

Total No. of Questions : 5]

SEAT No. :

**P3587**

[Total No. of Pages : 2

[6028]-101

**F.Y. M.B.A. (I.T.)**

**101 (Core) : C PROGRAMMING & DATA STRUCTURE**

**(2020 Pattern) (Semester -I)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

**Q1) Solve any five:**

**[10]**

- a) Differentiate between identifiers & keywords.
- b) f printf ( ) in C.
- c) Differentiate between System flow chart & Program flow chart.
- d) Characteristics of static variables.
- e) scanf ( ) in C.
- f) getch ( ) & getchr ( ) in C.
- g) Union in C.

**Q2) Answer the following (Any Two)**

**[10]**

- a) Explain loops in C Programming.
- b) Explain call by value & call by Reference.
- c) Explain ternary operator in C.

**P.T.O.**

**Q3)** Write a Program to find largest & smallest elements in an Array of Integers.[10]

OR

Write a Program to print all Integer Prime Numbers of given Number (User Input). [10]

**Q4)** Write a C Program to create a structure named “student” with members for student Name, Roll No. & Marks in three subjects. [10]

OR

Write a C Program to Print Triangles as shown :- [10]

```
1
3 5
7 9 11
13 15 17 19
```

**Q5)** Write a C Program that reads a text file containing a list of Integers and calculate the SUM and AVERAGE of the numbers. [10]

OR

Write a C Program that takes an Array of Integers as Input and finds the second smallest element in the Array using pointers. [10]



Total No. of Questions : 5]

SEAT No. :

P-3588

[Total No. of Pages : 2

[6028]-102

M.B.A. (IT)

**102 : SOFTWARE ENGINEERING WITH UML**

**(2020 Pattern) (Semester - I)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Draw neat labeled diagrams wherever necessary.*
- 3) *All questions are equal marks.*

**Q1)** Solve any five (each 2 marks) :

**[5 × 2 = 10]**

- a) Write any four advantages of water fall model.
- b) Explain nature & software.
- c) Define basic components of software system.
- d) Write any four roles & users in SDLC.
- e) Distinguish RAD model and prototyping model.
- f) Explain in short software development approach with SSAD.
- g) What is SDLC? List any four types of SDLC model.
- h) What is RUP? Write any four phases of RUP.

**Q2)** Write short note on (any two) :

**[2 × 5 = 10]**

- a) Inheritance and polymorphism.
- b) OOAD Abstraction and Encapsulation.
- c) OOAD Association and Links.

**Q3)** Prepare SRS document for Railway Reservation system. The overall functionality is as follows : **[10]**

- a) Registration of passengers
- b) Ticket booking
- c) Train details
- d) Payment

**P.T.O.**

OR

Explain Decision table and decision trees. Draw decision table for the following :

The overall functionality of “Catering system” Covers :

- a) Customer registration gender - wise
- b) Collection of orders only for advance payment 50%
- c) Delivery of orders based on customer satisfaction.

**Q4)** Demonstrate use-case driven object oriented analysis for ATM web Application. **[10]**

OR

Draw sequence and collaboration diagram for CAB management system which provides the facility for the people to register with their personal details. Drivers are also register with their personal details and CAB information. This system is used to provide pickup and drop service for customers.

**Q5)** Design uses interface for employee management system which shows details of employees. **[10]**

OR

Explain various elements of good UI design and design issues.



Total No. of Questions : 5]

SEAT No. :

**P-3589**

[Total No. of Pages : 2

**[6028]-103**

**M.B.A. (I.T.)**

**103 : DATABASE MANAGEMENT SYSTEM**

**(2020 Pattern) (Semester - I)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

**Q1) Answer of Any Five :**

**[10]**

- a) Define Database.
- b) Define Data Independence.
- c) Why Database recovery needed.
- d) Define checkpoints
- e) Define public key.
- f) What is security and integrity.
- g) Define Atomicity.
- h) Define logical view.

**Q2) Solve Any Two :**

**[10]**

- a) Explain Aggregation with suitable example.
- b) Explain various state of transactions.
- c) Define primary key. Explain two phase locking.

***P.T.O.***

**Q3) What is cardinality? Give example of following relationship. [10]**

- a) Many to One
- b) One to One
- c) One to Many
- d) Many to Many

OR

Assume that  $T_i$  requests a lock held by  $T_j$ . The following table summarizes the actions takes for wait-die-and wound-wait scheme.

|                             | Wait-die scheme | wound-wait scheme |
|-----------------------------|-----------------|-------------------|
| $T_i$ is younger than $T_j$ | KI              | X                 |
| $T_i$ is older than $T_j$   | Y               | Z                 |

**Q4) Demonstrate relational Algebra with proper example. [10]**

OR

Create employee table with following attributes employee (E-id, E-name, Dept-id Salary)

- a) Insert 5 records in employee table.
- b) Print employee who are working in Dept-id=10
- c) Print count of employee working in Dept-id=10
- d) Print employee name starting with 'A' letter.

**Q5) Demonstrate normalization with suitable example. [10]**

OR

Demonstrate different types of functional dependencies with suitable example.



Total No. of Questions : 6]

SEAT No. :

**P3590**

[Total No. of Pages : 1

[6028]-104

**First Year M.B.A. (I.T.)**

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

**(2020 Pattern) (Semester - I)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *Q.1 and Q.6 are compulsory.*
- 2) *Solve any 3 questions from Q.2 to Q.5.*

**Q1) Solve All.**

**[5×2=10]**

- a) Define Organizational Behaviour.
- b) Define group dynamics.
- c) Define managerial functions.
- d) Transactional analysis.
- e) Define conflict.

**Q2) Explain in detail about Taylor Fayol theory.**

**[10]**

**Q3) Explain the reasons for inter group conflicts. What strategies you will apply to avoid these conflicts?**

**[10]**

**Q4) “Controlling is most important function of management”. Discuss with an example.**

**[10]**

**Q5) Explain decision making and it’s various types with suitable example.**

**[10]**

**Q6) Write short note on (Any 2).**

**[2×5=10]**

- a) MIS
- b) Theory X,Y,Z
- c) Team Building



Total No. of Questions : 5]

SEAT No. :

**P-3591**

[Total No. of Pages : 2

**[6028]-105**

**M.B.A. (IT)**

**105 : FUNDAMENTALS OF INFORMATION TECHNOLOGY**

**(2020 Pattern) (Semester - I)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicates full marks.*

**Q1)** Answer the following (Any 5) :

**[10]**

- a) Define data and information.
- b) What are the different types of ROM?
- c) What are the different types of number system?
- d) What is EBCDIC?
- e) What are the functions of operating system?
- f) What is multiprocessing?
- g) What is function of interpreter?
- h) What are types of networks?

**Q2)** Answer the following (Any 2) :

**[10]**

- a) What is memory? Differentiate between RAM and ROM.
- b) What is microprocessor? Explain its types in detail.
- c) Explain language converter with its types.

**P.T.O.**



**Q3) Convert the following :** **[10]**

a) i)  $(150)_{10} = (?)_2$

ii)  $(726)_8 = (?)_{10}$

OR

b) i)  $(326)_8 = (?)_2$

ii)  $(10110.001)_2 = (?)_{10}$

**Q4) Answer the following :** **[10]**

a) i) Differentiate between memory management and file management. **[4]**

ii) Explain batch processing and spooling in detail. **[6]**

OR

b) i) Explain CPU scheduling in detail. **[4]**

ii) Differentiate between high level language and low level language. **[6]**

**Q5) Answer the following :** **[10]**

a) i) Draw digital block diagram of computer. Explain function of input output devices. **[4]**

ii) What is topology? Explain any two with proper diagram. **[6]**

OR

b) i) What is input device? Explain scanning devices in detail. **[4]**

ii) Draw the ISO - OSI model. Write down the function of any two layers. **[6]**



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**P3592**

SEAT No. :   
[Total No. of Pages : 2

**[6028]-106**  
**First Year M.B.A.(I.T.)**  
**106 Core : DIGITAL MARKETING**  
**(2020 Pattern) (Semester -I)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) Assume Suitable Data if necessary.*
- 2) Draw neat, labelled diagram whenever necessary.*
- 3) Figures to the right indicate full marks.*
- 4) All questions are compulsory.*

**Q1) Solve any Five**

**[10]**

- a) Define marketing?
- b) what do you mean by selling?
- c) What is market?
- d) What is advertisement?
- e) What is digital marketing?
- f) What is content marketing?
- g) What is email marketing?
- h) State any two advantages of digital marketing?

**Q2) Solve any two**

**[10]**

- a) Explain the concept of Email Marketing?
- b) State the any one types of social Media Marketing in brief?
- c) Explain the elements of M- commerce?

**Q3) Solve any One**

**[10]**

- a) What are SEO and explain the concept of SEO?
- b) Explain characteristics, merits and demerits of M-Commerce?

**P.T.O.**

**Q4) Solve any One**

**[10]**

- a) Explain video marketing and display Marketing in details?
- b) Explain in Details, how digital marketing differ from traditional marketing?

**Q5) Solve any One**

**[10]**

- a) Discuss the role of social media in digital marketing?
- b) Explain the Fundamental Principles of Digital marketing with respect to Social Media platform?



Total No. of Questions : 5]  
**P3593**

SEAT No. :   
[Total No. of Pages : 2

**[6028]-107**  
**F.Y. M.B.A.(I.T.)**  
**107 UL : E - COMMERCE**  
**(2020 Pattern) (Semester -I)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *Assume Suitable Data if necessary.*
- 2) *Draw neat, labeled diagram.*
- 3) *Figures to the right indicate full marks.*
- 4) *All questions are compulsory.*

**Q1)** Solve any Five

- a) Benefits of ecommerce [2]
- b) Define ecommerce [2]
- c) What are different modes of operation on associated with ecommerce.[2]
- d) Characteristics of Internet [2]
- e) Role of cookies in ecommerce [2]
- f) WWW. EBAY.com [2]
- g) Paypal [2]
- h) C2C ecommerce? [2]

**Q2)** Solve any two

- a) What is ecommerce? Explain functions of ecommerce [5]
- b) The requirement & uplift of the role of internet & web in ecommerce is tremendous Justify - the statement. [5]
- c) What is shopping cart? Explain different types of shopping carts. [5]

**P.T.O.**

**Q3) Solve any One:**

- a) What is ecommerce? Explain different types of ecommerce. [10]
- b) Explain different types of online payment options in Electronic Fund Transfer (EFT). [10]

**Q4) Solve any One :**

- a) What are different pre requisites for ecommerce? Explain its merits & demerits. [10]
- b) What are uniform resource locators? How does internet protocol help uniform resource locators? [10]

**Q5) Solve any One :**

- a) What are the goals of ecommerce? What is the difference between B2B & B2C business model? [10]
- b) What are the different components of internet? Explain the scope of ecommerce with respect to internet components [10]



Total No. of Questions : 5]

SEAT No. :

P-3594

[Total No. of Pages : 2

[6028]-108

M.B.A. (I.T.)

108 : WEB DESIGNING

(2020 Pattern) (Semester - I)

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Each question having 10 marks.
- 3) Figures to the right indicate full marks.

Q1) Explain the Tags (any 5) :

[10]

- a) <body> ... </body>
- b) <area>
- c) <caption align = "value"></caption>
- d) <div>...</div>
- e) <form> ... </form>
- f) <label> ... </label>
- g) <legend>... </legend>
- h) <marquee>... </marquee>

Q2) Solve any 2 :

[10]

- a) Explain Control Structures in VBScript with suitable examples.
- b) Explain error handling in Jscript with an example.

P.T.O.

c) Write an HTML Code to draw a table.

|                                       |  |
|---------------------------------------|--|
| Name :                                | <input type="text"/>                                       |
| Password                              | <input type="text"/>                                       |
| Confirm Password                      | <input type="text"/>                                       |
| City                                  | <input type="text" value="Select City ▼"/>                 |
| Gender                                | <input type="radio"/> Male<br><input type="radio"/> Female |
| Gmail                                 | <input type="text"/>                                       |
| <input type="button" value="Submit"/> |  |

**Q3)** Answer the following (any 1) : **[10]**

- a) Demonstrate Bitwise operate in JScript.
- b) Explain Logical operators in VB Script with an Example.

**Q4)** Solve (any 1) : **[10]**

- a) Explain Functions in VB script? With an example?
- b) Create a simple multiplication table asking the user the number of rows and columns he wants.

**Q5)** Solve (any one) : **[10]**

- a) Explain various types of Style Sheets in HTML. At least 3. five types are required.
- b) Create a code in Jscript where with in click event message is displayed with the particular name

Click on the button after inputting your name into the text box:

|                                  |   |
|----------------------------------|---|
| <input type="text" value="ram"/> | <input type="button" value="Click Here"/> |
|----------------------------------|---|



Total No. of Questions : 5]

SEAT No. :

P-3595

[Total No. Of Pages : 2

[6028]-109

M.B.A.IT

(109 UL): Cyber Security  
(2020 Pattern) (Semester-I)

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

**Q1) Solve any Five:**

**[10]**

- a) Which of the following is defined as an attempt to harm, damage or cause threat to a system or network.
- |                       |                  |
|-----------------------|------------------|
| i) Digital crime      | ii) Threats      |
| iii) System hijacking | iv) Cyber attack |
- b) Name the types of cyber security.
- c) Which algorithm is used to protect email messages?
- d) Define encryption
- e) Define topology
- f) List the types of cyber attack
- g) Define WAF
- h) What are grey hat hackers?

**Q2) Answer any Two:**

**[10]**

- a) Explain security architecture and models.
- b) Explain security management practices.
- c) Explain computer forensics.

**P.T.O**



**Q3) Answer any One:**

**[10]**

- a) What are the components of wireless networks and also explain the security issues in it.
- b) Explain the different encryption techniques in detail.

**Q4) Answer any One:**

**[10]**

- a) Explain in detail about security in multimedia networks across various computing platforms.
- b) Explain the different network topologies in detail with advantages and disadvantages.

**Q5) Answer any One:**

**[10]**

- a) Explain the different types of cyber attack
- b) What is information security audit? Explain how it is done in ecommerce applications.



Total No. of Questions : 5]

SEAT No. :

P-3596

[Total No. of Pages : 2

[6028]-201

F.Y. M.B.A. (IT)

**201 SD Core: JAVA PROGRAMMING**

**(2020 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Each question carries 10 marks.*

**Q1)** Define the terms (any FIVE) :

- a) Object
- b) Inheritance
- c) Swing
- d) Constructor
- e) Interface
- f) Key listener
- g) Exception
- h) Stream

**Q2)** Answer any TWO :

- a) Explain any four features of Java.
- b) Describe the purpose of JDK. Mention some tools of JDK and their purpose.
- c) Explain various stages in applet life cycle.

*P.T.O.*

- Q3)** a) Write a java program to create abstract class Shape with methods calculate-area and display-area. Derive two classes Circle(radius), Rectangle(length, breadth) from it. Calculate area and display the area of all classes.

OR

- b) Write a Java program to create a class Employee with data member as name and Salary. Accept data of five employee and display details with total salary of all Employee.

- Q4)** a) Write a program that accepts two numbers and a operator like (+, -, \*, /) as command line arguments and perform the appropriate operation indicated by the operator. If user enters any other character, fire user-defined exception with appropriate message “Invalid Character Exception”.

OR

- b) Write a java program to copy the content of one text file into another.

- Q5)** a) Write an applet that accepts a string in a text field and program should reverse the string and display it.

OR

- b) Write an application using swing which contains a Text fields and accept a number and displays an error message if that is not a number else display the sum of digits.



Total No. of Questions : 5]

SEAT No. :

P-3597

[Total No. of Pages : 2

**[6028]-202**  
**M.B.A. (IT)**  
**201 NT: BASICS OF NETWORKING**  
**(2020 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) All questions are compulsory.*
- 2) All questions carry equal marks.*

**Q1)** Define the following terms (any five) :

**[ 5 × 2 = 10]**

- a) Topology.
- b) Computer Network.
- c) Internet.
- d) Intranet.
- e) Firewall.
- f) SMTP.
- g) IPv4 and IPv6.
- h) VPN.

**Q2)** Answer (any 2) :

**[ 2 × 5 = 10]**

- a) What is Networking? Illustrate different types of Network.
- b) Differentiate between Host terminal Network & Client Server Network.
- c) Demonstrate network protocol TCP/IP.

*P.T.O.*

**Q3)** a) Explain different types of Network components. **[10]**

OR

b) Demonstrate the role of DHCP? Give the configuring steps of DHCP server for Windows-2012.

**Q4)** a) You are a network Engineer of an ABC company design a network to connect 25 systems using Windows Server 2008 & draft the steps for its installation. **[10]**

OR

b) How does Active Directory & Domain Controller can help the server administrator in tracking the user accounts.

**Q5)** a) List User Management & Group Management commands in Windows Server 2012 in detail. **[10]**

OR

b) Explain features of various types of Windows Server-2008.



Total No. of Questions: 5]

SEAT No. :

**P3598**

**[6028]-203**

[Total No. of Pages : 2

**First Year M.B.A. (I.T.)**

**201ST : INTRODUCTION TO SOFTWARE TESTING LIFE CYCLE  
(2020 Pattern) (Semester-II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) All questions are compulsory.*
- 2) Each question having 10 marks.*
- 3) Figures to the right indicate full marks.*

**Q1)** Define the following terms (Any Five)

- a) Testing
- b) Verification
- c) Functional Testing
- d) Requirements Tracing
- e) Thread
- f) Grey Box Testing
- g) Test Execution
- h) Contracted Software

**Q2)** Answer any two of the following.

- a) Describe phases of STLC?
- b) What is the Level of Testing?
- c) What is Incremental Testing?

**Q3)** Answer any one of the following.

- a) Explain Defect Life Cycle?
- b) Explain Software Testing Techniques in short?

**P.T.O.**

**Q4)** Answer any one of the following.

- a) How to build a Penetration Point Matrix? Give suitable example?
- b) Describe Contract Provisions from the User's Perspective?

**Q5)** Answer any one of the following.

- a) Explain Internal Control and its Component?
- b) How to build steps to better Application Security Strategies?



Total No. of Questions : 5]

SEAT No. :

P-3599

[Total No. of Pages : 2

[6028]-204

F.Y. M.B.A. (IT)

**202 SD (Core): MOBILE PROGRAMMING USING ANDROID  
(2020 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions carry equal marks.*
- 2) *Each question carries 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Solve any FIVE of the following :**

**[ 5 × 2 = 10]**

- a) Enlist various versions of Android.
- b) What is SDK?
- c) List important files and folders in Android List components of Android application.
- d) What is mean by fragment?
- e) What are attributes of Textview?
- f) Define Toast in Android.
- g) What role does Linux Kernel plays in Android devices?
- h) Explain attributes “Wrap\_content” and “match\_parent” with respect to view group.

**Q2) Write short notes on (Any Two) :**

**[ 2 × 5 = 10]**

- a) Command Button.
- b) R.Java file.
- c) SQLite Database.

*P.T.O.*



**Q3) Solve any ONE of the following :** [10]

- a) Explain Android architecture in detail.
- b) What is the use of Manifest.xml file in any Android application?

**Q4) Solve any ONE of the following :** [10]

- a) Define Intents? Explain different types of Intents with example.
- b) What is activity? Explain activity life cycle.

**Q5) Solve any ONE of the following :** [10]

- a) Design a Android App which contains explicit intent to pass message from one intent to another.
- b) Design an XML code to display Login Screen using Table Layout.



Total No. of Questions : 5]

SEAT No. :

**P-3600**

[Total No. of Pages : 2

**[6028]-205**

**F.Y. M.B.A. (IT)**

**202-NT Core : SERVER AND DESKTOP TECHNOLOGIES  
(2020 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Each questions having 10 marks.*
- 3) *Figures to the right indicate marks for individual questions.*

**Q1)** Give the answers in short (Solve any five) :

**[5 × 2 = 10]**

- a) What is BIOS?
- b) Explain the roll of TCP/IP.
- c) Explain the term trouble shooting.
- d) Define the term Datapath.
- e) What is an antivirus?
- f) What do you mean by an Interrupts?
- g) Define the term Wi-fi.
- h) Explain Profile Management in windows OS.

**Q2)** Solve any two :

**[2 × 5 = 10]**

- a) Explain Rack and Tower servers with their applications.
- b) What is booting? What is difference between cold and worm booting?
- c) Explain types of printers with their applications?

**Q3)** Solve any one of the following :

**[10]**

- a) Draw overall look of Mother board with their components and various interfaces.
- b) Explain at least 5 different booting problems with solutions.

**P.T.O.**

**Q4)** Solve any one of the following : **[10]**

- a) Explain with block diagram the 80286 bits microprocessor Architecture.
- b) Explain the various steps to installing Windows 8.

**Q5)** Write descriptive short note on any of the two : **[2 × 5 = 10]**

- a) Explain the working of Laser printer.
- b) Various programmed controlled.
- c) Recovery console for windows 8 patrician.



Total No. of Questions: 5]

SEAT No. :

**P3601**

**[6028]-206**

[Total No. of Pages : 2

**F.Y.M.B.A. (I.T.)**

**202ST : SOFTWARE QUALITY ASSURANCE**

**(2020 Pattern) (Semester-II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Each Question having 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Give the answers in short (Solve any 5 each having 2 marks) [5×2=10]**

- a) Define Software faults.
- b) List the causes of software errors.
- c) Explain walkthrough process.
- d) List quality management standards.
- e) Who performs a contract review?
- f) What are reviews?
- g) Define verification.
- h) List models of software development process.

**Q2) Solve any two (each of 5 marks) [2×5=10]**

- a) Explain software testing.
- b) Elaborate various software maintenance components.
- c) Explain SQA objectives.

**Q3) Solve any one of the following. [10]**

- a) Explain contract review objectives.
- b) Draw the SQA architecture and explain six classes of componets.

**P.T.O.**

**Q4) Solve any One of the following. [10]**

- a) Explain how Capability Maturity Models (CMM/CMMI) helps quality management standards?
- b) What are the three factor categories belonging to McCall's factor model?

**Q5) Write descriptive note on any two: [2×5=10]**

- a) CASE tools
- b) ISO 9000-3 guiding principles.
- c) Software configuration management.



Total No. of Questions : 5]

SEAT No. :

**P-3602**

[Total No. of Pages : 2

**[6028]-207**

**M.B.A. (IT)**

**203: BUSINESS PROCESS DOMAIN**

**(2020 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Draw neat labelled diagram wherever necessary.*
- 3) *Figures to the right indicate full marks.*

**Q1) Solve any five :**

**[10]**

- a) Define BOM?
- b) Define PLC?
- c) Define MRP?
- d) Define EOQ?
- e) Define LIFO?
- f) What is Ratio analysis?
- g) Define Product?
- h) Define Accounting?

**Q2) Solve any two :**

**[10]**

- a) Explain labour efficiency and productivity?
- b) Explain BOM processing with product configuration?
- c) Write Short notes on :
  - i) Sales budgeting
  - ii) Retail Marketing

**P.T.O.**

**Q3)** Solve any one : **[10]**

- a) Explain Payroll system in an organisation and draw the format of salary slip.
- b) Explain in detail various techniques of recruitment and explain flow of information with proper diagram.

**Q4)** Solve any one : **[10]**

- a) Explain in detail Ratio analysis with suitable example on any 3 ratios.
- b) Define Journal and explain in detail how to make Journal entries?

**Q5)** Solve any one : **[10]**

- a) Define forecasting and explain in detail demand forecasting.
- b) What is CRM? and give difference between CRM and SCM in detail.



Total No. of Questions : 5]

SEAT No. :

**P-3603**

[Total No. of Pages : 2

**[6028]-208**  
**F.Y. M.B.A. (IT)**  
**204(Core) : ORACLE**  
**(2020 Pattern) (Semester - II)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Each questions having 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Consider the following table to solve ANY FIVE the following SQL queries:**

Employees (emp-id, emp\_name, salary, commission\_pct, hire\_date, manager\_id, job\_title, dept\_no) Departments (dept\_no, department\_name, location)

- a) Create above tables with suitable constraints.
- b) Display unique department numbers from employees table.
- c) Display the emp\_name of employees whose third letter should contains the character 'a'.
- d) Add column e-mail in employees table.
- e) Display department wise salary of an employees.
- f) Delete the records of employees whose salary is less than 12000.
- g) Display the emp\_name, department number and department name for all employees.
- h) Display the emp\_id and emp\_name along with their manager's name.

**Q2) Write short notes on(ANY TWO) :**

- a) Group By clause
- b) Date functions
- c) Trigger

**P.T.O.**



**Q3) Solve any ONE of the following :**

- a) Explain different types of Join operations with example.
- b) What is meant by Constraints? Explain different types of constraints in Oracle.

**Q4) Solve any ONE of the following :**

- a) What is mean by Cursor? Explain different types of Cursor in Oracle.
- b) Explain different SQL functions available in oracle.

**Q5) Solve any ONE of the following :**

- a) Write a Cursor to display first five records of employee table.
- b) Write a Function odd\_or\_even() to test whether the input number is ODD or EVEN.



Total No. of Questions : 5]

SEAT No. :

**P-3604**

[Total No. of Pages : 2

**[6028]-209**

**M.B.A. (Information Technology)**

**205 : CLOUD INFRASTRUCTURE & SERVICES**

**(2020 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) All Questions are compulsory.*
- 2) Each Question having 10 marks.*
- 3) Figures to the right indicate full marks.*

**Q1) Define the following terms (Any Five)**

- a) PaaS
- b) VLANandVSAN
- c) Concept behind Hypervisor
- d) Cloud Migration
- e) Advantages of Cloud Storage
- f) VM Vulnerabilities
- g) Cloud Resource Monitoring
- h) Cloud Auto-Scaling

**Q2) Answer any two of the following.**

- a) What are different levels of RAID?
- b) Why Data Security is important to Business?
- c) How does Hypervisor work in Virtualization?

***P.T.O.***

**Q3) Answer any one of the following.**

- a) Explain Block Level Storage and File Level Storage in SAN?
- b) Explain Intelligent Storage System?

**Q4) Answer any one of the following.**

- a) Explain Cloud Infrastructure Management and Service Creation Tools?
- b) How would you secure data for transport in Cloud?

**Q5) Answer any one of the following.**

- a) How to assume the basic terminology of Information Security?
- b) How do you quote the Security Concerns to Cloud Security to protect the Threats?

**x x x**

Total No. of Questions: 5]

SEAT No. :

**P3605**

**[6028]-210**

[Total No. of Pages : 2

**F.Y.M.B.A. (I.T.)**

**206 Core - SOFTWARE PROJECT MANAGEMENT**

**(2020 Pattern) (Semester-II)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions carry equal marks.*
- 2) *Each questions having 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1)** Solve any Five of the following.

- a) What are different activities under technical project management.
- b) What are different types of risks in software project?
- c) What are different techniques for software quality assurance?
- d) What is strategic and technical assessment in Project Planning.
- e) Wht are different key attributes of quality software?
- f) What is role of Client and users in project management?
- g) Write the goals of Project management.
- h) What is mean by dynamic system development?

**Q2)** Write short notes on (Any two)

- a) Risk management in software project
- b) Extreme programming
- c) Defect Management

**Q3)** Solve any one of the following

- a) Define software project management. How software projects are differ from other type of project?
- b) What are software process model? Explain briefly the waterfall model of software development.

**P.T.O.**

**Q4)** Solve any One of the following

- a) Explain COCOMO model with an example.
- b) Explain the different levels of CMM and its advantages.

**Q5)** Solve any one of the following

- a) Explain PERT a tool risk management.
- b) Explain difference between Software engineering and SPM.



Total No. of Questions: 5]

SEAT No. :

**P3606**

**[6028]-211**

[Total No. of Pages : 2

**F.Y. M.B.A. (Information Technolgoy)  
207 UL : CURRENT TRENDS IN IT  
(2020 Pattern) (Semester-II)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Draw neat diagrams whenever necessary.*
- 3) *Every Question carries 10 marks.*

**Q1) Answer any Five out of Eight (2 marks each)**

**[10]**

- a) Define Social Media Marketing.
- b) Explain the most popular social media platforms.
- c) What is Digital Classroom?
- d) Explain EDM.
- e) Explain the different applications of E-learning.
- f) Explain the Google meet.
- g) Explain POS.
- h) Explain PayTm.

**Q2) Answer any Two out of Three (5 Marks each)**

**[10]**

- a) Explain Social Networking security measures with examples.
- b) What are the different challenges to adapt digitalization?
- c) Explain the Content Management System with examples.

**Q3) a) “M-Commerce” is need of the era. Explain the statement.**

**[10]**

OR

b) “E-Commerce is main pillar of this digital era”. Explain.

**[10]**

**P.T.O.**

**Q4) a)** Explain Enterprise Content Management with their entire process. **[10]**

OR

b) Explain Virtual School system with their applications. **[10]**

**Q5) a)** Make the comparison in e-Learning Models: WBT & CBT, LMS and LCMS. **[10]**

OR

b) Explain the feature of E-Payment. **[10]**



Total No. of Questions: 5]

SEAT No. :

**P3607**

**[6028]-212**

[Total No. of Pages : 2

**First Year M.B.A. (Information Technolgoy)**  
**208UL : BASICS OF BUSINESS ANALYTICS**  
**(2020 Pattern) (Semester-II)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Each question carries 10 marks.*
- 3) *Each questions has internal option.*

**Q1) Define the below given terms (Any 5)**

**[5×2=10]**

- a) Knowledge
- b) Big Data
- c) Hadoop streaming
- d) Business Analytics
- e) Digital Data
- f) Date Science
- g) Business Intelligen
- h) Descriptive Analytics

**Q2) Answer any two questions out of three**

**[2×5=10]**

- a) List down the skills required for a good business analyst.
- b) Differentiate between Data Analyst vs Bussiness Analyst.
- c) Write a short note on Infoshese Big Insights.

**Q3) Answer any one question out of two.**

**[10]**

- a) Explain the characteristics of Big data in detail.
- b) Explain the role of business analytics in improving decision making process.

**P.T.O.**



**Q4)** Answer any one question out of two. **[10]**

- a) How analytics is helpful to enhance the efficiency and productivity in retail industry.
- b) Elaborate the types of analytics in detail.

**Q5)** Answer any one question out of two. **[10]**

- a) How analytics can be helpful in promoting your product in social media.
- b) “Data is new oil”. Discuss.



Total No. of Questions : 5]

SEAT No. :

**P-3608**

[Total No. of Pages : 2

**[6028]-213**

**M.B.A. (IT)**

**209-UL : INFORMATION SYSTEM AUDIT  
(2020 Pattern) (Semester - III)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Each question carries 10 marks.*
- 3) *Figures to right indicate full marks.*

**Q1) Solve any 5 :**

**[10]**

- a) What is internet?
- b) What is ciphertent?
- c) Name 3 pillars of information security.
- d) Explain managed phase in CMM.
- e) What is proxy firewall?
- f) What are patents?
- g) What are the phases of PDCA?
- h) What is ISMS?

**Q2) Answer any two :**

**[10]**

- a) Explain security features in VPN.
- b) What is information system? Give the importance of managing security of information system.
- c) What are the benefits of internet? Give the evolution of global information system.

**Q3) Answer the following :**

**[10]**

- a) Explain cryptographic techniques.
- b) Explain IDS of information system.

**P.T.O.**

**Q4)** Explain the following :

**[10]**

- a) Explain security considerations for mobile workforce.
- b) Give the significance of physical security and biometric controls for protecting information security asset.

**Q5)** Short notes (any 2) :

**[2 × 5 = 10]**

- a) Explain COBIT.
- b) Business continuity planning.
- c) Explain need of security audit in organisation.
- d) Types of Firewall.
- e) IPR



Total No. of Questions : 5]

SEAT No. :

**P-3609**

[Total No. of Pages : 2

**[6028]-301**

**M.B.A. (Information Technology)**

**SD CORE 301SD : Program and Design with Asp.net**

**(2020 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) All Questions are compulsory and carry equal marks.*
- 2) Draw necessary diagram wherever required.*
- 3) Figures to the right indicate full marks.*

**Q1) Solve any five**

**[10]**

- a) What is debugging?
- b) What is interfaces?
- c) What is Collector?
- d) Define Garbage Collector?
- e) Define Type Comparison?
- f) Explain variable & Operators?
- g) What are methods in C#?
- h) What are properties of class?

**Q2) Solve any two**

**[10]**

- a) Explain in detail the difference between Type Comparison and Value Comparison?
- b) Explain event Handler in details?
- c) Explain in detail exception handling with system defined and user defined?

**P.T.O.**

**Q3) Solve any one**

**[10]**

- a) Explain and Define Webforms. With standard control - class, button in details?
- b) Explain the following controls in details.
  - i) Image map Control
  - ii) Check box list control.

**Q4) Solve any one**

**[10]**

- a) Explain in details validators and its type?
- b) Design a form and write the following code to :
  - Displaying Item details in a drop down list.
  - Select item from list and display it detail on the text box.
  - Using connected DB - Add Nam of Table in Item Master (Item id, Title, price, Quantity)

**Q5) Solve any one**

**[10]**

- a) Explain with neat labelled diagram Asp.net Architecture in detail?
- b) Explain in detail Webservices in Asp.net in details?

**x x x**

Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P 3610**

[6028]-302

**S.Y.M.B.A. (IT)**

**301 NT : ADVANCE COMPUTER NETWORK**

**(2020 Pattern) (Semester -III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Each question Carry 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1)** State the functions of protocol (any 5)

**[5×2=10]**

- a) TFTP
- b) TELNET
- c) RTSP
- d) SMTP
- e) RSVP
- f) WAP
- g) SIP
- h) P2P

**Q2)** Solve (any 2)

**[2×5=10]**

- a) Discuss LAN emulation & state the functions of LAN.
- b) Explain briefly switching & types of switching fabrics.
- c) Explain Digital signatures and its importance in Cryptography.

**P.T.O.**

**Q3) Solve (any 1) [1×10=10]**

a) Describe the elements of application protocols?

OR

b) Discuss the importance of mobility management in Wireless LAN.

**Q4) Solve (any 1) [1×10=10]**

a) Illustrate the challenges to remove Jitter & packets loss during continuous playback of streamed Video Data.

OR

b) Can you distinguish between Integrated and differentiated services.

**Q5) Solve (any 1) [1×10=10]**

a) Enlist the authentication protocols and its characteristics.

OR

b) Compare client server, Peer to Peer & Hybrid Networking.



Total No. of Questions : 5]

SEAT No. :

P-3611

[Total No. of Pages : 2

[6028]-303

M.B.A. (IT)

**301ST : SOFTWARE TEST PLANNING AND  
DOCUMENTATION**

**(2020 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Each question carries 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Solve any 5 :**

**[10]**

- a) What is the relation between test case and test data?
- b) What is Test procedure?
- c) What is database test case?
- d) Is test data mandatory for every test case?
- e) What are stubs?
- f) What is RTM (Requirement Trace ability Matrix)?
- g) What is API testing?
- h) Name any two tools to prepare test report.

**Q2) Answer any two :**

**[10]**

- a) Explain the risk associated with software testing.
- b) What are testing objectives?
- c) Explain incremental test in detail.

**Q3) Answer the following :**

**[10]**

- a) Explain test scripts.
- b) Explain user's and tester's role.

**P.T.O.**



**Q4) Answer the following :** **[10]**

- a) Explain functional test cases.
- b) Write the test plan standards.

**Q5) Short notes (Any two) :** **[10]**

- a) Cause and effect diagram
- b) Defect management
- c) Use of tools in testing
- d) Regression analysis
- e) Stress test cases



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P3612**

[6028]-304

**S.Y. M.B.A. (IT)**

**ADVANCED JAVA**

**302 SD Core : Advanced Java**

**(2020 Pattern) (Semester -III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *All questions carry equal marks.*

**Q1)** Define the terms (any FIVE).

- a) Socket
- b) Connection
- c) JNDI
- d) Java Bean
- e) Session
- f) UDP
- g) ResultSet
- h) Statement

**Q2)** Answer any TWO of the following.

- a) Explain HTTP Request and HTTP Response.
- b) Explain Life Cycle of servlet in detail.
- c) What is URL? Explain use of the URL Connection class with its four methods.

**P.T.O.**

**Q3)** a) Write a socket program to implement Chatting Application.

OR

b) Write a java socket program that runs on a server and echo's back all the strings after reversing sent by a clients. If the client sends a string 'Exit' the server program should terminate. Use port number 6666.

**Q4)** a) Write a servlet program to accept user name and password from an user if it is Valid then display "Welcome" message otherwise display "Error" message.

OR

b) Write a servlet which accept Bookno from user and display the details of that book to client(Book table has Bookno, Bookname and price as fields)

**Q5)** a) Write a JSP program to check whether given mail- id is valid or not. The mail -id Should contain one "@" symbol.

OR

b) Write JDBC code to display list of colleges having MBA (IT) course. Assume suitable Table structure.



Total No. of Questions : 5]

SEAT No. :

P-3613

[Total No. of Pages : 2

**[6028]-305**  
**M.B.A. (IT)**  
**302-NT : PARALLEL COMPUTING**  
**(2020 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) *All questions are compulsory.*
- 2) *Each question is of 10 marks.*
- 3) *Figures to the right indicate marks for individual questions.*

**Q1)** Give the answers in short (Solve any 5) :

**[5 × 2 = 10]**

- a) Explain Data Hazards.
- b) Define high performance computing.
- c) What is MISD?
- d) Explain Data Hazards.
- e) Elaborate Virtual Machine.
- f) Task Dependency in Parallel Computing.
- g) What is MIMD?
- h) Hybrid Model.

**Q2)** Solve any two :

**[2 × 5 = 10]**

- a) Explain classification of pipeline processor.
- b) Explain parallelism based on Grain size.
- c) List recent parallel programming models.

**Q3)** Solve any one of the following :

**[1 × 10 = 10]**

- a) What are disadvantages of data parallelism?
- b) Explain the Flynn's classification in parallel computing.

**P.T.O.**

**Q4)** Solve any one of the following :

**[1 × 10 = 10]**

- a) What are the advantages of parallel computing over sequential computing?
- b) What is the difference between scalar and vector processing?

**Q5)** Write descriptive note on any two :

**[2 × 5 = 10]**

- a) Hyper Threading Technology (HTT)
- b) Superscalar processing
- c) Inter connected network



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P 3614**

[6028]-306

**Second Year M.B.A. (I.T.)**

**SOFTWARE TESTING**

**302 ST Core : Agile Model & Methodology (AM & M)**

**(Revised 2020 Pattern) (Semester -III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) All questions are compulsory.*
- 2) Each question Carries 10 marks.*
- 3) Figures to the right indicate full marks.*

**Q1)** Define the following terms (Any Five).

- a) Agile Matrix.
- b) Backlog Management.
- c) Crystal.
- d) Extreme Programming.
- e) SCRUM Master.
- f) Test objective in Agility.
- g) Agile Knowledge Management.
- h) Agile Quality Assurance.

**Q2)** Answer any two of the following.

- a) Describe Agile Architecture?
- b) Describe various Tools in Agile Method?
- c) Explain FDD (Feature-Driven Development)?

**P.T.O.**

**Q3)** Answer any one of the following.

- a) Explain Adaptive Software Development in Agile Process?
- b) Explain the Role and Practices in Agile System Development Life Cycle?

**Q4)** Answer any one of the following.

- a) Explain Acceptance Criteria Assumptions in Agility Management?
- b) Describe Test Plan Standards criteria in Agile Project?

**Q5)** Answer any one of the following.

- a) Explain Financial and Production Metrics in FDD?
- b) How do you Setting up QA processes in an Agile environment?



Total No. of Questions : 5]

SEAT No. :

**P-3615**

[Total No. of Pages : 2

**[6028]-307**

**M.B.A. (I.T.)**

**303 : MANAGEMENT INFORMATION SYSTEM (MIS)**

**(2020 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw neat labelled diagram where ever necessary.*

**Q1) Solve any five :**

**[10]**

- a) What is CRM?
- b) What is ERP?
- c) What is Dataware housing?
- d) What is EIS?
- e) What is AI?
- f) What is Expert System?
- g) What is Proto typing?
- h) What is DSS?

**Q2) Solve any two :**

**[10]**

- a) What is the difference between public & private sector Information System?
- b) What is MIS office Automation?
- c) Write short notes on :
  - i) DSS
  - ii) EIS

**P.T.O.**



**Q3) Solve any one :** **[10]**

- a) Define ESS? How ESS is supportive to MIS for any Organisation. Explain with example?
- b) Why MIS Looked upon as a strategic need of a management and give details about its advantages and limitation of MIS?

**Q4) Solve any one :** **[10]**

- a) Difference between MIS & DSS and explain its component of DSS with diagram?
- b) Design a Database for Medical transcript of Medicine. Information System and implement the distributed system?

**Q5) Solve any one :** **[10]**

- a) Define prototyping and state its feature and given its advantages & disadvantages in detail?

OR

- b) Explain how one can provide Information Security and Control 10 MIS.



Total No. of Questions : 5]

SEAT No. :

**P3616**

[Total No. of Pages : 1

[6028]-308

**S.Y. M.B.A. (I.T.)**

**304 : DATA MINING**

**(2020 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *All questions carry equal marks.*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw diagram wherever necessary.*

**Q1) Define the following terms (Any five). [10]**

- a) DBMS
- b) Neural Network
- c) Clustering
- d) Association
- e) BI
- f) Frequency
- g) OLTP
- h) OLAP

**Q2) Answer the following questions (Any two). [10]**

- a) What is noise in data mining?
- b) What do you mean by web mining?
- c) What is SAS Data Mining?

**Q3) Answer the following questions (Any one). [10]**

- a) Draw a structure of data mining architecture and explain each component in brief.
- b) What is Machine learning? Explain any one application of machine learning.

**Q4) Answer the following questions (Any one). [10]**

- a) Differentiate between Predictive and Prescriptive Analysis.
- b) Differentiate between web structure and web usage mining.

**Q5) Answer the following questions (Any one). [10]**

- a) What is association? Explain any one association example in brief.
- b) List and explain the phases of data collection and processing for intruder detection.



Total No. of Questions : 5]

SEAT No. :

**P-3617**

[Total No. of Pages : 2

**[6028]-309**

**M.B.A. (I.T.)**

**306 : INTRODUCTION TO ANIMATION**

**(2020 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Each questions having 10 marks.*
- 3) *Figures to the right indicates full marks.*

**Q1)** Solve any five :

**[5 × 2 = 10]**

- a) What are Video Cards?
- b) Define algorithm?
- c) What is animation?
- d) What is HTML?
- e) What is an Operating System?
- f) What is CAD?
- g) What is Adobe Photoshop?
- h) Define different types of software use in animation?

**Q2)** Solve any two :

**[2 × 5 = 10]**

- a) What are the Elements of Design art?
- b) State or Explain any one elements of Design Art in brief?
- c) Explain the Element in Colour of Design Art in detail?

**P.T.O.**

**Q3) Solve any one :** **[10]**

- a) Explain the principle of Design?
- b) Explain Contrast movement in applied design?

**Q4) Solve any one :** **[10]**

- a) What are the basic requirement of Hardware & Software in Computer Graphic in detail?
- b) Explain in Details X Windows Open GL in Animation?

**Q5) Solve any one :** **[10]**

- a) What is a Script? How to write a Script for any type of Animated Videos?
- b) Explain in details the Fundamental principles of Animation?



Total No. of Questions : 5]

SEAT No. :

**P3618**

**[6028]-310**

[Total No. of Pages : 2

**S.Y. M.B.A.(I.T.)**

**307 UL : DATA WAREHOUSING**

**(2020 Pattern) (Semester -III)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions carry equal marks.*
- 2) *Each question having 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1)** Solve any Five of the following -

- a) What is mean by metadata?
- b) What is mean by OLAP?
- c) What is mean by Fact Table?
- d) What are the 5 key components of Data warehouse?
- e) What is mean by Dimension Table?
- f) What is data warehousing ?
- g) What is mean by Data Mart?
- h) What is difference between Data Mart and Data Warehouse?

**Q2)** Solve any Two of the following

- a) ETL Tools
- b) Tools for metadata management
- c) Roll Up and Drill - down operations

**Q3)** Solve any ONE of the following

- a) Explain ETL process in detail.
- b) What is schema? Explain different types of schemas in data warehouse.

**P.T.O.**

**Q4)** Solve any ONE of the following

- a) Explain the advantages and disadvantages of data warehouse.
- b) Explain Different types of data warehouse.

**Q5)** Solve any ONE of the following

- a) Explain Kimball's life cycle of Data warehouse in detail.
- b) Explain important responsibilities of team members while designing data warehouse.



Total No. of Questions : 5]

SEAT No. :

**P3619**

[Total No. of Pages : 2

**[6028]-311**

**S.Y. M.B.A.(I.T.)**

**308 UL: OOPS WITH CPP  
(2020 Pattern) (Semester -III)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All Questions are compulsory.*
- 2) *Each Question having 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Solve (any 5)**

**[10]**

- a) What is namespace conflict? How is it handled in C++?
- b) What is a generic program? How it is implemented in C++?
- c) What is a container? Explain the types of containers.
- d) What is a destructor? Give an example.
- e) Explain a prototyping function? How it can be implemented?
- f) What is the friend function?
- g) What is Run Time Type Identification?
- h) What is function overloading?

**Q2) Solve (any 2)**

**[10]**

- a) Explain static member function and static data member.
- b) What is the need for virtual base classes? Give an example to illustrate the need for a virtual base class.
- c) Explain with example, conversion from class type to built - in type?

**Q3) Answer the following (any 1)**

**[10]**

- a) Write a program to create a template class circular queue to implement insertion & deletion operations.
- b) Write a program to overload[] and != operators

**P.T.O.**

**Q4) Solve (any One )**

**[10]**

- a) Write a program to read the records from “Bank.txt” file & delete records of customers whose balance is less than 1000.
- b) A class contain following information as PRN, student - name, PER - marks. Write a program to perform following operation in the file.
  - i) Add record
  - ii) Display all record
  - iii) Modify record

**Q5) Solve (any 1)**

**[10]**

- a) A company has following details of their employees in the file ‘emp.dat’.
  - i) Emp ID
  - ii) Emp Name
  - iii) Emp Address
  - iv) Emp Dept (Admin/Sales/Production/IT)
  - v) Emp phone
  - vi) Emp AgeWrite a program to read the above file. Create new files such as Adm. dat, Sal. dat, Pro.dat, IT. dat respectively, to store the employee details according to their department. Email security
- b) Write a program to display the size of a file by accepting a filename as a command line argument.





Total No. of Questions : 5]

SEAT No. :

P-3620

[Total No. of Pages : 2

[6028]-312

M.B.A. (Information Technology)

309 UL : E - GOVERNANCE & FRAMEWORK OF ICT

(2020 Pattern) (Semester-III)

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All Questions are compulsory.*
- 2) *Each question carries 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Solve any 5**

**[10]**

- a) What is ICT?
- b) Name two fields of E-Governance in rural areas.
- c) How e-Governance empowers the citizens? Give two points.
- d) e-Rakam portal was launched by whom and what was the purpose?
- e) What is the term used to pour out one's grievance by using a website?
- f) Name the mobile payments application developed by National payments corporation of India based on UPI.
- g) Explain digital divide.
- h) Mention any one portal which include list of online courses.

**Q2) Solve any 2**

**[10]**

- a) Explain maturity model of E-Governance.
- b) What are the pillars of E-Governance.
- c) Explain SMAC.

**P.T.O.**

**Q3)** Explain national and international issues in E-Governance. [10]

**Q4)** Explain the emerging I.C.T. trends in E-Governance. [10]

**Q5) Write short notes (any two)** [10]

- a) Differentiate e-governance and e-government.
- b) Pervasive computing.
- c) Smart cities.
- d) Open web application security project (OWASP).
- e) Opportunities of E-Governance.



Total No. of Questions: 5]

SEAT No. :

[Total No. of Pages : 2

**P3621**

**[6028]-401**

**S.Y.M.B.A. (IT)**

**401: ENTERPRISE RESOURCE PLANNING  
(2020 Pattern) (Semester-IV)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Each question carries 10 marks.*
- 3) *Figures to the right indicate full marks.*

**Q1) Define the following terms (any 5)**

**[10]**

- a) BPR
- b) MRP
- c) ERP
- d) SOA
- e) Logical Integration
- f) Physical Integration
- g) SAP
- h) SCM

**Q2) Solve (any 2)**

**[10]**

- a) Discuss why enterprise integration is important?
- b) Difference between Role of ERP in logical & Physical Integration?
- c) Explain MRP in detail.

**Q3) Answer the following (any 1)**

**[10]**

- a) Explain briefly the responsibilities of ERP Project Team?
- b) Discuss Service Oriented Architecture with procurement process?

**P.T.O.**

**Q4) Solve (Any 1) [10]**

- a) Illustrate the functional Modules of SAP & its three tier Architecture.
- b) Can you distinguish between Oracle Fusion Modules & ERP Packages.

**Q5) Solve (Any 1) [10]**

- a) L & B is a fast growing Indian Pharmaceutical Company it needs to deploy a CRM solution to strengthen its sales & marketing. And build a robust systems to track customers, strengthen customer relations and enhance sales force productivity. In 2017 the firm is considering several CRM solutions which have been shortlisted on the bases of features and price. L & B is facing Important question
  - i) Which CRM solution best suits the firm?
  - ii) What will be the direct & indirect effects of the Implementation?
- b) What are 3 main components of customer Relationship Management?



Total No. of Questions: 5]

SEAT No. :

**P3622**

**[6028]-402**

[Total No. of Pages : 2

**Second Year M.B.A. (IT)**  
**402-:MULTIMEDIA AND ANIMATION**  
**(2020 Pattern) (Semester-IV)**

*Time : 2½ Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *Assume Suitable Data if necessary.*
- 2) *Draw neat, labelled diagram whenever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *All questions are compulsory.*

**Q1) Solve any Five**

- a) What are principles of text and images? [2]
- b) What is PCM? [2]
- c) Define character animation? [2]
- d) What is TEXT? [2]
- e) Define LAN, WAN, MAN? [2]
- f) List qualities of reconstructed images? [2]
- g) What is Video? [2]
- h) What is Application in Multimedia? [2]

**Q2) Solve any Two.**

- a) Explain the image fundamentals in multimedia? [5]
- b) What is Lossy Image Compression? [5]
- c) Explain the fundamentals of Image? [5]

**Q3) Solve any one:**

- a) What is Dynamic Huffman coding? and explain in Huffman Coding Text Compression in Detail? [10]
- b) State the LZW Text Compression? [10]

**P.T.O.**

**Q4)** Solve any One:

- a) What is Predictive Coding? Explain in detail Linear Predictive Coding? **[10]**
- b) What is Video Compression? State the Principles for Video Compression **[10]**

**Q5)** Solve any one:

- a) What are Animation techniques? Explain in detail rendered and morphing frame in Animation? **[10]**
- b) What is Morphing? State the Principles for facial animation? **[10]**



Total No. of Questions: 5]

SEAT No. :

**P3623**

**[6028]-403**

[Total No. of Pages : 2

**Second Year M.B.A. (IT)**

**404-UL: OPEN SOURCE IOT PLATFORM  
(2020 Pattern) (Semester-IV)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Each question carries 10 marks.*

**Q1) Solve any 5**

**[10]**

- a) List out any two IOT applications.
- b) Explain any two characteristics of IOT.
- c) State two merits of IOT.
- d) Give any future internet technologies.
- e) Define M2M.
- f) State any two disadvantages of IOT.
- g) What is the vision of IOT?
- h) What are the components of IOT?

**Q2) Solve any two from the following.**

**[10]**

- a) Explain the IOT value chains.
- b) What are the main design principles to be considered in building the architecture?
- c) Explain the information view.

**P.T.O.**

**Q3) Solve the following. [10]**

- a) Discuss the security and privacy issues in IOT.
- b) What is future factory? Explain in detail.

**Q4) Explain in detail any IOT application. [10]**

**Q5) Write short notes on any 2 [10]**

- a) Explain IOT in smart cities
- b) What is IOT governance?
- c) Explain Deployment view
- d) What is Brownfield IOT?
- e) Explain big data with reference to IOT





Total No. of Questions : 5]

SEAT No. :

P-3624

[Total No. of Pages : 2

**[6028]-404**  
**M.B.A. (IT)**  
**405UL : DEBUGGING OF APPLICATION**  
**PROGRAMMING (IoT)**  
**(2020 Pattern) (Semester - IV)**

*Time : 2 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :*

- 1) All questions are compulsory.*
- 2) Figures to the right indicate full marks.*

**Q1) Solve any five :**

**[10]**

- a) Define IoT.
- b) Define industry 4.0.
- c) Adoption of IoT.
- d) Open source
- e) Define pre-processor
- f) MQTT Server
- g) Injection Engine
- h) Cryptography

**Q2) Solve any 2 :**

**[10]**

- a) What are different components of IoT?
- b) Describe open source platform.
- c) How to setup IoT platform?

**P.T.O.**

**Q3) Solve any one :**

**[10]**

- a) Explain IoT architecture in brief.
- b) Explain basic statements in C with suitable example.

**Q4) Answer any one :**

**[10]**

- a) Describe IoT cloud building blocks.
- b) Explain device management & application services.

**Q5) Answer any one :**

**[10]**

- a) Explain different securities used in IoT.
- b) Describe bench marking of IoT application & its platforms in detail.

