

Total No. Of Questions : 5]

SEAT No. :

PA-4069

[Total No. Of Pages : 2

[5975]-101

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

**101 Core: C Programming & Data Structure
(2020 Pattern) (Semester - I) (101)**

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates :

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

Q1) Solve any Five :

[10]

- a) What is stack data structure? **[2]**
- b) What is bitwise operator? **[2]**
- c) Write syntax and example of fscanf(). **[2]**
- d) What are storage classes in C? **[2]**
- e) What is Union in C? **[2]**
- f) What is a token? Write different types of token in C. **[2]**
- g) Write syntax and example of getch(). **[2]**
- h) What is a preprocessor in C? **[2]**

Q2) Solve any two :

[10]

- a) Explain the different types of loops in C with example. **[5]**
- b) Explain Malloc() and Free() function with example. **[5]**
- c) Explain Nested if giving suitable example. **[5]**

P.T.O.

Q3) Write a c program to delete element from an array at a specific position. **[10]**

OR

Write a C program to find factorial of a number using recursion. **[10]**

Q4) Write a C program to store information of 10 students and display it using structure. **[10]**

OR

Write a C program to print number triangle. **[10]**

```
      1
    1 2 1
  1 2 3 2 1
1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
```

Q5) Write a program in C to count a number of words and characters in a file. **[10]**

OR

Write a program in C to swap two numbers using pointers. **[10]**



Total No. Of Questions : 5]

SEAT No. :

PA-4070

[Total No. Of Pages : 2

[5975]-102

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

**102 Core : SOFTWARE ENGINEERING WITH UML
(2020 Pattern) (Semester-I) (101)**

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates :

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

Q1) Solve any Five :

[5 × 2 = 10]

- a) Define the software system and write any two basic components of system.
- b) What is SDLC? List any four types of SDLC model.
- c) What is RUP? Write any four phases of RUP
- d) Explain in short nature of software.
- e) Distinguish waterfall model and prototyping model.
- f) Write any four roles of users in SDLC.
- g) What is SSAD Software Engineering?
- h) Write any four advantages of RAD model.

Q2) Write short note on any Two:

[2 × 5 = 10]

- a) Object and classes from OOAD.
- b) OOAD inheritance and polymorphism.
- c) OOAD association and links.

P.T.O.

Q3) Write Functional Decomposition Diagram (FDD) for considering railway reservation system. [10]

OR

Explain ERD and normalized file layouts. [10]

Q4) Draw class diagram and activity diagram for blood donation system. [10]

OR

Draw sequence diagram and collaboration diagram for phonepe payments gateway. [10]

Q5) What is used interface design? Explain elements of good design required for college admission system. [10]

OR

Explain various features of modern GUI with suitable example. [10]



Total No. of Questions : 5]

SEAT No. :

PA-4071

[Total No. of Pages : 2

[5975]-103

M.B.A. (Information Technology)

103 Core : DATA BASE MANAGEMENT SYSTEM

(2020 Pattern) (Semester - I)

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

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

Q1) Answer of any five:

[10]

- a) List out Database users.
- b) Explain three characteristics of DBMS.
- c) List out cash recovery methods.
- d) List of types of database recovery.
- e) Define access control.
- f) What is DBMS security?
- g) Explain any three needs of DBMS.
- h) Explain storage structure.

Q2) Solve any two:

[10]

- a) What is cardinality explain in detail.
- b) Explain ACID properties.
- c) Explain object based data model. Discuss concept of transaction.

P.T.O.

Q3) Give example of the following relationship.

[10]

- i) Many - to one
- ii) One to one
- iii) Many to many

OR

Consider the following schedule for transactions T_1 , T_2 , T_3

T_1	T_2	T_3
R(x)		
	R(y)	
		R(y)
	W(y)	
W(x)		
	R(x)	
		W(x)
	W(x)	

Q4) Demonstrate relational algebra with proper example.

[10]

OR

Create product table with following attributes product (p - id, p-name, colour, price)

- a) Insert 5 records in product table.
- b) Print product name whose colour is black.
- c) Print product name having price $> 10,000$.
- d) Print product name starting with 'D'.

Q5) Demonstrate normalization with suitable example.

[10]

OR

Demonstrate different types of functional dependencies with suitable example.



Total No. of Questions : 6]

SEAT No. :

PA-4072

[Total No. of Pages : 1

[5975]-104

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

**104 CORE : PRINCIPLES OF MANAGEMENT AND
ORGANIZATIONAL BEHAVIOR
(2020 Pattern) (Semester - I)**

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Q. No. 1 & Q. 6 are compulsory.*
- 2) *Solve any 3 questions from Q.2 to Q.5.*

Q1) Solve All:

[5 × 2 = 10]

- a) Define management.
- b) Explain unstructured decisions.
- c) State need of organization.
- d) Explain qualities of leader.
- e) Explain stages of group development.

Q2) Discuss who is manager? And explains it's role in details.

[10]

Q3) Discuss How Information Technology and Decision Making are interrelated.

[10]

Q4) Define leadership and it's various styles in detail.

[10]

Q5) Explain conflict management and discuss various as process to handle conflicts.

[10]

Q6) Write short notes on: (Any two)

[2 × 5 = 10]

- a) Transactional analysis.
- b) Stress management.
- c) Types of team.



Total No. of Questions : 5]

SEAT No. :

PA-4073

[Total No. of Pages : 2

[5975]-105

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

**105CORE : FUNDAMENTALS OF INFORMATION TECHNOLOGY
(2020 Pattern) (Semester - I) (105)**

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) All questtions are compulosry.*
- 2) Figures to the right indicate full marks.*

Q1) Answer the following: (Any 5)

[10]

- a) What is the smallest unit of memory?
- b) What is input and output device give 2 example of each?
- c) What is the use of number system in computer?
- d) What is BCD?
- e) Define operating system.
- f) Explain batch processing.
- g) What is the function of compiler?
- h) What do you mean by network topology?

Q2) Answer the following: (any 2)

[10]

- a) Explain cache memory? Write down its functions.
- b) Write short note on Android OS.
- c) Differentiate multiprocessing and multiprogramming.

P.T.O.

Q3) Convert the following:

[10]

- a) i) $(726)_8 = (?)_{10}$
- ii) $(150)_{10} = (?)_2$

OR

- b) i) $(10110.001)_2 = (?)_{10}$
- ii) $(111110101011.0011)_2 = (?)_8$

Q4) Answer the following:

- a) i) Differentiate preemptive and non preemptive CPU scheduling. **[4]**
- ii) Differentiate between assembler, compiler and interpreter. **[6]**

OR

- b) i) What is process management? Write its functions. **[4]**
- ii) What is high level language, low level language and object oriented language. **[6]**

Q5) Answer the following:

- a) i) Draw digital block diagram of computer. Explain function of CPU. **[4]**
- ii) Draw the ISO - OSI model. Write down function of network layer. **[6]**

OR

- b) i) What are the primary storage devices? **[4]**
- ii) What is topology? Explain star and ring topology. **[6]**



Total No. of Questions : 5]

SEAT No. :

PA-4516

[Total No. of Pages : 2

[5975]-106

F.Y. M.B.A. (I.T.) (Semester - I)

106 CORE : DIGITAL MARKETING

(2020 Pattern)

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) Answer any 5 out of 8.

[5 × 2 = 10]

- a) State about the Web and Mobile Marketing Perspective.
- b) What is M-Commerce?
- c) "Effective Video Marketing is the key to success for digital marketing".
- d) Differentiate between CRM and e-CRM.
- e) What do you mean by Content Marketing?
- f) What is function & Application of LinkedIn's?
- g) Define Crowsourcing?
- h) What is Google Analytics?

Q2) Answer any 2 out of 3.

[2 × 5 = 10]

- a) What is the significance of B2C online marketing?
- b) Discuss the features and inference of search engine optimization.
- c) How to create a YouTube channel to grow your brand make money?

Q3) Answer 3(a) or 3(b).

[10]

- a) How can Digital marketing help organizations in formulating a digital brand ecosystem?

OR

- b) What are the main design considerations when crafting an e-mail?

P.T.O.

Q4) Answer 4(a) or 4(b). [10]

- a) Apurva wants to create first Google ad campaign of her beauty blog. Describe the process of creating first Google ad Campaign to her.

OR

- b) Explain the procedure of building relationships with different stake holders online through social media.

Q5) Answer 5(a) or 5(b). [10]

- a) You want to advertise about your product on google search engine. What are the various extensions you will use to make your advertisement more effective?

OR

- b) Discuss the role of F-Commerce (Facebook), LinkedIn and M-Commerce (Mobile) Play in online advertising.



Total No. of Questions : 5]

SEAT No. :

PA-4074

[Total No. Of Pages : 2

[5975]-107
F.Y. M.B.A. (IT)
107 UL : E-Commerce
(2020 Pattern) (Semester-I) (107)

Time : 2 Hours]

[Max. Marks : 50

Instructions to the candidates :

- 1) Assume suitable data if necessary.*
- 2) Draw neat labeled diagrams.*
- 3) Figures to the right indicate full marks.*
- 4) All questions are compulsory.*

Q1) Solve any Five :

- a) Define E-commerce? [2]
- b) State two objectives of E-commerce. [2]
- c) Name any two online purchasing websites. [2]
- d) Enlist most commonly used online travel booking websites. [2]
- e) Define M-commerce. [2]
- f) Explain the concept of B2B model. [2]
- g) List two websites of C2C model. [2]
- h) Name any two benefits of social network. [2]

Q2) Solve any Two :

- a) What is online Auction? In which business model it is used? [5]
- b) Discuss five benefits of Mobile commerce. [5]
- c) Explain the role of ISP's in E-commerce. [5]

Q3) Solve any One :

[10]

- a) Classify the different models of E-commerce.
- b) The entry of spotify and youtube music will further accelerate the growth of music streaming in India. Evaluate the statement.

P.T.O.

Q4) Solve any One :

[10]

- a) Summarise the drivers for popularity of E-commerce in India.
- b) Summarise the detail process of NEFT process in banking online transaction.

Q5) Solve any One :

[10]

- a) Discuss in detail the advantages of E-employment with reference to job seeker & employer.
- b) Discuss with a neat diagram the major E-commerce activities & mechanism. Describe the online purchasing process.



Total No. of Questions : 5]

SEAT No. :

PA-4548

[Total No. of Pages : 2

[5975]-108

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

108 UL : WEB DESIGNING
(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) Define www.
- b) List types of images.
- c) List different DOM objects.
- d) What is DHTML?
- e) Define image mapping.
- f) What is Java Script?
- g) What is VB Script?
- h) List types of links.

Q2) Solve any Two:

- a) Explain common tags in HTML. [5]
- b) Discuss HTML form elements. [5]
- c) Write the program for following using HTML Table [5]

Site#	Latitude	Longitude
Site 1		
Site 2		

P.T.O.

Q3) Solve any One:

- a) Explain different web component in Java Script. [10]
- b) Explain any 5 elements of table in HTML. [10]

Q4) Solve any One:

- a) Discuss any 5 VB script functions with syntax and example. [10]
- b) Explain while, do while, for statements in Java Script with syntax and example. [10]

Q5) Solve any One:

- a) Discuss why we use of Java Script and VB Script along with HTML. [10]
- b) Write a program in HTML using form which shows following output. [10]

Please enter your last name:

Brooks

Please enter your latitude:

40

N or S

Please enter your longitude:

75

E or W

Please enter your elevation:

15

meters

Click here to send your data.



Total No. of Questions : 5]

SEAT No. :

PA-4549

[Total No. of Pages : 2

[5975]-109

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

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 5.

[10]

- a) Define network.
- b) Define cryptography.
- c) Define topology.
- d) What is IPR?
- e) Define VPN.
- f) What is botnet?
- g) What is WAP?
- h) Name the types of cyber attack.

Q2) Answer any two.

[10]

- a) What are the steps to setup a firewall?
- b) Explain IPS and IDS.
- c) Explain security mechanism for VPN and next generation technology.

Q3) Answer any one.

[10]

- a) What are the types of network topologies and transmission media.
- b) Explain the process of obtaining a digital signature.

P.T.O.

Q4) Answer any one.

[10]

- a) Explain Ecommerce security with an example.
- b) Explain in detail about security laws and standards and security audit.

Q5) Answer any one.

[10]

- a) Explain security threats and vulnerabilities.
- b) Explain different parameters involved in OS security.



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Total No. of Questions : 5]

SEAT No. :

PA-4075

[Total No. of Pages : 2

[5975]-201

M.B.A.-I (Information Technology)
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) Interface
- d) File
- e) Event
- f) Thread
- g) Data Type
- h) Constructor

Q2) Answer any two.

- a) What is an exception? Explain exception handling mechanism.
- b) What are the various primitive data types in Java? Explain them in details.
- c) What is String? Explain any 4 methods of String class.

Q3) a) Create class books with attributes bookid, title, author, no_of_copies, price. Accept details of 10 books in an array of objects and display the accepted details.

OR

- b) Write a program in Java to compute the sum of the digits of a given integer. Remember, your integer should not be less than the five digits.

P.T.O.

- Q4)** a) Write an application to accept the name and age of an employee through command line. If age of employee is < 21 years throw user defined exception "Invalid Age Exception".

OR

- b) Write an application to create following threads :
- i) Even numbers
 - ii) Odd numbers

- Q5)** a) Write an awt application which will have a button with caption 'OK' when user will try to click on the button the button should change caption to 'KO'.

OR

- b) Write an applet to display mouse position (co-ordinates) on status line.



Total No. of Questions : 5]

SEAT No. :

PA-4076

[Total No. of Pages : 2

[5975]-202

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

201-NT - Core : BASICS OF NETWORKING

(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 (any 5).

[5×2=10]

- a) SPX.
- b) Fax server.
- c) Hybrid Topology.
- d) DHCP server.
- e) Internet Information Service.
- f) Web Services.
- g) Domain controller security policy.
- h) Wireless network.

Q2) Answer the following (any 2).

[2×5=10]

- a) Differentiate between client server & peer to peer networks.
- b) Explain Mailing protocols in detail.
- c) What is windows rights management service & explain its features.

Q3) Answer the following (any 1).

[1×10=10]

- a) Explain user management & group management commands in windows server 2008.

OR

- b) Write the installation steps for windows server - 2012. Operating system with configuration of file & storage services.

P.T.O.

Q4) Answer the following (any 1). **[1×10=10]**

- a) Demonstrate how DHCP server works with its configuration details for windows 2012.

OR

- b) What is Directory Domain Services? Explain the steps for configuring a domain name system.

Q5) Answer the following (any 1). **[1×10=10]**

- a) What are modems? Explain its types?

OR

- b) Elaborate the steps of implementing .NET framework environment on client machine in windows server 2012 with web services.



Total No. of Questions : 5]

SEAT No. :

PA-4077

[Total No. of Pages : 2

[5975]-203

M.B.A.-I (IT)

**201-ST Core : 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 questions having 10 marks.*
- 3) Figures to the right indicate full marks.*

Q1) Define the following terms (any five) :

- a) Bugs
- b) Validation
- c) Dynamic Testing
- d) Internal Control
- e) Web-Based Application
- f) Black Box Testing
- g) When to Stop Testing
- h) Security Testing

Q2) Answer any two of the following.

- a) What is Tester Workbench?
- b) What is Verification in Software Testing?
- c) What is Boundary Value Analysis?

Q3) Answer any one of the following.

- a) Explain Basic Path Testing with suitable example?
- b) Explain V Concept of testing with testing stages?

P.T.O.

Q4) Answer any one of the following.

- a) Why a test environment is required for testing a Software Product?
- b) Describe contract provisions from the User's Perspective?

Q5) Answer any one of the following.

- a) Explain Security Policy? Why has a Security Policy?
- b) Explain the difference between Client - Server Testing and Web-Based Testing? What are the things that we need to test in such Application?



Total No. of Questions : 5]

SEAT No. :

PA-4078

[Total No. of Pages : 2

[5975]-204

First Year M.B.A. (Information Technology)

202-SD : MOBILE PROGRAMMING USING ANDROID

(2020 Pattern) (Semester - II) (Revised)

Time : 2½ 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) 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 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).

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

P.T.O.

Q3) Solve any ONE of the following.

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

Q4) Solve any ONE of the following.

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

Q5) Solve any ONE of the following.

- a) Design an activity to display video from SD card.
- b) Design an XML code to display Login Screen using Table Layout.



Total No. of Questions : 5]

SEAT No. :

PA-4079

[Total No. of Pages : 2

[5975]-205

M.B.A. - I (IT)

**202NT (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 question carries 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) What is NIC?
- b) Explain the types of USB ports.
- c) Explain the DDR-RAM.
- d) State characteristics of Data bus.
- e) State types of viruses.
- f) What use of pipelining in instruction execution?
- g) Define the term Remote access.
- h) Explain Password Management through BIOS.

Q2) Solve any two of the following.

[2 × 5 = 10]

- a) What is firmware? Give three examples of it.
- b) Explain the different units of 8 bit processor architecture.
- c) Explain the main five components of mobo.

P.T.O.

Q3) Solve any one of the following.

[10]

- a) Explain all types of addressing modes in detail.
- b) Explain different type of co-processors with their applications.

Q4) Solve any one of the following.

[10]

- a) Explain the steps to install window 8 with security policy implementation.
- b) Explain the steps to install from window 8 to Windows 10.

Q5) Write descriptive note on any two :

[2×5=10]

- a) Explain types of Printers.
- b) RISC and CISC.
- c) Network Installations techniques.



Total No. of Questions : 5]

SEAT No. :

PA-4080

[Total No. of Pages : 2

[5975]-206

M.B.A.-I (IT)

**202ST (Core) : 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 carries 10 marks.*
- 3) *Figures to the right indicate full marks.*

Q1) Give the answers in short (Solve any 5).

[5 × 2 = 10]

- a) Define Software Quality Assurance.
- b) Define software quality metrics.
- c) Compare verification and validation.
- d) What is Review?
- e) Define the term Software Quality.
- f) What is the main objective of Configuration Management?
- g) Define error and fault in software.
- h) What is SCI-CMM?

Q2) Compare the following terms (solve any 2).

[2 × 5 = 10]

- a) ISO 9001 and ISO 9000-3.
- b) Inspections and Walkthrough.
- c) Quality assurance vs. software quality control.

P.T.O.

Q3) a) Explain software configuration management with its components in detail. **[10]**

OR

b) In quality infrastructure component, preventive and corrective actions play important role. Justify your answer.

Q4) a) Discuss the need for SQA standardization. Explain the various levels of Capability Maturity Model. **[10]**

OR

b) Explain various types of reviews in detail.

Q5) a) List and explain the software quality attributes with respect to product operation, product transition and product revision. **[10]**

OR

b) Justify software testing plays important role in quality assurance.



Total No. of Questions : 5]

SEAT No. :

PA-4081

[Total No. of Pages : 2

[5975]-207

M.B.A. - I (IT)

203 CORE : BUSINESS PROCESS DOMAIN

(2020 Pattern) (Semester - II)

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

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

Q1) Solve any Five:

[10]

- a) Define CRM.
- b) Define Entries.
- c) Define Journal.
- d) Define Ledger.
- e) Define EX-Gratia.
- f) Define PF & gratuity.
- g) Define arrears.
- h) Define Quotation.

P.T.O.

Q2) Solve any two:

[10]

- a) Define Employee database for any university and explain the need of employee database.
- b) Explain in detail customer order processing.
- c) Explain in detail about the customer enquiry and draw a format of invoice of computer.

Q3) Solve any one:

[10]

- a) Explain in detail payroll and accounting along with various factor of payroll.
- b) Explain deduction and Draw a DFD of Tax deduction of salary calculation?

Q4) Solve any one:

[10]

- a) What is Journal Entries and explain in detail rules for Journal Entries?
- b) What are concepts and conversion in accounting?

Q5) Solve any one:

[10]

- a) Explain the need & scope of SCM and given advantage in details.
- b) Explain forecasting in details and with example.



Total No. of Questions : 5]

SEAT No. :

PA-4082

[Total No. of Pages : 2

[5975]-208

M.B.A. - I (IT)

204 (Core) : ORACLE

(2020 Pattern) (Semester - II)

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

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

Q1) Consider the following table to solve any five the following SQL queries:

Candidate (seat_no, candidate_name, age, post_graduation, admin_date, subject_code) Subject (Subject_code, sub_name, specialization)

- a) Create table with appropriate constraints.
- b) Add column prn_number and stream column into candidate table.
- c) Print the name of candidate of 'Management' stream.
- d) Display number of candidates admitted in each stream.
- e) Display average age of candidates.
- f) Display number of students per subjects.
- g) Delete the records whose subject name starts with 'O' character.
- h) Display length of candidate names in candidate table. Don't show the name of candidate.

Q2) Write short notes on (any two).

- a) Sequence
- b) DDL and DML
- c) Nested query

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 available in Oracle.

Q4) Solve any one of the following.

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

Q5) Solve any one of the following.

- a) Write a cursor to display first five records of candidate table.
- b) Write a function fact () to test whether the input number is ODD or EVEN.



Total No. of Questions : 5]

SEAT No. :

PA-4083

[Total No. of Pages : 2

[5975]-209

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

205 (Core) : 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 carries 10 marks.*
- 3) Figures to the right indicate full marks.*

Q1) Define the following terms (any five)

- a) Grid computing
- b) Data Lake
- c) Key requirements of a Data Center
- d) Hypervisor
- e) SOA
- f) Load Balancing in Cloud Computing
- g) Hyperjacking
- h) Cloud Resource Monitoring

Q2) Answer any two of the following.

- a) How does Cloud Computing work?
- b) What are three Business Continuity Factors for Data Centers?
- c) How Data Centers important to Business?

P.T.O.

Q3) Answer any one of the following.

- a) Describe NIST Cloud definition framework?
- b) Explain Block Level Storage and File Level Storage in SAN?

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 phase's strategy for Migration to Cloud?
- b) How Cloud Computing has changed the Economics of IT?



Total No. of Questions : 5]

SEAT No. :

PA-4084

[Total No. of Pages : 2

[5975]-210

M.B.A. - I (IT)

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 question having 10 marks.*
- 3) *Figures to the right indicate full marks.*

Q1) Solve any Five of the following:

- a) What is mean by Software 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) What are different key attributes of quality software?
- f) What is role of Project Manager in project management?
- g) What is mean by software configuration management?
- h) What is mean by dynamic system development?

P.T.O.

Q2) Write short notes on (Any Two):

- a) Cost benefit analysis.
- b) Extreme programming.
- c) Defect Management.

Q3) Solve any One of the following:

- a) Explain different types of contracts in software project management.
- b) What is difference between software engineering and SPM?

Q4) Solve any One of the following:

- a) Explain the steps done in project evaluation done in software project management.
- b) Explain COCOMO model with an example.

Q5) Solve any One of the following:

- a) Discuss Capability Maturity Model (CMM) in detail.
- b) Describe the factors that influence the quality of software product.



Total No. of Questions : 5]

SEAT No. :

PA-4085

[Total No. of Pages : 2

[5975]-211

M.B.A. - I (Information Technology)

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) *Each question carries 10 marks.*

Q1) Answer any Five out of Eight (2 Marks Each):

[10]

- a) Explain the use of LinkedIn.
- b) Explain the most popular social media platforms.
- c) What is IT Service management process?
- d) Explain CMS.
- e) Explain the different types of E-learning.
- f) Explain the popular chat and instant messaging tools.
- g) Explain Point of Sales.
- h) Explain Mobile ATM.

P.T.O.

Q2) Answer any Two out of Three (5 Marks Each):

[10]

- a) Explain the various problems for to access Social Networking sites.
- b) What are the different issues in IT infrastructure management?
- c) Explain the Enterprise Content Management with examples.

Q3) a) Compare E-commerce and m-Commerce with their different applications.[10]

OR

- b) Explain the different models of E-Commerce. **[10]**

Q4) a) Explain Enterprise Content Management in brief. [10]

OR

- b) Why Virtual School system adopted by today's era? Explain in brief.[10]

Q5) a) Explain e-Learning Models: WBT, CBT in brief. [10]

OR

- b) Explain Electronic payment system with PayPal and Paytm. **[10]**



Total No. of Questions : 5]

SEAT No. :

PA-4086

[Total No. of Pages : 2

[5975]-212

M.B.A.-I (Information Technology)
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) *Draw neat diagram wherever necessary.*
- 3) *Every question carries 10 marks.*
- 4) *Every questions has internal option.*

Q1) Define the below given terms (any five)

[5×2=10]

- a) Data Science.
- b) Data Analyst.
- c) Digital Data.
- d) Hadoop streaming.
- e) Information.
- f) Knowledge.
- g) Business Analytics.
- h) Business Analysis.

Q2) Answer any two questions out of three.

[2×5=10]

- a) Write short note on Hadoop ecosystem.
- b) Explain characteristics of Big Data.
- c) Differentiate between descriptive Analytics and Predictive Analytics.

Q3) Answer any one question out of two.

[10]

- a) What is analytics? Discuss any two tools used in Analytics.
- b) Explain the process of Analytical decision making.

P.T.O.

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

- a) Elaborate the importance of data in business analytics & its use in supply chain management.
- b) Elaborate the application of analytics in improving marketing & sales.

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

- a) Illustrate any three real time Industry application of Hadoop in detail.
- b) Explain the stages of data maturity model in detail.



Total No. of Questions : 5]

SEAT No. :

PA-4087

[Total No. of Pages : 2

[5975]-213

M.B.A. - I (IT)

209 UL : INFORMATION SYSTEM AUDIT

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

Q1) Solve any 5:

[10]

- a) Explain WWW.
- b) What is plain text or cipher text?
- c) Name the five levels of CMM model.
- d) What is copyright infringement?
- e) What are the types of IPR?
- f) As per ISO 9001, what should be done for the causes of non conforming product.
- g) What is the role of internet?
- h) What is technology based audit?

P.T.O.

Q2) Answer any two: **[10]**

- a) What is information system? Explain the evolution of global information system.
- b) Explain 3 pillars CIA of Information security.
- c) What is disaster recovery planning?

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

- a) Explain the importance of managing security of information system.
- b) Explain the security consideration for mobile workforce.

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

- a) What is ISMS? Explain the standards, guideline and procedures.
- b) Explain intrusion detection system and firewall with respect to security of information system.

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

- a) Discuss SSE CMM in details.
- b) Explain COBIT (Control Objectives for Information and Related Techniques).
- c) Explain copyright in detail.
- d) Explain IPR.
- e) Security issues in database.



Total No. of Questions : 5]

SEAT No. :

PA-4088

[Total No. of Pages : 2

[5975]-301

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

**301 SD CORE : 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) Define variable?
- b) Define error in C#?
- c) What are class member?
- d) What are base class?
- e) Define over ridding method?
- f) Define event handler?
- g) Define operator overloading?
- h) Define validation?

Q2) Solve any two:

[10]

- a) What is files? Explain detail solution files?
- b) Explain and describe web page with examples?
- c) Explain with example how to create a webpage using VS code?

P.T.O.

Q3) Solve any one:

[10]

- a) Explain controls in web forms in details? With example of any 2 controls.
- b) Explain in detail working & functionality of image map controls.

Q4) Solve any one:

[10]

- a) Design a web form with proper layout and write code to.
 - i) Populate and display book names in drop down list.
 - ii) Select a book in drop down list and display its details.
 - iii) Add a record.
 - iv) Edit a record.
- b) What is validator? Explain various types of validator with example.

Q5) Solve any one:

[10]

- a) Explain page and in detail create a master page and its application?
- b) Explain with example application of theme in different types of style sheet.



Total No. Of Questions : 5]

SEAT No. :

PA-4089

[Total No. Of Pages : 2

[5975]-302

M.B.A. (I.T)

**301NT Core : ADVANCED COMPUTER NETWORKS
(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) Solve (any five) :

[5 × 2 = 10]

- a) Define Layers?
- b) ATM is defined at which layer?
- c) ATM reference model comprises of how many Layers?
- d) The network Layer is Comprised used of what part of data?
- e) What are nodes?
- f) What is a Subnet?
- g) What are the types of multimedia networking?
- h) What is delay in multimedia?

Q2) Answer (any Two) :

[2 × 5 = 10]

- a) What is layered architecture? Explain with an example?
- b) Using hybrid form of network explain network application architecture.
- c) Explain mobility in cellular networks.

P.T.O.

Q3) Answer (any One) :

[1 × 10 = 10]

- a) Describe the elements of transport protocols?

OR

- b) Discuss pros. & cons. of 802.11 wireless LAN.

Q4) a) Write a brief outline on Cryptography with reference to symmetric & public key algorithm. [10]

OR

- b) Explain wireless links and its characteristics in a network?

Q5) Answer (any One) :

[10]

- a) Write short note on :
i) streaming audio & video in multimedia.
ii) QOS.

OR

- b) Enlist the authentication protocols and their characteristics.



Total No. Of Questions : 5]

SEAT No. :

PA-4090

[Total No. Of Pages : 2

[5975]-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 Five :

[10]

- a) What is Latency defect?
- b) What is mutation testing?
- c) What is database test case?
- d) Is test data mandatory for every test care?
- e) What are drivers in manual testing?
- f) What is RTM (Requirement Traceability Matrix)?
- g) What is Agile testing?
- h) What is fault masking?

Q2) Answer any Two:

[10]

- a) Explain incremental testing.
- b) What are testing objectives.
- c) Explain risk management in test plan.

P.T.O.

Q3) Answer the following:

[10]

- a) Explain functional test cases.
- b) Explain test & cripts.

Q4) Answer the following :

[10]

- a) Explain constraints of test plan.
- b) How to develop test matrix.

Q5) Write short notes (any Two) :

[10]

- a) Check sheets
- b) Defect management
- c) Test plan execution.
- d) Regression analysis
- e) TMM



Total No. Of Questions : 5]

SEAT No. :

PA-4091

[Total No. Of Pages : 2

[5975]-304

S.Y. M.B.A. (Information Technology)

302SD : Core Advanced Java

(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.*

Q1) Define the terms any Five.

[5 × 2 = 10]

- a) Socket
- b) Statement
- c) Resultset
- d) URL
- e) Java Bean
- f) Servlet
- g) ODBC
- h) RMI

Q2) Answer any Two:

[2 × 5 = 10]

- a) Explain TCP/IP in context of java socket programming.
- b) What is JDBC? Explain various types of JDBC drivers.
- c) Explain various types of JSP implicit objects.

P.T.O.

[5975]-304

Q3) Answer the following.

[10]

- a) Write a java socket program that runs on a server and echos back all the strings sent by a client. If the client sends a string 'EXIT', the server program should terminate. Use port number 50000.

OR

- b) Write a client server socket program to accept a string from the client. The server will convert the string into uppercase and display it as well as the number of vowels present in it.

Q4) Answer the following.

[10]

- a) Write a JDBC program to display list of employees working SALES department. Assume suitable Table structure

OR

- b) Write a java program to access to Access a database which has a table named student whose columns are Id and Name. Access all the records in this table and display on the screen, both the Id and Name formatted properly.

Q5) Answer the following.

[10]

- a) Develop a web page using servlet which ask for your name and address and print a message "Welcome! Mr./Miss. You Name on this web page" and show the current data and time on the top of web page.

OR

- b) Write a JSP application to accept product type from HTML page and display product details in tabular format. Assume suitable Table structure.



Total No. of Questions : 5]

SEAT No. :

PA-4092

[Total No. of Pages : 2

[5975]-305

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

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) What is SIMD?
- b) Hybrid Model.
- c) Explain Data Hazards.
- d) Define high performance computing.
- e) What is MIMD?
- f) Elaborate Virtual Machine.
- g) In PC what is task dependency.

Q2) Solve any two:

[2 × 5 = 10]

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

P.T.O.

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

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

Q4) Solve any one of the following: **[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) Explain the concept of inter connected network?
- b) Explain Hyper Threading Technology (HTT).
- c) What is superscalar processing?



Total No. of Questions : 5]

SEAT No. :

PA-4093

[Total No. of Pages : 2

[5975]-306

M.B.A. (IT)

302ST Core: AGILE MODEL & METHODOLOGY
(2020 Pattern) (Semester - III)

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) Product Management.
- b) User Stories.
- c) FDD (Feature-Driven Development)
- d) SCRUM.
- e) Adaptive Software Development.
- f) Agile Knowledge Management.
- g) Agile Quality Assurance.
- h) Crystal.

Q2) Answer any two of the following :

- a) Describe the generic Agile concept.
- b) Describe Agile Architecture.
- c) How does Agile process flow work?

P.T.O.

Q3) Answer any one of the following :

- a) Explain Extreme Programming (XP) in Agile Process.
- b) Explain the stages of the Agile System Development Life Cycle.

Q4) Answer any one of the following :

- a) Explain Agility Management and Knowledge Management in detail.
- b) Describe Acceptance criteria in Agile project?

Q5) Answer any one of the following :

- a) How to assume the Quality attribute approach in Agile software development?
- b) How do you Setting up QA processes in an Agile environment?



Total No. Of Questions : 5]

SEAT No. :

PA-4094

[Total No. Of Pages : 2

[5975]-307

M.B.A. (IT)

**303 Core : Management Information System.
(2020 Pattern) (Semester-III)**

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates :

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

Q1) Solve any Five.

[5 × 2 = 10]

- a) What is data?
- b) What is Information system?
- c) What is Topology?
- d) What is IT Infrastructure?
- e) What is OOPS concepts?
- f) Define proto typing?
- g) What is GIS?
- h) Define Data mining?

Q2) Solve any Two:

[2 × 5 = 10]

- a) Explain & define information and its uses for competitive advantages?
- b) Design a database for wholesaler Grocery shop. assuring any data?
- c) Write short notes
 - i) Need of MIS
 - ii) Importance of computer in MIS

P.T.O.

[5975]-307

Q3) Solve any One.

[10]

- a) What is data mining and state its advantages and disadvantages with various technique of data minining?

OR

- b) Define and Compare MIS and EIS and also explain internal and external factor for EIS?

Q4) Solve any One.

[10]

- a) Write short notes on :
- i) Water fall model?
 - ii) Spiral Model?
- b) Define ESS and how ESS is supportive of MIS in any organisation. Explain?

Q5) Solve any One.

[10]

- a) What is the relation between MIS? ERP and Explain the need of maintenance in MIS?
- OR**
- b) What are the customer expectation from ERP packages for information system?



Total No. Of Questions : 5]

SEAT No. :

PA-4095

[Total No. Of Pages : 2

[5975]-308
M.B.A. (IT)
304 Core : 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) ETL
- b) OLTP
- c) OLAP
- d) Population
- e) HITS
- f) Qualitative Data
- g) Quantitative Data
- h) Data Cleaning

Q2) Answer the following questions (Any Two)

[10]

- a) What are the applications of data mining?
- b) List and explain data mining issues.
- c) Explain features of tableau in brief.

P.T.O.

Q3) Answer the following questions (Any One)

[10]

- a) Differentiate between Classification and Clustering
- b) Differentiate between Database Management System and Data Mining.

Q4) Answer the following questions (Any One)

[10]

- a) What is web mining? Explain in brief the various techniques used for web mining.
- b) What do you mean by risk management? Explain how to manage it using data mining tool.

Q5) Answer the following questions (Any One)

[10]

- a) What do you mean by market basket analysis? State and explain the data mining technique used for market basket analysis.
- b) List and explain the phases of data collection and processing for weather forecasting.



Total No. Of Questions : 5]

SEAT No. :

PA-4096

[Total No. Of Pages : 2

[5975]-309

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

**306 Core : Introduction to Animation
(2020 Pattern) (Semester-III) (306)**

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) Solve any Five

[10]

- a) What are the Hardware requirement for Animation?
- b) What are different types of operating system?
- c) Define 3D Scanner?
- d) Define Render farms?
- e) What is Local storage?
- f) What is Autodesk Auto CAD?
- g) What is Autodesk Motion Builder?
- h) Explain any 1 type of software in animation with examples?

Q2) Solve any Two:

[10]

- a) Explain form in animation and describe various types of form?
- b) Explain element "Shape" & "Texture" in 3D objects?
- c) State any Three Elements use in design Art?

P.T.O.

Q3) Solve any One:

[10]

- a) Explain the Elements of drawing briefly with any two Elements?
- b) Describe various forms of drawing in Visual Arts?

Q4) Solve any One:

[10]

- a) Explain in detail graphics display devices with any one display technologies?
- b) Explain in brief various type of animation?

Q5) Solve any one.

[10]

- a) What is 3D studio Max explain with example?
- b) Explain in detail 3D Max workflow?



Total No. Of Questions : 5]

SEAT No. :

PA-4097

[Total No. Of Pages : 2

[5975]-310
S.Y. M.B.A. (IT)
307UL: Data Ware Housing.
(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 Five of the following.

- a) What is data warehousing?
- b) What is mean by Fact Table?
- c) What is mean by Dimension Table?
- d) What is mean by ETL?
- e) What is mean by Data Mart?
- f) What are different characteristics of Datawarehouse?
- g) What is key difference between star schema & snowflake schema?
- h) What is mean by OLAP?

Q2) Write short notes on (any Two)

- a) ROLAP
- b) Data transformation techniques in ETL process
- c) Slice & Dice operations

P.T.O.

Q3) Solve any One of the following.

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

Q4) Solve any One of the following.

- a) Explain data warehouse architectures in detail.
- b) What is metadata? Explain different categories of Metadata in data warehouse.

Q5) Solve any One of the following.

- a) Explain data loading techniques in ETL process of data warehouse.
- b) How is a data warehouse different from a database?



Total No. of Questions : 5]

SEAT No. :

PA-4550

[Total No. of Pages : 2

[5975]-311
M.B.A. (I.T.)
308UL : OOPS WITH CPP
(Revised 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)

[5×2=10]

- a) What is a friend function?
- b) What is Abstraction? How it can be implemented?
- c) What is function overloading?
- d) What are constants?
- e) Explain types of containers?
- f) What is a pointer? How it can be implemented?
- g) Explain prototyping function with example?
- h) What is operator overloading?

Q2) Solve (any 2)

[2×5=10]

- a) What is an implicit conversion? Explain with example.
- b) Compare static member function & static data member.
- c) Explain virtual base class with the implementation.

P.T.O.

Q3) Solve (any 1)

[1×10=10]

- a) Explain types of inheritance? Write a program to pass parameters to the base class constructors in multilevel inheritance.
- b) Write a program to overload [] & != operators.

Q4) Solve (any 1)

[1×10=10]

- a) Write a program that reads a text file & creates another that is identical except that every sequence of consecutive blank spaces is replaced by a single space & also count the number of characters in the file.
- 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 records
 - iii) Modify Record

Q5) Solve (any 1)

[1×10=10]

- a) Design a class employee (name, dept., salary). Write a C++ program that should throw an exception when salary is less than or equal to 0.
- 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. :

PA-4098

[Total No. Of Pages : 2

[5975]-312

M.B.A. (IT)

**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 Five

[10]

- a) Name the ICT initiative of MHRD which deal with E-Governance for institutions or universities.
- b) Name two fields of e-Governance in urban areas.
- c) What does NMEICT stand for?
- d) Name four pillars of e-Governance.
- e) Mention the ICT trends.
- f) Mention e-Governance stakeholders
- g) What is RFP?
- h) What is SQTC?

Q2) Solve any Two:

[10]

- a) Explain the benefits of E-Governance.
- b) List the reasons for NeGP 2.0
- c) Explain BigData.

P.T.O.

Q3) Answer the following.

[10]

- a) Explain the evolution of transformation of E-Governance in India.
- b) Explain SMAC in detail.

Q4) Explain E-Governance project life cycle.

[10]

Q5) Short notes any Two:

[10]

- a) Utility computing
- b) Smart villages
- c) E waste management
- d) PPP models
- e) Data security and privacy concerns.



Total No. of Questions : 5]

SEAT No. :

PA-4099

[Total No. of Pages : 2

[5975] - 401

M.B.A. (IT)

ENTERPRISE RESOURCE PLANNING

(2020 Pattern) (Semester - IV)

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates :

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

Q1) Define the following terms :

[10]

- a) Define BPR.
- b) Define ERP.
- c) List names of BPR Tools.
- d) List names of ERP packages.
- e) Define ERP Modelling.
- f) List any two evaluation criteria for ERP packages.
- g) Define SAP.
- h) Define SCM.

Q2) Solve Any Two :

[10]

- a) Discuss benefits and limitations of ERP packages.
- b) Explain the role of common shared enterprise database.
- c) Enlist benefits and limitations of system integration in ERP.

Q3) Attempt Any One :

[10]

- a) Interpret Service Oriented Architecture (SOA).
- b) Demonstrate Vanilla implementation in ERP.

P.T.O.

Q4) Attempt Any One :

[10]

- a) Examine SAP R/3 and my SAP.
- b) Analyze comparative assessment of ERP packages.

Q5) Attempt Any One :

[10]

- a) Discuss Stevens Model of Supply Chain Management.
- b) Investigate CRM Vendors.



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Total No. Of Questions : 5]

SEAT No. :

PA-4100

[Total No. Of Pages : 2

[5975]-402

S.Y. M.B.A. (Information Technology)

402: Multimedia and Animation

(2020 Pattern) (Semester - IV)

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)

[10]

- a) How multimedia information is represented.
- b) Define Multimedia Network.
- c) List different coding standards
- d) Define Digitization.
- e) Define LZW Coding
- f) Name Audio-Video compression methods.
- g) Define 3D Modelling.
- h) Enlist animation tools.

Q2) Answer any two of the following.

[10]

- a) Explain GIF, TIFF, JPEG, MP4, MIDI.
- b) Describe Redundancy in image?
- c) What is Lossless and Lossy image compression technique?

P.T.O.

Q3) Answer any One of the following.

[10]

- a) Describe adaptive coding technique.
- b) Explain Static Huffman Algorithm in text Compression with suitable example?

Q4) Answer any One of the following.

[10]

- a) Explain the Principles of Animation?
- b) Discuss Video compression standards.

Q5) Answer any One of the following.

[10]

- a) Explain Animation tool Blender and character animation.
- b) Explain shape deformation and rendered animation in detail.



Total No. Of Questions : 5]

SEAT No. :

PA-4101

[Total No. Of Pages : 2

[5975]-403

M.B.A. (I T)

**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) Answer any Five

[10]

- a) What is web technology?
- b) Define IOT.
- c) Give two demerits of IOT.
- d) Define M2 M.
- e) IOT can be integrated with which separate domains?
- f) IOT devices are associated with data through which method? Internet or cloud, explain.
- g) Give two features of IOT
- h) What is governance?

Q2) Answer any two of the following.

[10]

- a) What is M2M and IOT value chain?
- b) What is meant by a smart city in IOT?
- c) What are the communication models used in IOT?

P.T.O.

Q3) Answer the following.

[10]

- a) What is IOT architecture - state of art?
- b) Explain security and privacy in IOT.

Q4) What is IOT reference model?

[10]

OR

Explain IOT in smart farming

Q5) Write short notes on any Two.

[10]

- a) Four aspects in business to master IOT
- b) Trust in IOT platforms for smart cities.
- c) Deployment and operational view
- d) IOT governance
- e) Big data and IOT



Total No. Of Questions : 5]

SEAT No. :

PA-4102

[Total No. Of Pages : 2

[5975]-404

M.B.A. (IT)

**405 UL: Debugging of Application programming (IOT)
(2020 Pattern) (Semester - IV)**

Time : 2 Hours]

[Max. Marks : 50

Instructions to the candidates :

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

Q1) Solve any Five

- a) Explain brief history of IoT. [2]
- b) Define societal benefits of IoT? [2]
- c) What is privacy, and security in IoT? [2]
- d) What is local machine? [2]
- e) Define IoT devices? [2]
- f) What is IoT platform? [2]
- g) What is open source? [2]
- h) What is IoT architecture? [2]

Q2) Solve any Two

- a) Explain the open source IoT platform? [5]
- b) What is uses of IoT platform? [5]
- c) Explain the setup of amazon IoT platform? [5]

P.T.O.

Q3) Solve any One

- a) What is programming? And explain in detail operators, array, functions with examples in detail? [10]
- b) Write short notes on [10]
 - i) Structure
 - ii) Files

Q4) Solve any One

- a) What is cloud computing? Explain using platform specific dashboard[10]
- b) What is API? Explain in detail REST API. [10]

Q5) Solve any One

- a) What is Cryptography? Derive the relation of Cryptography in IoT?[10]
- b) What is Privacy? State the various security consideration in IoT? [10]

