[5862]-101

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 right indicate marks for questions/sub questions.**

Q1)   Solve any Five: **[10]**

     a) Define Data structures.

     b) What is bitwise operator?

     c) What is union in 'C'?

     d) Explain fscanf().

     e) Explain pre-processor directives.

     f) Explain getchar() and putchar().

     g) What is the purpose of goto statement?

     h) What are storage classes in 'C'.

Q2)   Answer the following (Any 2):   **[10]**

     a) Explain the use of break and continue statement in loops with suitable example.

     b) How dynamic memory management is used in C.

     c) Explain ternary operator in C with suitable example.

Q3) Write a 'C' program to accept marks of 10 students of a class in an array. Calculate and print average marks. **[10]**

OR

Write recursive program to print Fibonacci series for 'n' terms.

Q4) Write a 'C' program to accept 60 students record in an array of structure with fields Roll No., Name, Marks. Print student name who is having highest marks. **[10]**

OR

Write a 'C' program to print following patterns:

a) 1   b)   5

    2   3   4   4

    4   5   6   3   3   3

    7   8   9   10   2   2   2   2

                                                          1   1   1   1   1

Q5) Write a 'C' program to count and display total number of alphabets, numeric characters, special characters, number of words and number of lines in a file. **[10]**

OR

Write a program in 'C' to store n elements in an array and print the elements using pointer.

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[5862]-102

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

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)   All questions are carry equal marks.

   3)   Draw neat labeled diagram wherever necessary.

Q1)   Solve any 5:   **[10]**

   a) Define the software system and write any two types of system.

   b) What is SDLC? List any four types of SDLC model.

   c) What is RUP? Write any four phase of RUP.

   d) Explain in short software development approach with SSAD.

   e) Distinguish waterfall model and spiral model.

   f) Write any four roles of users in SDLC.

   g) List any four characteristics of software system.

   h) Write any four advantages of RAD model.

Q2)   Write short note on (any 2):   **[2×5=10]**

   a) Abstraction and Encapsulation from OOAD.

   b) OOAD methods and message.

   c) OOAD Inheritance and polymorphism.

Q3) Write structure and contents of software requirement specification (SRS) to be prepared for Hospital Management System. **[10]**

OR

Explain Decision tables and Decision Trees. Draw decision table for the following: **[10]**

Admission of MBA (IT) course follows below given procedural rules:

- Students must have minimum 50% in any degree from any recognized university.

- Must have Math's/Stat subject in 12th or degree.

- For reserved category exemption of 5% is given.

- CET score should be minimum 50%.

Q4) Demonstrate use-case driven object oriented analysis for any e-commerce website. **[10]**

OR

Draw sequence diagram and collaboration diagrams for phonepe applications payment gateway. **[10]**

Q5) Design user Interface for proposed online voting system for muncipal corporation election. **[10]**

OR

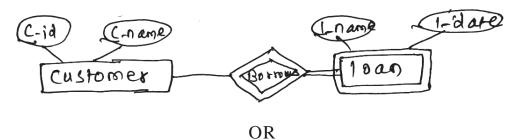Explain various features of modern GUI with suitable example. **[10]**

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[5862]-103

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

103 (Core) : 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 schema.

    b)   Explain two Advantages of DBMS.

    c)   What is crash recovery in DBMS.

    d)   Define log based recovery.

    e)   Define Encryption.

    f)   Why we need security in DBMS.

    g)   What is meaning of Data privacy.

    h)   Define non volatile storage.

Q2)   Solve Any Two: **[10]**

    a)   Explain various types of Data Models.

    b)   Define Deadlock. Define Generalization.

Q3) Explain Degree of relation. Identify weak entity and strong entity from given Diagram. **[10]**

OR

Consider the following transactions. Give two non-serial schedules that are serializable.

T_1	T_2
Read (A)	Read (A)
A = A + 1000	A = A − 1000
Write (A)	Write (A)
Read (C)	Read (B)
C = C − 1000	B = B − 1000
Write (C)	Write (B)
Read (B)	
B = B + 1000	
Write (B)	

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

OR

Create student table with following attributes student (S-id, S-name, Gender, Age)

a) insert 5 records in student table.

b) print student information who's Gender is male.

c) count how many female students are in student table.

d) print student name starting with 'B'.

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

OR

Demonstrate different types of functional dependancies with suitable example.

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[5862]-104

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

PRINCIPLES OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOUR (104 Core)

(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   **[2×5=10]**

a) Define Managerial Functions.

b) Define open and closed system.

c) Define organizational Behaviour.

d) Leadership styles.

e) Define Team Building.

Q2) Explain in detail about Taylor Fayol Theory.   **[10]**

Q3) Explain Decision making and its various types with suitable example.   **[10]**

Q4) Explain in detail Theory X and Y, Theory Z.   **[10]**

Q5) What is stress management? Describe various sources and types of stress. **[10]**

Q6) Write short note on (Any 2)   **[2×5=10]**

a) Johari window.

b) Conflict management.

c) MIS

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[5862]-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 indicate full marks.*

Q1) Answer the following (Any 5)   **[5×2=10]**

a)   What is primary storage in computer system?

b)   Explain characteristics of computer.

c)   What is non-positional number system?

d)   What is ASCII?

e)   What is microprocessor?

f)   Define software.

g)   What are types of language convertor?

h)   What is network topologies?

Q2) Answer the following (Any 2)   **[10]**

a)   Explain input and output devices with examples.

b)   Define operating system & Explain it's function.

c)   Differentiate compiler and Interpreter.

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

a)   i) $(11010110)_2 = (?)_8$

ii) $(356)_{16} = (?)_{10}$

<div align="center">OR</div>

b)   i) $(7986)_{10} = (?)_2$

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

Q4) Answer the following [10]

     a)   i)   Differentiate between windows operating system and open source operating system. **[4]**

          ii)   Explain Multiprocessing & Multiprograming in software system.**[6]**

<div align="center">OR</div>

     b)   i)   Explain types of microprocessor. **[4]**

          ii)   Explain online and real time processing **[6]**

Q5) Answer the following. [10]

     a)   i)   Draw digital block diagram of computer and write function of memory. **[4]**

          ii)   Explain types of networks. **[6]**

<div align="center">OR</div>

     b)   i)   Explain image capturing devices with examples. **[4]**

          ii)   What is OSI model & Explain all layers of OSI model. **[4]**

<div align="center">❖   ❖   ❖</div>

[5862]-107

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 labelled Diagrams whenever necessary.*
  3) *Figures to the right indicate full marks.*
  4) *All questions are compulsory.*

Q1) Solve any five:

a)	Define E-commerce.	**[2]**
b)	Elaborate the concept of Enterprise 2.0.	**[2]**
c)	Define Digital Economy.	**[2]**
d)	List any two characteristics of successful E-Tailing.	**[2]**
e)	Enlist most commonly used online booking Agencies.	**[2]**
f)	Memorise any two applications of web. 2.0.	**[2]**
g)	Name any two benefits of e-Recruitment method.	**[2]**
h)	Define virtual community.	**[2]**

Q2) Solve any two:

a)	Describe the advantages of E-commerce for customers.	**[5]**
b)	Differentiate between E-Business and E-Commerce.	**[5]**
c)	State and explain the services provided by Amazon as E-commerce website.	**[5]**

Q3) Solve any one:

a)	"E-Business rapidly growing Industry" Justify.	**[10]**
b)	Explain in brief B2B, B2C, C2B and C2C classification.	**[10]**

Q4) Solve any one.

    a)   What do you mean by social Business Networks? Discuss the types of social business networks with Example? **[10]**

    b)   Explain the business run by Uber & Various services given to customers. **[10]**

Q5) Solve any one.

    a)   Summarise in detail the advantages of E-Employment with reference to job seeker and employer. **[10]**

    b)   "E-travel industry contributes to 88% growth of Indian e-commerce market". Evaluate the statement in context to the characteristics of E-travel industry. **[10]**

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[5862]-201

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

201 SD Core : JAVA PROGRAMMING

(2020 Pattern) (Semester - II)

Time : 2 ½ 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)   String

    d)   Constructor

    e)   Applet

    f)   Multithreading

    g)   Exception

    h)   Stream

Q2) Answer any TWO

    a)   Differentiate between a class and an object.

    b)   Describe the purpose of JDK. Mention some tools of JDK and their purpose.

    c)   Explain various stages in applet life cycle.

Q3) a)   Define a class Student having instance variables:rollno,name,mark1,mark2 and mark3 and method: Calculate () to calculate the overall percentage of marks and return the percentage of marks.

<div align="center">OR</div>

    b)   Write a java program to display first ten terms of Fibonacci series.

        0 1 1 2 3 5 8

Q4) a) Write application that will accept number from user and find whether it is divisible by 19 or not. If it is not divisible throw user defined exception "Number Not Divisible Exception".

<div align="center">OR</div>

b) Write application that will accept two file name from user. Copy first file to second. Do all possible validations. (Use Character Streams)

Q5) a) Write an AWT Application to draw a circle. Accept the necessary parameters for drawing a circle and a colour to fill the circle.

<div align="center">OR</div>

b) Create an applet which displays a rectangle/string with specified colour & coordinate passed as parameter from the HTML file.

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[5862]-202

F.Y. M.B.A. (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) NET BEUI

b) Wireless 802 11a.

c) Switches.

d) DHCP server.

e) Active Directory.

f) Print service.

g) WINS.

h) Firewall.

Q2) Answer (any 2) **[2×5=10]**

a) A small startup wanted to establish VPN for their system & employees. How will you help to establish the system and also brief about the protocols used in this system

b) Compare Internet & Intranet.

c) Explain application protocol TELNET in detail.

Q3) Answer (any 1) **[1×10=10]**

a) Demonstrate how active directory works with its configuration details.

OR

b) Explain the importance of cables & connectors with examples.

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Q4) Answer (any 1)   **[1×10=10]**

    a)   How can we create partition in windows server 2008 operating system.

<center>OR</center>

    b)   Explain group policy? Explain the need of user & group policy in windows server 2008.

Q5) Answer (any 1)   **[1×10=10]**

    a)   Elaborate the steps of implementing.NET framework environment on Client Machine in windows server 2012 with web services.

<center>OR</center>

    b)   Explain the features of Network load balancing & clusturing.

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[5862]-203

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

201 ST Core : SOFTWARE TESTING LIFE CYCLE-(STLC)

(2020 Pattern) (Semester - II)

Time : 2 ½ 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)   Defect

   b)   Verification

   c)   Static Testing

   d)   Internal Control

   e)   Distributed Application

   f)   White Box Testing

   g)   When to start Testing

   h)   Test Closure

Q2) Answer any two of the following.

   a)   Describe phases of STLC?

   b)   What is Validation in Software Testing?

   c)   What is equivalent class partitioning?

Q3) Answer any one of the following

   a)   Explain Basic Path Testing with suitable example?

   b)   Explain Software Testing Techniques in short?

Q4) Answer any one of the following.

    a)   Explain COTS based Application Testing?

    b)   Describe Contract Provisions from the User's Perspective?

Q5) Answer any one of the following.

    a)   Explain COSO model and its component as Internal Testing Software Control?

    b)   How to build steps to better Application Security Strategies?

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[5862]-204

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

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

Q1) Solve any five of the following :

a) What role does Linux Kernel plays in Android devices?

b) What is meant by Layout in Android?

c) List important files and folders in Android List components of Android application.

d) What is use of adapter in Android?

e) What are attributes of Command Button?

f) Explain attributes "Wrap_content" and "match_parent" with respect to view group.

g) What is meant by menu? Enlist its types.

h) Give the attributes of Absolute Layout of Android.

Q2) Write short notes on (any two)

a) AutoCompleteTextView

b) R.Java file

c) Emulator

Q3) Solve any one of the following :

    a)   Explain Life cycle of service in Android.

    b)   Explain Android SDK versions and their features.

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 XML code to display Login Screen using Table Layout.

    b)   Select all records of table "Student", using database connectivity in Android.

            [Assume fields for "Student" table]

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[5862]-205

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

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 compuslory.*
  2) *Each question having 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 SMPS?

  b)   Explain the types of ports on the PC.

  c)   Explain the SD-RAM.

  d)   What is the role of Time space diagram?

  e)   What is a virus?

  f)   What do you mean by an interrupts?

  g)   Define the term Blue Tooth.

  h)   Explain Ethernet.

Q2) Solve any two of the following :   **[2×5=10]**

  a)   What is MBR?

  b)   Explain the different units of 32 bit processor architecture.

  c)   Draw and explain CPU building blocks.

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

    a)   Explain the types of hardware interrupts.

    b)   How to rectify booting problem? With examples.

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

    a)   Explain with block diagram the Pentium microprocessor Architecture.

    b)   Explain the steps to install new Windows 10.

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

    a)   Explain steps to install network printer.

    b)   Disk Management techniques.

    c)   Software diagnostic tool.

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[5862]-206

First Year M.B.A. (I.T.)
202 ST 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 having 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 faults.

b) List the causes of software errors.

c) Explain walkthrough.

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 :   **[2×5=10]**

a) Explain SQA objectives.

b) Elaborate various software maintenance components.

c) Explain software testing.

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

    a)   Draw the SQA architecture and explain six classes of components.

    b)   Explain contract review objectives.

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)   What are a CASE tools?

    b)   Explain ISO 9000-3 guiding principles.

    c)   Software configuration.

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[5862]-207

F.Y. M.B.A. (I.T.)
203 BPD Core : 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 LIFO methods.

     b)   Define FIFO methods.

     c)   Define EBQ.

     d)   What is PLC management?

     e)   Define Bill.

     f)   What is invoice?

     g)   Define shop floor.

     h)   What is production planning?

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

     a)   Explain work order management in detail.

     b)   Explain in detail material requirement planning.

     c)   Explain in detail sale analysis network.

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

    a)   Explain employee appraisal and draw a layout of leave management system of all employee in an organisation.

    b)   Explain in details E-HR with example.

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

    a)   What is financial accounting and give details about double entry & depreciation?

    b)   What is ratio analysis? and explain its various types.

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

    a)   What is CRM and state its scope and advantages?

    b)   Explain in detail demand forecasting with examples.

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[5862]-208

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

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

Q1) Consider the following table to solve any five the following SQL queries :**[10]**

Employee (Empno, Ename, Salary, Joining_date, Birth_date, Job_id)

Job (Job_id, Job_desc, Job Title, Max_salary, Min_salary)

   a)   Create tables with appropriate constraints

   b)   Display employee name along with his job title.

   c)   Display list of employees whose employee name starts with 'P' character.

   d)   Display details of employees earning salary greater than the minimum salary for their job.

   e)   Display list of employees who have joined after '1st January, 2010'.

   f)   Display total salary for each job.

   g)   Display employee name and age for employees.

   h)   Display details of employees who are working as 'MANAGER'.

Q2) Write short notes on (any two) :   **[2×5=10]**

   a)   Views

   b)   CLOB data type

   c)   Group By- Having clause

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

  a) Explain different types of Join operations with example.

  b) What is mean by Constraints? Explain different types of constraints available in Oracle.

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

  a) What is mean by Cursor? Explain different types of Cursor available in Oracle.

  b) Explain different SQL functions available in oracle.

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

  a) Write a Cursor to display first five top salaried records of Employee table.

  b) Write a Function Fact() to test whether the input number is ODD or EVEN.

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[5862]-209

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

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

Q1) Define the following terms (any five) :

a) Cloud, why it is called as cloud?

b) Cloud Storage.

c) Concept behind Virtualization.

d) Cloud Computing.

e) Advantages of Cloud Services.

f) Load Balancing in Cloud Computing.

g) QoS (Quality of Service)

h) Cloud Auto-Scaling?

Q2) Answer any two of the following :

a) What are different services types exist for Cloud Computing?

b) Why Data Centers important to Business?

c) How does Virtualization work in Cloud Computing?

P.T.O.

Q3) Answer any one of the following :

    a)   Explain the elements of Classic Data Center?

    b)   Explain Intelligent Storage System?

Q4) Answer any one of the following :

    a)   Explain Cloud Infrastructure Management and Service Creation Tools?

    b)   Describe the Storage Configuration in details?

Q5) Answer any one of the following :

    a)   How to assume the phase's strategy for Migration to Cloud?

    b)   How do you quote the challenges of cloud security to protect the business data?

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[5862]-210

M.B.A.(IT)

206 : 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 are different key attributes of quality software?

   b)   What is strategic and technical assessment in project planning?

   c)   What are different types of risks in software project?

   d)   What are different estimation techniques in software effort estimation?

   e)   What is mean by software configuration management?

   f)   What is role of Team members in project management?

   g)   What is mean by dynamic system development?

   h)   What are different techniques for software quality assurance?

Q2) Write short notes on (ANY TWO) :

   a)   Prototyping

   b)   Extreme programming

   c)   Defect management

Q3) Solve any ONE of the following :

    a)   Explain software project management in detail.

    b)   Explain the process of Cost benefit analysis.

Q4) Solve any ONE of the following :

    a)   Explain COCOMO model with an example.

    b)   Describe the significance of PERT/CPM with example.

Q5) Solve any ONE of the following :

    a)   Explain the importance of using a project management software.

    b)   Describe the factors that influence the quality of software product.

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[5862]-211

M.B.A. (Information Technology)
207 UL : CURRENT TRENDS IN IT
(2020 Pattern) (Semester - II)

Time : 2½ 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.

    b)   Explain the most popular social media platforms.

    c)   What is IT infrastructure?

    d)   Explain EDM.

    e)   Explain the different applications of E-learning.

    f)   Explain the popular online meetings tools.

    g)   Explain POS.

    h)   Explain PayPal.

Q2) Answer any Two out of Three (5 Marks Each) :   **[10]**

    a)   Explain Social Networkin security issues with examples.

    b)   What are the different challenges in IT infrastructure management?

    c)   Explain the Content Management System with examples.

Q3) a) Explain M-Commerce with their different applications. **[10]**

OR

b) Explain E-Commerce with their examples.

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

OR

b) Explain Virtual School system and their importance in today's era.

Q5) a) Explain e-Learning Models: WBT, CBT, LMS, and LCMS in details.
[10]

OR

b) Explain Electronic payment system with their advantages and drawbacks.

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[5862]-212

M.B.A. (Information Technology) (Semester - II)
208 UL : BASICS OF BUSINESS ANALYTICS
(2020 Pattern)

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.*

　　4)　　*Every question has internal option.*

Q1) Answer any five out of Eight (2 marks each) :　　　　　　　**[5 × 2 = 10]**

　　a)　　Define Analytics.

　　b)　　Define Business Intelligence.

　　c)　　What is Data?

　　d)　　What is Big Data?

　　e)　　What is Hadoop?

　　f)　　Define Apache.

　　g)　　Write down any two Business Analytics application.

　　h)　　Define Analysis.

Q2) Answer any two questions out of three :　　　　　　　　　　**[2 × 5 = 10]**

　　a)　　Compare Business Intelligence vs Data Science.

　　b)　　Differentiate between data, information & knowledge.

　　c)　　Explain the characteristics of the analytical decisions.

Q3) Answer any one question out of two :　　　　　　　　　　　　　**[10]**

 a) Explain the need of Analytics in brief.

 b) Explain different tools for Analytics with example.

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

 a) "Breaking down a business problem into key question". Explain the statement.

 b) Explain the skills of good business analyst.

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

 a) Explain the need of Hadoop & Big data in this era.

 b) Explain the future of Business Analytics.

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[5862]-213

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

209 UL : INFORMATION SYSTEM AUDIT

(2020 Pattern)

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) From the options below, which of them is not a threat to information security?

   i) Eaves dropping   ii) Disaster

   iii) Unchanged default password   iv) Information Leakage

b) EDR is _____.

   i) Endpoint Detection & Recovery

   ii) Early detection & response

   iii) Endpoint detection and response

   iv) Endless detection & recovery

c) Lack of access control policy is a _____.

   i) Bug   ii) Threat

   iii) Vulnerability   iv) Attack

d) In assymetric key cryptography, private key is kept by _____.

   i) sender

   ii) receiver

   iii) sender and receiver

   iv) all connected devices to the network

P.T.O.

e)   What are patents?

f)   What is www?

g)   What is ciphertent?

h)   What is technology based audit?

Q2) Solve any 2 :   **[10]**

a)   What are steps to follow for a security audit?

b)   What are the types of ISA?

c)   Explain the steps of security risk assessment model.

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

a)   Explain the building block of Information security.

b)   Explain IDS.

Q4) What does system audit cover?   **[10]**

Q5) Short notes (any 2) :   **[10]**

a)   Risk Management.

b)   Disaster recovery planning.

c)   Explain need of security audit in organization.

d)   Types of firewall.

e)   Copyright.

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[5862]-301
M.B.A. (IT)
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.

2) Draw necessary diagram whenever required.

3) Figures to the right indicate full marks.

Q1) Solve any Five :   **[5 × 2 = 10]**

a) What is database?

b) What is functions?

c) Define class?

d) What are Access Modifier?

e) What are base Class?

f) What is Method loading?

g) What is Exception?

h) What are Exception handler?

Q2) Solve Any Two :   **[2 × 5 = 10]**

a) Explain the characteristic & structure of. Net frame work in details?

b) Explain website and gives it types?

c) Explain application of. Net frame work with example?

P.T.O.

Q3) Solve Any One : [10]

    a)   Explain the ADO. Net Architecture in detail?

    b)   Write short note on :

        i)   Form Control.

        ii)   Label Control.

Q4) Solve any one : [10]

    a)   What is File upload Server Control in details?

    b)   What is xml file? Explain in detail with examples?

Q5) Solve any one : [10]

    a)   What are Web Service? Explain in detail Various application platform?

    b)   What is Window Communication foundation (WCF) Service?

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[5862]-302
M.B.A. (IT)
301 NT : 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) Define (any 5) :   **[5 × 2 = 10]**

    a)   QOS.

    b)   Congestion Control.

    c)   Routing.

    d)   Differentiated service.

    e)   Cryptography.

    f)   Switching.

    g)   E-mail Security.

    h)   Wireless LAN.

Q2) Solve (any 2) :   **[2 × 5 = 10]**

    a)   Discuss LAN emulation & state the functions of LAN.

    b)   How to configure & monitor SNMP.

    c)   Explain briefly switching and types of switching fabrics?

Q3) Solve (any 1) :   **[10]**

    a)   Describe Wireless Links & Network Characteristics?

<div align="center">OR</div>

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

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

    a)   Illustrate the protocols used for real time communication & streaming.

<div align="center">OR</div>

    b)   Can you distinguish between Integrated & differentiated services.

Q5) Solve (any 1) :   **[10]**

    a)   Compare Client Server & Hybrid Networking.

<div align="center">OR</div>

    b)   Write a brief outline on cryptography with refrence to symmetric and public algorithm.

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[5862]-303
M.B.A. (I.T.)
301 ST : 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 has 10 marks.*
3) *Figures to the right indicate full marks.*

Q1) Solve any 5:   **[10]**

a)   What is use case testing?

b)   What is traceability matrix?

c)   What is Latency defect?

d)   What are the two parameters which can be useful to know the quality of test execution?

e)   What is test case?

f)   When is RTM (Requirement Traceability Matrix) prepared?

g)   What is "Test Plan Driven" in Manual testing.

h)   Who prepares test cases?

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

a)   Explain the risk associated with software testing.

b)   What are testing objectives.

c)   Explain white box Vs black box testing.

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

a)   Explain user's and tester's role.

b)   Explain user acceptance testing.

P.T.O.

Q4) Explain test scripts and test cases with examples. **[10]**

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

    a)   Pareto charts.

    b)   Acceptance test plan

    c)   TMM

    d)   Integration testing.

    e)   Test reports

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[5862]-304
M.B.A. (IT)
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) JDBC

    b) Socket

    c) Java Bean

    d) RMI

    e) HTTP

    f) Session

    g) Cookie

    h) URL

Q2) Answer the following any TWO.

    a) Explain Life Cycle Methods of Servlet.

    b) Explain various types of JSP implicit objects.

    c) Explain Stub and skeleton in RMI

Q3) a) Write a Java socket program that runs on a server and echos back all the strings after reversing sent by a client. If the client sends a string 'EXIT', the server program should terminate. Use port number 6000.

<p style="text-align:center">OR</p>

    b) Write a client server socket program to show chat application.

Q4) a) The database is stored on oracle server. The database has one table named "Employee" with following fields

Attribute	Datatype	Size
empid	varchar2	05
empname	varchar2	30
edept	varchar2	10
total_ sal	number	8.2

Write a Jdbc program to print the list of Employee with total salary.

OR

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

Q5) a) The database is stored on oracle server. The database has one table named "Employee" with following fields

Attribute	Datatype	Size
pid	varchar2	05
pname	varchar2	30
pqty	number	8
prate	number	8.2

Write a servlet program to print the list of product with total cost. The list will appear on the clients browser in a table format.

OR

b) Write a JSP application to accept Book name from HTML page and display Details of Books from Book table. Assume suitable Table structure.

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[5862]-305

M.B.A. (Information Technology)
302 NT Core : 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) Define Vector processing

  b) What is thread?

  c) Define Node degrees.

  d) Define Scalable network.

  e) What is SIMD?

  f) What is MIMD?

  g) Explain Data Hazards

  h) Elaborate virtual Machine

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

  a) List applications of parallel processing

  b) Explain tha concept of inter connected network?

  c) List recent parallel programming models.

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

    a)   What is pipelining? Explain the different types of pipelining?

    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 are the issues of inter connection networks?

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

    a)   Explain parallelism based on Grain size?

    b)   Discuss instruction level parallelism.

    c)   What is superscalar processing?

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[5862] - 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) :**   **[10]**

a)   Scrum Master.

b)   User Stories.

c)   Lean Production.

d)   SCRUM.

e)   Check List.

f)   Agile Knowledge Management.

g)   Agile Quality Assurance.

h)   Project Constraints.

Q2) **Answer any two of the following :**   **[10]**

a)   How Risks are managed in Agile Projects?

b)   Describe the role of Scrum team in Agile Scrum Methodology.

c)   Describe the generic agile concept.

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

    a)   Describe the Agile process flow in detail.

    b)   Explain Extreme Programming (XP) in Agile Process.

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

    a)   Describe Acceptance criteria in Agile project.

    b)   Explain in brief what is Agile Testing, Methodology and process life cycle.

Q5) **Answer any one of the following :** [10]

    a)   How do you Setting up QA processes in an Agile environment?

    b)   How to build a good QA plan for your Agile set-up?

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[5862] - 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) *Assume suitable if necessary.*
2) *Draw neat labelled diagram wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *All questions are compulsory.*

Q1) Solve any five :   **[10]**

     a) What is a system?

     b) Define MIS.

     c) Define various types of network.

     d) What is DBMS?

     e) Define Data warehousing.

     f) Define Analytics.

     g) Define SDLC.

     h) Define Information Systems.

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

     a) Discuss and Explain system with its Characteristics of details.

     b) Define Information and Elaborate about the Characteristics of quality information.

     c) Short Note on :

         i) Value of information.

         ii) Attributes of information.

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

    a)   Describe the Concepts of Data warehousing and Explains its Architecture.

    b)   Define EIS and Explain it detail about its Component, Characteristic with proper diagram.

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

    a)   Describe all the phases of the System Development Life Cycle (SDLC)/ Software Development Life Cycle with diagram in detail.

    b)   Write short notes on :

        i)   Case Tools.

        ii)   RAD.

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

    a)   Define and Explain in detail Information system with Examples.

    b)   Explain in details FIS with regards to Marketing and Finance information system in detail.

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[5862]-308

MBA (IT)

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) :   **[5 × 2 = 10]**

    a)   OLAP.

    b)   Business Intelligence.

    c)   Classification.

    d)   Regression.

    e)   Mean.

    f)   Median.

    g)   Range.

    h)   Standard Deviation.

Q2) Answer the following questions (Any two) :   **[2 × 5 = 10]**

    a)   Explain the term data mining with one example.

    b)   Explain any one data mining issue with example.

    c)   Explain any one data mining tool in brief.

Q3) Answer the following questions (Any one) :   **[1 × 10 = 10]**

   a)   Differentiate between Business Intelligence and Data Mining.

   b)   Differentiate between Query Processing and Data Mining.

Q4) Answer the following questions (Any one) :   **[1 × 10 = 10]**

   a)   Differentiate between Predictive Data Mining and Descriptive Data Mining.

   b)   Differentiate between web content mining and web structure mining.

Q5) Answer the following questions (Any one) :   **[1 × 10 = 10]**

   a)   What is clustering? What are the applications of clustering? Explain any one clustering method in brief.

   b)   List and explain the phases of data collection and processing for diabetic screening.

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[5862]-309

MBA (IT)

306 Core: 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 indicate full marks.*

Q1)   Solve any Five :   **[10]**

   a)   What is a Graphic System?

   b)   What is a Hardware of a Graphic system?

   c)   What is a Software of a Graphic system?

   d)   What type of processor is required for Graphic system?

   e)   What is "PCI Express"?

   f)   What is a Modern Graphic Card?

   g)   What are the types of storages used in Graphic system?

   h)   What is HTML?

Q2)   Solve any Two :   **[10]**

   a)   Explain colour element in Visual Art.

   b)   Explain space element in Visual Art.

   c)   Explain shape and Texture element in fundamental of Visual Art.

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

    a)   What is principle of Art? and name any five principles of Art with definition?

    b)   Explain the principle of Design with Space, Position and Structure of Contrast.

    c)   Explain similarity and movement in detail?

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

    a)   Define the Animation Concept and explain in brief Erase in and out with example.

    b)   Explain the Anatomy and its understanding of 3D Modeler.

    c)   Explain the objectives & Types of Graphics device in Computer Graphics.

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

    a)   Explain the different type of key to write an animated video scripts.

    b)   Explain story board in detail.

    c)   Explain the Drafting of Script and Script Methodology in detail.

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[5862] - 310

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

307UL : DATA WAREHOUSING

(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 :**   **[10]**

   a)   What is mean by ETL?

   b)   What is mean by metadata?

   c)   What is mean by Data Mart?

   d)   What is data warehousing?

   e)   What is mean by Dimension Table?

   f)   What is mean by OLAP?

   g)   What is mean by Fact Table?

   h)   What are different characteristics of Data warehouse?

Q2) **Write short notes on ANY TWO :**   **[10]**

   a)   ETL Tools.

   b)   Tools for metadata management.

   c)   Granularity.

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

    a)   Explain Kimball's life cycle of Data warehouse in detail.

    b)   Explain important responsibilities of team members while designing data warehouse.

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

    a)   Explain ETL process in detail.

    b)   What is schema? Explain different types of schemas in data warehouse.

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

    a)   Explain the advantages and disadvantages of data warehouse.

    b)   Explain different types of data warehouse.

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[5862]-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 questions carries 10 marks.*

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

Q1) Solve any 5.   **[10]**

a) Give two examples of utility computing.

b) Cloud computing is a kind of abstraction which is based on the notion of combining physical resources and represents them as _____ resources to users.

  i) Real   ii) Cloud

  iii) Virtual   iv)   None of them

c) Which of the following is an essential concept related to cloud?

  i) Reliability   ii) Abstraction

  iii) Productivity   iv) All of them

d) _____ is a chieved using specialized software which creaters partitions of a server into smaller virtual servers to maximize server resources.

  i) Virtualization   ii) Socialization

  iii) Communication   iv) Transmission

e) Give examples of Green IT.

f) What are the factors smart city depend upon?

g) What is digital divide in e-governance?

h) What is GPR is e-governance?

                                                                      P.T.O.

Q2) Solve any two.　　　　　　　　　　　　　　　　　　　　　　　　　　　　　**[10]**

    a)　What are the pillars of E - governance.

    b)　Explain the benefits of E - governance.

    c)　How does digital divide act as an impediment to e-governance initiatives?

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

    a)　How do smart cities work?

    b)　What are the types of e-governance?

Q4) Describe the process of utility computing.　　　　　　　　　　　　　　　**[10]**

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

    a)　Individual privacy Vs National security.

    b)　STQC

    c)　Big Data

    d)　Role of ICT in e-governance

    e)　PPP models.

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[5862] - 401

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

Q1) **Answer the following (any 5) :** **[10]**

  a) What is a ERP Package?

  b) State any 2 benefits of SCM.

  c) What is a CRM Component?

  d) What are Oracle apps?

  e) What is web based architecture?

  f) What is SCOR?

  g) What is Logical Integration?

Q2) **Solve (any 2) :** **[10]**

  a) Discuss BPR Tools & its advantages.

  b) Distinguish between MRP & ERP.

  c) Describe the components of ERP.

P.T.O.

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

    a)   Explain briefly Vanilla ERP.

    b)   Discuss ERP Evaluation Criteria.

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

    a)   Explain the Oracle AIM Methodology in brief.

    b)   What is integrated SAP Model with its functions?

Q5) **Solve (any 1) :** [10]

    a)   How did Nokia implemented salesforce to help manage the size and diversity of its Client base. What efforts Nokia took to customize its product range and marketing to suit geo-specific locations. What solution would you suggest the team?

    b)   Illustrate the Drivers of Supply Chain Management.

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[5862]-402
M.B.A. (I.T.)
(402): MULTIMEDIA & ANIMATION
(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) Solve any Five :   **[10]**

    a)   Multimedia.

    b)   MIDI Audio.

    c)   Animation.

    d)   Multimedia Authoring.

    e)   Data Redundancy.

    f)   Quantization.

    g)   ADPCM.

    h)   Blender.

Q2) Solve any Two :   **[10]**

    a)   What are different component of multimedia?

    b)   Describe Looseless Compression.

    c)   What is digital image processing.

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

    a) Describe image compression in multimedia.

    b) Explain Huffman Algorithm in text compression with suitable example.

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

    a) Describe LZW coding in text compression with suitable example.

    b) Explain principles of Animation.

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

    a) Explain different animation techniques such as Key frame, Kinematics, Rendered, Morphing etc.

    b) Describe modelling and animation tools.

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[5862]-403

M.B.A.

404 UL : OPEN SOURCE IOT PLATFORM

(Semester - IV) (2020 Pattern)

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 IOT?
   b)   Explain IOT vision.
   c)   What is M2M?
   d)   Define Web technology.
   e)   Define Governance.
   f)   Name the components of IOT.
   g)   Give two features of IOT sensor.
   h)   What are the two parts of HRM?

Q2) Answer any two from the following.   **[10]**
   a)   Differentiate between IOT and M2M.
   b)   Explain the components of IOT ecosystem in detail.
   c)   Explain IOT Brownfield.

Q3) Answer the following.   **[10]**
   a)   Explain Functional view.
   b)   What is future factory concept?

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

Q5) Write short notes on (any 2).   **[10]**
   a)   Contributions of FP7 projects.
   b)   Health.
   c)   Big data and IOT.
   d)   Trust in IOT platforms for smart cities.
   e)   IOT in retail industry.

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SEAT No. :

[Total No. of Pages : 1

[5862]-404

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

405 UL : DEBUGGING OF APPLICATION PROGRAMMING (IoT)
(Semester - IV) (2020 Pattern)

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) Define the following terms (Any Five).
    a)   List IoT devices in daily use.
    b)   Is IoT powerful and persuasiveness. Comment.
    c)   Define IoT workflow.
    d)   Define data structure.
    e)   What is device management?
    f)   What is firmware update?

Q2) Answer any two of the following.
    a)   Explain IoT architecture in detail?
    b)   Explain Structures and unions in C language.
    c)   Explain the concepts of Deep dive and Dry Run.

Q3) Answer any one of the following.
    a)   Explain how to setup IoT platform 1 and 2?
    b)   What is preprocessor directive, Recursion operators and project environment?

Q4) Answer any one of the following.
    a)   Describe Injection Engine, Rules Engine, application service.
    b)   Explain Visualization and IoT Analytics?

Q5) Answer one of the following.
    a)   Explain performance and Security in IoT w.r.t. MQTT and HTTP performance.
    b)   What is Security? State the various security considerations and design guidelines in IoT?

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