10]

Cust\_Id

Customer\_Name

Customer\_Addr

City

Pin code

E-mail\_Id

Phone No.

Arrival\_date

Departure\_date

Departure\_time

Arrival\_time

Room\_no.

Room\_type

Room\_rate

Hotel branch\_Id

Hotel-name

Hotel-address

P.T.O.

Hotel city  
Service tax  
Bill No.  
Bill Date  
Bill amount.

- (b) Explain data independence. [5]
2. Explain time-stamp based protocol in detail. [10]
3. Explain log base recovery. [10]
4. Explain any *ten* Codd's rules. [10]
5. Write short notes on (any *three*) : [15]
- (1) Database users
  - (2) Data warehouse
  - (3) Security and privacy mechanisms for database
  - (4) Transaction states
  - (5) Project operator and join operator with example.



Total No. of Questions—5]

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**[4972]-2001**

**MCM (Second Semester) EXAMINATION, 2016**

**201 : BUSINESS APPLICATION AND ERP TOOLS**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) *All* questions are compulsory.

(ii) *All* questions carry equal marks.

1. Explain BOM processing with product configuration. [10]

*Or*

Explain calculation of labour efficiency and productivity. [10]

2. Explain process of customer order processing with the help of First Level DFD. [10]

*Or*

Explain Sales Analysis with example. [10]

3. What is Ratio Analysis ? Explain any *three* ratios. [10]

*Or*

Explain purpose of Trial Balance. Draw format of Trial Balance. [10]

P.T.O.

4. Explain PF, Gratuity, Bonus and Incentives calculations in Payroll. [10]

*Or*

Explain employee leave accounting with example. [10]

5. Explain ERP implementation cycle in detail. [10]

*Or*

Explain post-implementation review of ERP package. [10]

Total No. of Questions—5]

[Total No. of Printed Pages—2

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**[4972]-2002**

**M.C.M. (Second Semester) EXAMINATION, 2016**

**104 : PRINCIPLES AND PRACTICES OF MANAGEMENT AND  
ORGANIZATIONAL BEHAVIOUR**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

- N.B. :—** (i) Question No. 1 & 5 are compulsory.  
(ii) Attempt any *two* from the remaining.  
(iii) Figures to the right indicate full marks.

1. Explain the term Organization Behaviour. Describe Autocratic and Custodial model of OB. [15]
2. Do you feel Maslow's Hierarchy of needs is an appropriate way of looking at human needs in an organization ? Justify. [10]
3. Define Management. Discuss various levels of management in detail. [10]
4. Explain F. W. Taylor theory of Management in brief. [10]

P.T.O.

5. Write short notes (any *three*) :

[15]

- (A) Theory X Vs Theory Y
- (B) Johari window
- (C) Team Building
- (D) Decision making environment
- (E) Managerial functions.

Total No. of Questions—5]

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**[4972]-2003**

**M.C.M. (Second Semester) EXAMINATION, 2016**

**203 : ADVANCED RDBMS USING ORACLE**

**(2013 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Question No. 1 is compulsory.

(ii) Attempt any *three* from the remaining.

(iii) Figures to the right indicate full marks.

Consider the following tables to solve queries and PL/SQL given below :

Salesman (Snum, Sname, City, Commission)

Order (Onum, Odate, Snum, Amount)

Customer (Cnum, Cname, City, Rating, Snum)

**1.** Solve any *ten* queries given below : [20]

(1) Add one column “Pincode” in salesman table.

(2) List all customers of other than Pune city and having rating more than 6.

(3) List all orders between order dates 10/10/14 to 30/3/15.

P.T.O.

- (4) Display name and city of all salesman in Pune with a commission below Rs. 500.
- (5) Display all salesman names starting with character 'N', the 3rd character is 'a' and the rest of characters will be any.
- (6) Display all salesman whose name starts from 'A' to 'O'.
- (7) Display the salesman who are not getting any commission.
- (8) Increase commission of all salesmen by Rs. 200 of Pune City.
- (9) Display the number of salesmen in each city.
- (10) Display the city of salesmen in Pune who had maximum rating of customer.
- (11) Display the total amount procured by each salesman.

**2.** Write a cursor to calculate incentives to be given to the salesmen of the year 2014 as below : [10]

- (A) Incentive is given 10% to the customer, if total amount of all orders placed by that customer is below Rs. 5,000.
- (B) Otherwise incentive is given 30% of total order amount.

[Display Sname, Total-Amount, Incentive]

3. Write a function `Get_Amt( )` to Accept the “Snum” of the salesman and return “total amount” procured from all orders of that salesman. Also write a PL/SQL Block to display the following details of that salesman :
- (Snum, Sname, Total\_Amount) where Total\_Amount is calculated as `Get_Amt( )`. [10]
4. Write a trigger that will not allow user to place an order of amount below Rs. 500. [10]
5. Write short notes (any *two*) : [10]
- (1) `To_char( )` and `To_Date( )` Functions
  - (2) Set operations
  - (3) Data types in oracle.

Total No. of Questions—7]

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[4972]-2004

**M.C.M. (Second Semester) EXAMINATION, 2016**

**204 : JAVA PROGRAMMING**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Q. No. 1 is compulsory.

(ii) Attempt any *four* questions from the remaining.

(iii) Figures to the right indicate full marks.

1. Solve the following : [10]
  - (a) What is Adapter Class ?
  - (b) What stages of Thread Life Cycle ?
  - (c) What is garbage Collection ?
  - (d) What Panel with Border Layout.
  - (e) What is ;the use of Object Input Stream and Object Output Stream ?
  
2. Write applet application to accept details of three departments using GUI. Display accepted details in JTable when user clicks “Show” button on GUI. [10]
  
3. Write an application to define an interface ‘CalculateResult’ with methods Calculate Total( ), Calculate Percentae( ) and Calculate Grade( ). Write student class with implementation of ‘Calculate Result’. Creat student object and display total marks, percentage and grade of student. [10]

P.T.O.



4. Write Java program to generate following threads : [10]
- (a) Take a string from the user and print the reverse of the string.
  - (b) Take string from user count vowels from it.
5. Write a Java program to concatenate two text files sequentially into single file. [10]
6. What is exception handling in Java ? Describe checked and unchecked exceptions, with suitable example. [10]
7. Write notes on (any *two*) : [10]
- (a) Packages
  - (b) Differentiate between method overloading and method overriding
  - (c) Containers in AWT package.

Total No. of Questions—5]

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**[4972]-3001**

**M.C.M. (Third Semester) EXAMINATION, 2016**

**301 : INFORMATION SECURITY AND AUDIT**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) All questions are compulsory.

(ii) Each question carry **10** marks.

**1.** Explain the role of Internet and world wide web.

*Or*

Explain importance of physical security and biometric controls of protecting information system centre.

**2.** What are security threats in E-Commerce environment ?

*Or*

Explain networking and digital communication.

**3.** How firewall helps to secure the information assets ?

*Or*

Explain the concept of digital signature and copy right.

P.T.O.

4. Explain security of virtual private networks.

*Or*

How encryption and decryption helps to maintain security ?

5. Explain COBIT and Sarbanes-Oxley Act.

*Or*

Explain SSE-CMM model.

Total No. of Questions—5]

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**[4972]-3002**

**M.C.M. (III Sem.) EXAMINATION, 2016**

**302-NT : BASICS OF NETWORK TECHNOLOGIES**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) *All* questions are compulsory.

(ii) Each question carries equal marks.

1. Compare peer-to-peer and client-server networks with their advantages and disadvantages. [10]

*Or*

Explain Wireless Network Wi-Fi. [10]

2. Explain network protocol TCP/IP in detail. [10]

*Or*

Explain various mail protocols. [10]

3. Explain any *three* network connectivity components. [10]

*Or*

Rights Management and Group Policy in Windows Server 2003. [10]

P.T.O.

4. Compare Bus, Star and Ring topologies. [10]

*Or*

Explain steps for installing Windows 2003 Server with roles. [10]

5. Explain steps for installing Linux from Installation server. [10]

*Or*

Explain various partitions and their purposes in Linux. [10]

Total No. of Questions—6]

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**[4972]-3003**

**M.C.M. (Third Semester) EXAMINATION, 2016**  
**302 ST : SOFTWARE QUALITY ASSURANCE**  
**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Solve any *five* questions.

(ii) Figures to the right indicate full marks.

1. What is risk management ? Explain different stages involved in risk management. [10]
2. Define software quality. Describe errors, fault and failure with proper justification. [10]
3. (a) Explain different types of testing. [5]  
(b) Release and version control. [5]
4. (a) What is review. Explain contract review. [5]  
(b) Explain project life cycle. [6]
5. Explain CMM with its different steps. [10]
6. Write short notes (any *two*) : [10]
  - (a) Software audit
  - (b) Staff training
  - (c) Software quality assurance.

Total No. of Questions—7]

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**[4972]-3004**

**M.C.M. (Third Semester) EXAMINATION, 2016  
SOFTWARE DEVELOPMENT SPECIALIZATION  
302 SD : Programme and Design With ASP.NET  
(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Q. No. 1 is compulsory.

(ii) Solve any *four* questions from Q. No. 2 to Q. No. 7.

(iii) Figures to the right side indicate full marks.

1. Design a form and write code : [10]
  - (a) Populate and display Author's names in a drop down list.
  - (b) Select a Author from drop down list and display its details in underlying text boxes.
  - (c) Add a recordUse disconnected architecture. Name of Server : MyAspDB (SQL Server)  
Name of Table : AuthorMaster (AuID, FirstName, Last Name, City, Email).
2. Explain comparison Validators and range validators with suitable examples. [10]
3. Explain menu control with the help of web sitemap file. [10]
4. Draw and explain ASP.NET architecture in detail. [10]
5. Define a class Bank account with appropriate attributes. Write parameterized constructor for the same. Write a method to withdraw amount from account after checking the minimum balance. Write a main program to demonstrate your functionality. [10]

P.T.O.

- 6.** Explain the following controls (any *two*) : [10]
- (a) Text Box control
  - (b) Image control
  - (c) Wizard control
- 7.** Write short notes on following (any *two*) : [10]
- (a) Creating and using style sheets
  - (b) Ajax server controls
  - (c) WPF and WCF.



Total No. of Questions—5]

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**[4972]-3005**

**MCM (Third Semester) EXAMINATION, 2016**

**303 NT : SERVER AND DESKTOP TECHNOLOGIES**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) *All* questions are compulsory.

(ii) Each question carries equal marks.

1. Explain Ethernet Card with its functioning.

*Or*

Explain BIOS with its functions.

2. Explain concept of interrupt. Explain various types of interrupts.

*Or*

Explain CPU Registers and BUS Characteristics.

3. Explain superscalar architecture in Pentium Processors.

*Or*

Explain steps for TCP/IP based network installation in Windows XP.

P.T.O.

4. Explain steps for upgrading Windows XP to Windows 7.

*Or*

Explain steps for configuring Wi-Fi and Bluetooth in Windows 7.

5. Explain various storage drives.

*Or*

Explain any *one* data recovery tool.

Total No. of Questions—6]

[Total No. of Printed Pages—1

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**[4972]-3006**

**MCM (Third Semester) EXAMINATION, 2016**  
**303 ST : SOFTWARE TESTING PROCESSES AND**  
**DOCUMENTATION**  
**(2013 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Question Nos. 1 and 6 are compulsory.

(ii) Solve any *three* of the remaining.

1. Explain software testing life cycle in detail with suitable diagram. [10]
2. Attempt the following :
  - (a) Explain White Box Vs. Black Box testing. [5]
  - (b) Explain incremental testing in detail. [5]
3. Explain static and dynamic testing in detail. [10]
4. Discuss COTS software test process in detail. [10]
5. Discuss creation of security awareness policy. [10]
6. Write short notes on (any *two*) : [10]
  - (a) Testing Distributed Applications
  - (b) Penetration Point Matrix
  - (c) Verification and Validation.

Total No. of Questions—5]

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**[4972]-3007**

**M.C.M. (III Sem.) EXAMINATION, 2016**

**303-SD : MOBILE PROGRAMMING USING ANDROID**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) *All* questions are compulsory.

(ii) Each question carry equal marks.

1. Explain building blocks of Android. [10]

*Or*

Explain use of Android Development Tool. [10]

2. Write sample code for displaying List Layout from Array Values. [10]

*Or*

Explain use of Theme in Android application. [10]

3. Explain basic graphics generation in Android with example. [10]

*Or*

Explain Raw Audio Manipulation in Android. [10]

P.T.O.

4. Explain use of content provider for SQLite in android application. [10]

*Or*

Explain use of SQLite database in Android with example. [10]

5. Explain Service Life Cycle in android. [10]

*Or*

Explain difference between bound and unbound services with example. [10]

Total No. of Questions—6]

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**[4972]-3008**

**M.C.M. (Third Semester) EXAMINATION, 2016**

**304-NT : SYSTEM ADMINISTRATION AND SERVER**

**INTEGRATION**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :-** (i) Question Nos. 5 and 6 is compulsory. Solve any *two* from remaining.

(ii) Draw neat diagrams whenever necessary.

1. Explain the steps for configuring DHCP server in Windows Server 2003. [10]
2. Explain the steps for Linux Installation in Graphical Mode. [10]
3. What is Firewall ? Explain the procedure to configure Firewall in Linux. [10]
4. Explain File Management and User Management command in Linux. [10]
5. Explain the steps in installing Windows 2003 Server. Also explain Post Installation Configuration. [15]

P.T.O.

**6.** Write short notes on (any *three*) : [15]

(a) Process Management Commands in Linux

(b) Yum Package

(c) Type of Linux Partition

(d) Types of Distributed OS

(e) Microsoft Software Update Service.

Total No. of Questions—5]

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**[4972]-3009**

**M.C.M. (Third Semester) EXAMINATION, 2016**

**304-ST : SOFTWARE TEST PLANNING AND DOCUMENTATION**

**(Software Testing Specialization)**

**(2013 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 50**

**N.B. :—All questions are compulsory.**

1. Define test plan. Explain the characteristics of software being developed. [10]

*Or*

Discuss prerequisites of test planning.

2. Differentiate user's role and tester's role in software testing. [10]

*Or*

Explain in detail test plan standards.

3. What is user acceptance testing ? Explain acceptance test execution. [10]

*Or*

Discuss in detail the usage of tools in testing.

P.T.O.



4. What is risk ? Explain risk associated with software testing.

[10]

*Or*

Explain Constraints in test plan.

5. Explain functional test cases and stress test cases.

[10]

*Or*

What is defect in testing ? Explain defect management in detail.

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**[4972]-3010**

**M.C.M. (Third Semester) EXAMINATION, 2016**

**304-SD : ADVANCED JAVA**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Q. Nos. 1 and 5 are compulsory.

(ii) Solve any *two* questions from Q. Nos. 2, 3 and 4.

1. Solve the following : [15]
  - (a) Difference between <JSP : include> and <JSP : forward>.
  - (b) Methods of statement object.
  - (c) What are the different ways to create a socket ?
  - (d) What is the method signature of service method in servlet ?
  - (e) Statements to create and read a cookie for the field First Name.
  
2. Write a JDBC code to display employees working in finance department. (Assume suitable table structure). [10]
  
3. Write a multithreaded chat application. [10]
  
4. Write a servlet application to accept patient details from HTML page and insert in patient table (Assume suitable table structure). [10]

P.T.O.

**5.** Write short notes on (any *three*) :

[15]

- (a) Types of JDBC drivers
- (b) JSTL tags
- (c) RMI architecture
- (d) Session tracking in servlet.

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[4972]-4001

**M.C.M. (Fourth Semester) EXAMINATION, 2016**

**401 : CURRENT TRENDS IN IT**

**(2013 PATTERN)**

**Time : 2½ Hours**

**Maximum Marks : 50**

- N.B. :—**
- (i) Question No. 1 and 6 are compulsory.
  - (ii) Attempt any 2 questions from the remaining.
  - (iii) Support your answer with relevant examples and diagram.
  - (iv) Figures to the right indicate full marks.

1. An autonomous management institute has started distance learning CCNA programme for working network professional. Institute is interested in conducting online admission process, virtual teaching and exam. As a IT consultant suggest various models of e-learning and justify your suggestion. [15]
2. Explain e-learning models in brief. [10]
3. Explain the types of cloud in brief. [10]
4. Explain the role of social networking sites in this recent era. [10]
5. What is m-commerce ? Discuss the various m-commerce security issues. [10]

P.T.O.

**6.** Write short notes (any *three*) :

[15]

- (i) Paypal
- (ii) Content management
- (iii) Chat and instant messaging
- (iv) m-wallet.