Total No. of Questions : 5]

SEAT No. :

PD-2916

[Total No. of Pages : 2

[6441]-501

S.Y. B.B.A.

COMPUTER APPLICATION

CA301 : Digital Marketing

(2019 Pattern) (CBCS) (Semester - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***

Q1) **Attempt any Eight of the following :** **[8 × 2 = 16]**

a) Define Digital Display Marketing.

b) What is Internet marketing?

c) What is web analytics?

d) Write any two advantages of social media.

e) What is Blogging?

f) What is Facebook Ads?

g) What is upload and download?

h) What is CRM?

i) Explain website.

j) What is Cost Control?

Q2) **Attempt any Four of the following :** **[4 × 4 = 16]**

a) Write 5 'Ds of digital marketing'?

b) Elaborate various strategies to optimize websites.

c) Explain the SWOT Analysis?

d) Write the Process of SEO.

e) Define resource planning and its type.

P.T.O.

Q3) **Attempt any Four of the following :** **[4 × 4 = 16]**

a) Explain the social networking (Facebook, Linkedln, Twitter).

b) What is Search Engine?

c) What is personal Marketing and video Marketing?

d) Which are SMART goals?

e) Write steps to how to optimize web page.

Q4) **Attempt any Four of the following :** **[4 × 4 = 16]**

a) Describe the steps to do Cost Control.

b) Explain Target group analysis.

c) Explain digital marketing and list its advantages.

d) Write CRM platform in detail.

e) Explain E-Marketing Plan.

Q5) **Write a short note on Any Two of the following :** **[2 × 3 = 6]**

a) Budgeting

b) Crawling

c) Google Analytics

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Total No. of Questions : 5]

SEAT No. :

PD-2056

[Total No. of Pages : 2

[6441]-502
S.Y. B.B.A.
COMPUTER APPLICATION
CA -302: Data Structure
(2019 Pattern) (Semester - III)

Time : 2½Hours] *[Max. Marks :70*

Instructions to the candidates:

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

Q1) **Attempt any EIGHT of the following. (Out of Ten)** **[8×2=16]**

a) What is spanning tree?

b) What is DFS?

c) What is a pointer to pointer?

d) List out different types of tree.

e) What is the need for the header?

f) What is stack underflow?

g) Define node structure of doubly linked list.

h) Why are stacks called Last in First Out (LIFO),

i) What is Primitive data structure?

j) List the different searching techniques

Q2) **Attempt any four of the following. (Out of Five)** **[4×4=16]**

a) What Operations we can perform on BT and BST.

b) Explain the linear search method with its advantages and disadvantages.

c) Explain different types of Dynamic Memory Allocation functions.

d) What is Graph? Explain adjacency list of graph.

e) Write an algorithm for evaluation of Postfix Expression.

P.T.O.

Q3) **Attempt any Four of the following. (Out of Five)** **[4 × 4 = 16]**

a) Write a function to add node at the given position in singly linked list

b) Explain different types of AVL rotations with an example.

c) Write a program to reverse a string using stack.

d) Write a function to delete a node at the end of doubly linked list

e) Write a function to create a tree.

Q4) **Attempt any four of the following: (out of Five)** **[4 × 4 = 16]**

a) Construct an AVL tree for given data : WED, TUE. MON, SAT, THUR, FRI.

b) What is circular queue ? Explain operations performed on static circular queue.

c) Write a C- program to display a linked list in Reverse order

d) An array contains the elements shown below. Using binary search algorithm, trace the steps followed to find key=56, 18 13 17 26 44 56 88 97

e) Sort the following numbers using merge sort. 38 27 43 3 9 82 10

Q5) **Write any two of the following: (Out of three)** **[2 × 3 = 6]**

a) Convert the following expression into postfix

i) A/B $ D *E–A*C

ii) (A+B*C–D)/E $ F

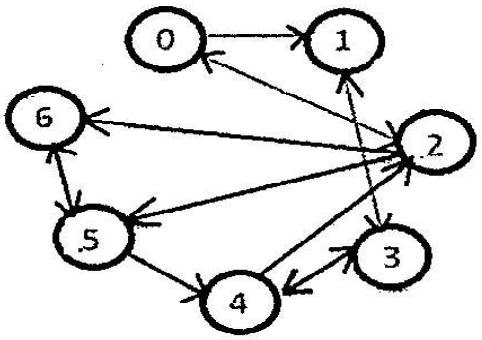
b) Define the following terms

i) Strict binary tree

ii) Path

iii) Pendant vertex

c) What is degree of vertex? Find in degree & out degree of following graph for each vertex.



Total No. of Questions : 5]

SEAT No. :

PD-2057

[Total No. of Pages : 2

[6441] - 503
S.Y.B.B.A.(Computer Application)
CA-303:Software Engineering
(2019 Pattern) (CBCS) (Semester-III)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

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

Q1) Attempt any Eight of the following : **[8 × 2 = 16]**

a) Which are the different fact finding techniques?

b) State any 4 types of System.

c) What is the purpose of requirement gathering?

d) Explain process.

e) What is software Engineering?

f) Explain in brief characteristics of the system.

g) Define SDLC

h) What is requirement Analysis?

i) Explain McCall's Quality Factors in software.

j) Define a feasibility study in software development.

P.T.O.

Q2) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Explain System Testing with its types.

b) Describe the role of System Analyst.

c) Explain DFD and List out various types of DFD's.

d) Explain Spiral model in detail

e) What are the main components of decision trees and decision tables?

Q3) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Draw ER Diagram for "Hotel Management System".

b) Explain SRS document in detail.

c) Describe VV model.

d) Write a short note on qualities of good software.

e) Discuss the importance of input and output design in system design.

Q4) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Explain elements of Analysis model.

b) Explain the term requirement elicitation

c) Design a decision tree for a loan approval system that includes conditions for loan eligibility based on credit score and income.

d) Explain 5 basic steps of software development

e) Create a Data Flow Diagram (DFD) up to the first level for a library management system.

Q5) Write a short note on Any TWO of the following : **[2 × 3 = 6]**

a) Data Dictionary.

b) Waterfall model.

c) Product

Total No. of Questions : 5]

SEAT No. :

PD-1438

[Total No. of Pages : 2

[6441]-504
B.B.A (CA)
CA 304 A : ANGULAR JS
(2019 Pattern) (CBCS) (Semester - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) **Attempt any Eight of the following :** **[8 × 2 = 16]**

a) What is Angular JS?

b) Explain ng-controller directive?

c) Write any two features of Angular JS.

d) What is data binding in Angular JS?

e) Explain ng-bind directives in Angular JS.

f) Explain $ http services.

g) What is difference between $ scope and scope?

h) What is Dependency Injection?

i) Explain $ timeout service.

j) What is Angular Js factory?

Q2) **Attempt any FOUR of the following:** **[4 × 4 = 16]**

a) Explain difference between Angular Js and Javascript.

b) Explain most common directives used in Angular JS.

c) What are different forms of form events?

d) Write an Angular Js program to create Service for finding factorial of a number.

e) Write Angular JS program for multiplication for two numbers.

P.T.O.

Q3) **Attempt any FOUR of the following :** **[4 × 4 = 16]**

a) Explain different types of filters in Angular JS.

b) Explain the ways to implement Customer directives in Angular JS.

c) Create the hello world application program using Angular JS.

d) Write a program that can show the use of ng-repeat.

e) Explain the lower-case and upper-case filters with example.

Q4) **Attempt any FOUR of the following:** **[4 × 4 = 16]**

a) Explain the Angular JS MVC Architecture.

b) Write an Angulars JS program to demonstrate ng-init directive that initalizes variable of string, number, array and object.

c) Explain Life cycle of a Module.

d) Write a program to display name qualification and address using MVC architecture.

e) Distinguish between factory, service and provider.

Q5) **Write short notes any two of the following :** **[2 × 3 = 6]**

a) Model

b) Event Handling

c) Dependency Injection Services.

Total No. of Questions : 5]

SEAT No. : ____

PD-1439

[Total No. of Pages : 2

[6441]-505
S.Y.B.B.A - (CA)
CA 304 : PHP
(2019 Pattern) (CBCS) (Semester - III)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) **Attempt any Eight of the following (Out of Ten):** **[8 × 2 = 16]**

a) Define sticky form.

b) Which are the methods to submit form?

c) What is cookie?

d) What is PHP?

e) Explain PHP explode () function.

f) What is use of array-slice () in PHP?

g) Explain split () function in PHP.

h) What is an Interface?

i) What is the purpose of break statement?

j) Explain $ - SERVER.

Q2) **Attempt any FOUR of the following (Out of Five) :** **[4 × 4 = 16]**

a) Explain string manipulation functions in PHP.

b) What is the difference between for and for each in PHP?

c) Write a PHP program to check the given number is Armstrong or not.

d) What is array? Explain different types of array in PHP.

e) Write a PHP program to create login page and welcome user on next page.

P.T.O.

Q3) **Attempt any FOUR of the following (Out of Five) : [4 × 4 = 16]**

a) List and explain MYSQL functions used in PHP.

b) Explain Introspection in PHP.

c) Write a PHP program to print a multiplication table of a given number.

d) Explain in detail Arithmetic Operator in PHP.

e) Write a PHP Program to print Fibonacci series using recursion.

Q4) **Attempt any FOUR of the following (Out of Five) [4 × 4 = 16]**

a) Explain function with default parameter in PHP using example.

b) How Inheritance is implemented in PHP? Explain using example.

c) What is variable in PHP? Explain its scope with example.

d) Write a PHP program to display following operations on string:

i) String Copy

ii) String Substring

e) What is Superglobals in PHP?

Q5) **Write a short note on Any TWO of the following (Out of Three) [2 × 3 = 6]**

a) Session

b) Continue Statement

c) POST Method

Total No. of Questions : 5]

SEAT No. : ____

PD-1440

[Total No. of Pages : 2

[6441] - 506
S.Y. B.B.A. (CA)
CA-305: BIG DATA
(2019 Pattern) (CBCS) (Semester-III)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

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

Q1) Attempt any Eight of the following : **[8 × 2 = 16]**

a) What are the five's of big data?

b) What is unsupervised learning?

c) What is regression?

d) What is sample?

e) What is pipe operator?

f) What is the statistical inference?

g) Enlist stages of Data Science.

h) What is digital data?

i) What is probability?

j) What is R?

P.T.O.

Q2) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Explain the life cycle of data analytics.

b) Explain probability distribution modeling.

c) Describe Association rule for mining.

d) Explain Apriori algorithm.

e) Explain K-means of clustering algorithm.

Q3) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Explain correlation with its type.

b) Explain tools used in big data.

c) Explain the steps in Machine Learning.

d) Explain SVM algorithm in detail.

e) Differentiate between unstructured digital data and semi structured digital data.

Q4) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) How Naive Bayes algorithm works.

b) Explain applications of big data in E- Commerce

c) Write an R program to calculate binary into decimal of a given vector.

d) Write an R program to find sum, mean and product of a vector.

e) Write an R program to find maximum and minimum value of a given vector.

Q5) Write a short note on Any TWO of the following : **[2 × 3 = 6]**

a) Data Manipulation.

b) Packages in R.

c) Loops in R

Total No. of Questions : 5]

SEAT No. :

PD1441

[Total No. of Pages : 2

[6441]-507
S.Y.B.B.A.(C.A)
CA-305 : BLOCK CHAIN
(2019 Pattern) (Semester -III)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

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

Q1) Attempt any Eight of the following (out of Ten). **[8×2=16]**

a) What is Digital token?
b) What is double spending?
c) What is transaction fee?
d) What is truffle used for blockchain?
e) What is the use of Solidity in blockchain?
f) Define Database.
g) What is digital trust?
h) What is proof of Stake?
i) What is public key?
j) What is chain code?

Q2) Attempt any four of the following (out of five) **[4×4=16]**

a) Explain proof of Stake.
b) What are the applications of Hyperledger fabrics?
c) Explain the layered architecture of blockchain
d) Explain benefits of smart contract.
e) What are the uses of SHA algoritham?

Q3) Attempt any four of the following (out of five) **[4×4=16]**

a) Explain different layers of Blockchain.
b) Explain public and private blockchain.
c) What are the Advantages of practical Byzantine Fault Tolerance (pBFT).
d) Which are the components of blockchain?
e) What is Blockchain? What the Features Blockchain.

P.T.O.

Q4) Attempt any four of the following (out of Five) **[4×4=16]**

a) What are consensus algorithms in blockchain?

b) Explain the Types of Ethereum Clients.

c) Define transaction and explain its structure.

d) What is Gas and Gas limit?

e) What is DAO? Explain in details.

Q5) Write a short note on Any two of the following (out of three) **[2×3=6]**

a) Write a short note on types of blockchain.

b) Write a short note on p2p payment gateway.

c) Write a short note on types of network.

Total No. of Questions : 5]

SEAT No. :

PD1442

[Total No. of Pages : 2

[6441]-601
S.Y.B.B.A. (C.A.)
CA 401 : NETWORKING
(2019 Pattern) (CBCS) (Semester-IV)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any eight of the following (out of Ten) **[8×2=16]**

a) Define Computer Network.

b) What is protocol?

c) Enlist different components of data communication system.

d) Define ground wave propagation.

e) Define LAN and WAN.

f) What is proxy server?

g) What is firewall?

h) What is cladding?

i) What IP addressing?

j) What are network connectivity devices?

Q2) Attempt any four of the following (out of Five) **[4×4=16]**

a) Explain different types of addresses.

b) Explain Active and Passive HUB.

c) Explain ISO-OSI reference model.

d) Explain optical fiber cable in details.

e) Define computer networks. Explain goals of computer networks.

P.T.O.

Q3) Attempt any Four of the following (out of Five) **[4×4=16]**

a) Explain unguided media with diagram.

b) Explain mode of communication.

c) Compare of OSI and TCP/IP model.

d) Explain Network Topology in details.

e) Explain connection oriented and connectionless services.

Q4) Attempt any Four of the following (out of Five) **[4×4=16]**

a) Explain fast ethernet with its types.

b) Explain Cryptography.

c) Explain TCP/IP protocol in details.

d) Define Bridge. Explain types of Bridge.

e) Explain Bluetooth.

Q5) Write a short note on any Two of the following (out of Three) **[2×3=6]**

a) Computer Network application

b) Repeater

c) IEEE 802.11 [WLAN]

Total No. of Questions : 5]

SEAT No. :

PD-1443

[Total No. of Pages : 4

[6441]-602

S.Y. B.B.A (CA)

CA 402 : OBJECT ORIENTED CONCEPTS THROUGHT CPP

(2019 Pattern) (Semester - IV) (CBCS)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

Q1) **Attempt any Eight of the following (Out of TEN).** **[8 × 2 = 16]**

a) What is reference variable?

b) What is the use of extraction operator.

c) Explain any two manipulators.

d) Write the use of scope resolution operator.

e) What is keyword in C++?

f) Define memory management operator.

g) What is access specifier?

h) Define Pure virtual function.

i) Explain width ( ) and fill ( ).

j) What is destructor?

Q2) **Attempt any FOUR of the following (Out of FIVE).** **[4 × 4 = 16]**

a) Explain memory allocation for objects with non-static data member and static data member.

b) What is inheritance? Explain any 3 types of inheritance.

P.T.O.

c) What is constructor? Explain parameterised constructor with the help of example.

d) What is template? Explain with its types.

e) Explain polymorphism with its types.

Q3) **Attempt any FOUR of the following (Out of FIVE). [4 × 4 = 16]**

a) What is function overloading? Explain with example.

b) Explain features of C++.

c) Write a program to accept worker information worker_name, no_of_hours_worked, pay_rate and salary. Write necessary function to calculate calculate and display the salary of workers. (Use default value for pay_ rate)

d) Create a C++ Class Number with integer data member. Write necessary member function to overload unary '--' (decrement) operator.

e) Write a C++ program to create a class Book which contains data members as B-Id, B-Name, B-Author, B-publication. Write member functions to accept and display Book information also display count of books. (Use static data member to maintain count of books)

Q4) **Attempt any FOUR of the following (Out of FIVE). [4 × 4 = 16]**

a) Explain various stream classes used to perform console input/output (I/o) operations.

b) Explain friend function with the help of example.

c) Write a C++ program to find area of circle and triangle (Use function overloading)

d) Write a program to check maximum and minimum of two integer numbers (use conditional operators).

e) Trace the output of the following program and explain it. Assume there is no syntax error.

```
#include<iostream.h>
 class Basel
 {
 public :
       Basel ( )
       {
         cout << "Basel's constructor called" << endl;
          }
  };
    class Base2
       {
       public:
         Base2( )
         {
        cout << "Base 2's constructor called" << endl;
       }
};
class Derived: public Basel, public Base2
       {
       public:
        Derived ( )
        {
          cout << "Derived's constructor called" << endl;
        }
       };
         void main ()
       {
          Derived d;
       }
```

Q5) **Write a short note on Any TWO of the following (Out of THREE)** **[2 × 3 = 6]**

a) 'This' pointer

b) Exception handling

c) Inline function.

Total No. of Questions : 5]

SEAT No. : ____

PD1444

[Total No. of Pages : 2

[6441]-603
S.Y.B.B.A. (Computer Application)
CA-403 : Operating System
(2019 CBCS Pattern) (Semester - IV)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any Eight of the following. (Out of Ten) **[8×2=16]**

a) Define paging in memory management.

b) Define Context Switch.

c) What is a page frame?

d) List various properties of the file.

e) What is 'Waiting time' in Process scheduling?

f) What is compaction?

g) Define Deadlock.

h) List any four characteristics of the operating system.

i) Define Belady's Anomaly.

j) What is starvation?

Q2) Answer any Four of the following. (Out of Five) **[4×4=16]**

a) Explain Operating System Structure.

b) What is scheduling? What is the long-term scheduler?

c) Explain Round Robin Scheduling with the help of an example.

d) What are Semaphores? Explain the types of Semaphores.

e) Draw and explain the Contiguous Memory Allocation.

P.T.O.

Q3) Answer any Four of the following. (Out of Five) **[4×4=16]**

a) State and explain the Critical Section Problem.

b) Consider the following set of processes with the length of the CPU burst time given in milliseconds.

Process	Burst Time	Arrival Time
P1	3	3
P2	3	6
P3	4	0
P4	5	2

i) Draw a Gantt chart using the non-preemptive Shortest Job First method.

ii) Calculate the average Turnaround time & average waiting time.

c) What is a deadlock? How can deadlock be avoided?

d) Explain File System Access Methods.

e) Explain Operating System Structure.

Q4) Attempt any Four of the following. (Out of Five) **[4×4=16]**

a) Assume there are a total of 200 tracks present on the disk, if the request queue is: 82, 170, 43, 140, 24, 16, 190, and the initial position of the head is 50. Apply the First Come First Serve (FCFS) disk scheduling algorithm and calculate total head movement.

b) Explain memory management through Fragmentation with the help of a diagram.

c) What are the characteristics and necessary conditions for a deadlock?

d) Consider the page reference string. 4, 7, 6, 1, 7, 6, 1, 2, 7, 2. The number of frames in the memory is 3. Initially, all frames are empty. Find out the number of page faults respective to:

FIFO Page Replacement Algorithm

e) Explain the Process Control Block with the help of a diagram.

Q5) Write a short note on any Two of the following. (Out of Three). **[3×2=6]**

a) Shortest Seek Time First.

b) Linked Allocation for File System.

c) Address binding in case of memory management.

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Total No. of Questions : 5]

SEAT No. :

PD1445

[Total No. of Pages : 2

[6441]-604
S.Y. B.B.A. (Computer Application)
CA - 404 : NODE JS
(2019 Pattern) (CBCS) (Semester-IV)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

Q1) Answer the following (Any Eight) : **[8×2=16]**

a) Define NodeJs.

b) How is NodeJs different from Js?

c) Write a code to create a HTTP server in NodeJs.

d) What is Buffer?

e) What is REPL? Give an example.

f) Define webserver.

g) Define Callback function.

h) What are the 3 types of modules?

i) What is the purpose of the following code : var http = require ('http');

j) How to check the installed version of Nodejs?

Q2) Answer the following (Any four) : **[4×4=16]**

a) Write down difference between Synchronous and Asynchronous.

b) Create a Node.js Application to check whether a given name is directory or file.

c) Create Node.js Application that uses user defined module circle.js which exports the functions area( ) and circumference( ) and display the details on the console.

d) List out some advantages of NodeJs.

e) Explain EventEmitter.

P.T.O.

Q3) Answer the following (Any four) : **[4×4=16]**

a) Write a Node.js program that uses a user defined Module to return the Factorial of a given number.

b) Create Node.js Application that binds multiple custom listeners to a single event.

c) Write a short note on NPM.

d) Explain anonymous functions with a suitable example.

e) How to delete a file in Nodejs?

Q4) Answer the following (Any four) : **[4×4=16]**

a) Write a Nodejs Program to create a student DB and Stu table (roll_no. sname, percentage) in mysql.

b) Write a Nodejs code to read filename and to return the content of file on terminal.

c) How to create a Buffer? Write a code to perform the following operations on Buffer data - Concat, Compare, Copy.

d) Which method is used to get the information about a file. Give a suitable example.

e) Where Node.js is not recommended for use? And where is it well suitable to use?

Q5) Answer the following (Any two) : **[2×3=6]**

a) Explain NodeJs Process Model.

b) Write any 3 EventEmitter methods and its description.

c) How to take input in Node.js?

Total No. of Questions : 5]

SEAT No. :

PD1446

[Total No. of Pages : 2

[6441]-605
S.Y. B.B.A. (Computer Application)
CA - 404 : ADVANCED PHP
(2019 Pattern) (Semester-IV)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any eight out of the following : **[8×2=16]**

a) Enlist features of oop provided by PHP?

b) Differentiate between public, private and protected visibility in PHP class.

c) What are the XML parsers available in PHP?

d) What is the use of onready state change property?

e) What are the benefits of web editors in Joomla?

f) Define SOAP.

g) Why use PHP MVC Framework?

h) Differentiate between XML and HTML.

i) What is the use of isset( ) method?

j) Enlist three types of UDDI registry?

Q2) Attempt any Four out of the following : **[4×4=16]**

a) Explain constructor overloading with example?

b) What is Introspection? Explain any 2 methods with example?

c) What is self processing form? Explain with programme?

d) Write a PHP script to create “Cricket.XMl” file

<Cricket Team>

<Team Country = “India”>

<Player> ..... </Player>

<runs> ..... </runs>

<wicket> ..... </wicket>

</Team>

e) List out benefits of web services?

P.T.O.

Q3) Attempt any Four out of the following : **[4×4=16]**

a) Write AJAX programme to carry out validation for a username. Username must be more than 3 characters.

b) Write a PHP script to define an interface which has methods area( ), volume( ). Define constant PI. Create a class cylinder which implements interface methods and calculate area and volume?

c) List attributes of $_SERVER array? Explain any four.

d) Write a PHP script to define a class with 2 members as data members and define member function to perform arithmetic operation?

e) Describe the process of adding articles in Joomla.

Q4) Attempt any Four out of the following : **[4×4=16]**

a) Write AJAX programme to accept book title from user. When user clicks submit button display book details from XML File, if matches, otherwise display "No matches Found".

b) What is abstract class? Explain with example.

c) Explain content management system with example?

d) Explain structure of SOAP message?

e) Explain XML parser and its type?

Q5) Write a short note any two : **[3×2=6]**

a) Constructor and Destructor.

b) XML DOM Structure.

c) UDDI.

Total No. of Questions : 5]

SEAT No. : ____

PD-1447

[Total No. of Pages : 2

[6441] - 701
B.B.A. (C.A.)/B.C.A.
CA-501: Cyber Security
(2019 Pattern) (Semester - V)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any Eight of the following : **[8 × 2 = 16]**

a) What is Copyright Law?

b) What is Mobile forensics?

c) State Social media marketing.

d) What is cyber security?

e) Differentiate between vulnerabilities and threats.

f) Define Foot printing.

g) What is cyber stalking?

h) What is Virus?

i) State Software privacy.

j) What is Intellectual Property?

P.T.O.

Q2) Attempt any Four of the following : **[4 × 4 = 16]**

a) Discuss various password cracking techniques.

b) Explain in detail classification of phishing scams.

c) Explain CIA triad.

d) Explain Indian IT Act.

e) Explain various types of cyber forensics.

Q3) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Differentiate between Active attack and Passive attack.

b) Explain different types of credit card frauds.

c) What are the challenges of Indian Cybersecurity Law?

d) Discuss how emails are used in forensics analysis.

e) Prepare a case study with its implication on "Company Website Hacked".

Q4) Attempt any FOUR of the following : **[4 × 4 = 16]**

a) Explain organizational guidelines for Internet usage.

b) Is COVID-19 Changing the Cybercrime Landscape?

c) Explain the Process of Cyber forensics in detail.

d) Discuss IPR Issues.

e) Why do we need Cyber laws: The Indian Context?

Q5) Write a short note on Any TWO of the following : **[2 × 3 = 6]**

a) Botnet

b) SQL Injection

c) Data Diddling

Total No. of Questions : 5]

SEAT No. :

PD-1448

[Total No. of Pages : 2

[6441]-702

T.Y. B.B.A. (Computer Application)

CA - 502 : OBJECT ORIENTED SOFTWARE ENGINEERING

(2019 Pattern) (Semester - V) (CBCS)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any 5 (Five) of the following : **[5 × 2 = 10]**

a) List any four characteristics of a system.

b) What is the use of section 9 in SRS format?

c) What is active class?

d) Define the terms

i) Object orientation

ii) Polymorphism

e) What is dependency.

f) What is lifeline?

g) Define Joining.

Q2) Attempt any four of the following : **[4 × 4 = 16]**

a) Explain the system design process.

b) Describe UP phases with the help of diagram.

c) Draw the collaboration diagram for Hospital Management System.

d) Explain UML architecture.

e) Explain Activity diagram with Notations.

P.T.O.

Q3) Attempt any four of the following : **[4 × 4 = 16]**

a) What is classifier? Explain different classifiers.

b) Draw the class diagram for Library Management System.

c) Describe the Booch method in detail.

d) What is Object Orientation? State various reasons for why Object Orientation.

e) Define thing. Explain type of things in UML.

Q4) Attempt any four of the following : **[4 × 4 = 16]**

a) What is SRS? Explain types of SRS Specifications.

b) What is risk management in project management.

c) Explain dependency relationship along with different stereotypes.

d) What is meant by Iterative development? State its various advantages.

e) Define the following terms.

i) Swimlane

ii) Forking

iii) Joining

iv) Transitions

Q5) Attempt the following : **[12]**

a) The Retail store management system is a system designed for managing i.e. for ordering, arranging and selling goods.

The retailer checks for the availability of goods in the store. If the stock of goods is less then retailer places order for goods. While ordering the goods, goods area received at store, the retailer then arrange them by product or by price then retailer makes payment. If the stock of goods is available then be will arrange goods for selling.

The retailer then sales the goods directly to the customer.The customer buys the items from retailer.The retailer prepares bill for goods purchased by the customer, he receives amount by credit or by cash from customer. The supplier the goods to the store in the system.

The overall system is used to manage the goods in the store.

Consider the above situation and draw the following UML diagrams.

i) Use case diagram.

ii) Activity diagram.

iii) Class diagram.

Total No. of Questions : 5]

SEAT No. : ____

PD-1449

[Total No. of Pages : 2

[6441]-703
T.Y. B.B.A (CA)
CA - 503 : CORE JAVA
(2019 Pattern) (Semester - V)

Time : 2 ½Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right indicate full marks.***

Q1) **Attempt any Eight :** **[8 × 2 = 16]**

a) List the three different uses of final keyword.

b) What is access specifiers? List them.

c) What is collection framework?

d) Can we use super ( ) and this ( ) within same constructor?

e) What is instance variable?

f) Define Class and Object with one example.

g) Can you save a Java source file by name than class name? Justify.

h) When buffered reader is used?

i) What are differences between String and StringBuffer class?

j) "Import statement is not essential in Java." True / False. Justify.

Q2) **Attempt any four:** **[4 × 4 = 16]**

a) What is inheritance? Explain with suitable example.

b) What is Applet? Explain life cycle of Applet?

c) How a Java progrom is structured? Explain data types.

d) Explain arrays in Java. How does it differ from C++.

e) What is difference between construct or and method? Explain types of constructors.

P.T.O.

Q3) **Attempt any four:** **[4 × 4 = 16]**

a) Write a Java program to design email registration from. (Use swing components)

b) Create a package vehicle which will have two classes.__ Two-wheeler and four-wheeler. Two-wheeler with method display (cc,price), four-wheeler with method display (reg-no,reg-year).

c) Write a java program using Applet to create login form.

d) Write a Java program to display all the perfect numbers between 1 to n

e) Create a class Teachers (Tid, Tname Designation, Salary, Subject). Write a java program to accept 'n' teachers and display who teach Java subject (Use Array of object)

Q4) **Attempt any four :** **[4 × 4 = 16]**

a) What is package? Write down all the steps for package creation.

b) What is constructor? What are the types of constructors? Explain with one example.

c) Explain abstract class in detail with suitable example.

d) Write applet program in java for designing car.

e) Write a Java program to copy the contents of one file into another file, while copying change the case of alphabets and replace all the digits by '$' in target file [Use command line argument].

Q5) **Write short note any two:** **[2 × 3 = 6]**

a) Describe interface.

b) Explain inner class in java with example.

c) File handing.

Total No. of Questions : 5]

SEAT No. : ____

PD1452

[Total No. of Pages : 2

[6441]-801

T.Y. B.B.A. (Computer Application)

CA-601 RECENT TRENDS IN INFORMATION TECHNOLOGY

(2019 CBCS Pattern) (Semester - VI)

Time : 2½Hours] ***[Max. Marks : 70***

Instructions:

1) ***Questions: Total number of questions are: 5***
2) ***All questions are compulsory.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any EIGHT of the following (Out of TEN). **[8×2=16]**

a) What is a data warehouse?

b) Define database.

c) What is data preprocessing?

d) Define OLTP?

e) Compare data warehouse and data mart.

f) Define outlier values.

g) Define business intelligence.

h) What is Plateau?

i) Define artificial intelligence.

j) What is Data Mart?

Q2) Attempt any FOUR of the following (Out of FIVE). **[4×4=16]**

a) What are the benefits of a decision tree used for classification?

b) Compare top down and bottom up approach in data warehouse architecture.

c) Explain the steps in data preprocessing briefly.

P.T.O.

d) Consider the following dataset and we will find frequent itemsets and generate association rules for them.

TID	Items
T1	I1,I2,I5
T2	I2,I4
T3	I2,I3
T4	I1,I2,I4
T5	I1,I3
T6	I2,I3
T7	I1,I3
T8	I1,I2,I3,I5
T9	I1,I2,I3

Minimum support count is 2. Find frequent itemsets and generate association rules for them.

e) Write the advantages of Bidirectional search.

Q3) Attempt any FOUR of the following (Out of FIVE) **[4×4=16]**

a) Draw and explain the three tier data warehouse architecture.
b) Discuss classification in data mining with example.
c) Explain the advantages and disadvantages of clustering in data mining.
d) Explain the data cleaning in detail.
e) What is Data warehouse? Describe any two applications in brief.

Q4) Attempt any FOUR of the following (Out of FIVE). **[4×4=16]**

a) Differentiate between supervised and unsupervised learning.
b) What is descriptive and predictive data mining?
c) What is the difference between database and data warehouse?
d) How does data mining help in business management?
e) What are components of spark? Explain.

Q5) Write a short note on any TWO of the following (Out of THREE) **[2×3=6]**

a) What is outlier analysis?
b) Explain WEKA and its benefits.
c) Explain J48 algorithm.

Total No. of Questions : 5]

SEAT No. : ____

PD1453

[Total No. of Pages : 2

[6441]-802
T.Y.B.B.A.(CA)
CA-602: SOFTWARE TESTING
(2019 Pattern) (Semester -VI)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagram must be drawn wherever necessary.***

Q1) Attempt any Eight of the following (out of 10) **[8×2=16]**

a) What is Software testing?
b) What is alfa testing?
c) What is software metric?
d) Define unit testing
e) How to calculating cyclomatic complexity?
f) What is static testing?
g) What is GQM?
h) What is a test case design?
i) Define load runner.
j) Define terms Failure and defect?

Q2) Attempt any four of the following (out of five) **[4×4=16]**

a) Explain any Four testing principles in detail
b) Explain white box testing and its techniques
c) Explain top-down and bottom-up integration testing
d) Explain validation and verification in details
e) Explain Acceptance testing in details

Q3) Attempt any four of the following (out of five) **[4×4=16]**

a) Explain performance testing in details
b) What is difference between client/server testing and web-based testing?
c) Describe Three common techniques use for testing graphical user interface
d) Explain software testing life cycle (STLC) in details
e) Explain boundry value analysis in details

P.T.O.

Q4) Attempt any four of the following (out of Five) **[4×4=16]**

a) Explain concept of SQA?

b) What is debugging? Explain with its phases

c) Explain testing fundamental in details

d) Explain system testing with its type

e) Explain inspection and walkthrough

Q5) Write a short note on Any two of the following (out of three) **[2×3=6]**

a) Testing Documentation

b) Real-Time system

c) J-Unit

Total No. of Questions : 5]

SEAT No. :

PD1454

[Total No. of Pages : 2

[6441]-803
T.Y. B.B.A. (CA)
CA - 603 : ADVANCED JAVA
(2019 Pattern) (CBCS) (Semester-VI)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

Q1) Attempt any Eight of the following : **[8×2=16]**

a) What is IP Address?

b) What is Cookies?

c) What is thread priority?

d) What is TCP/IP?

e) What is Thread?

f) What is doGet( ) method of servlet?

g) What is the yield( ) method?

h) List the directives in JSP?

i) What is the use of forName( ) method?

j) State any two advantages of hibernate.

Q2) Attempt any Four of the following : **[4×4=16]**

a) Explain servlet life cycle with diagram.

b) Explain Thread Priority in detail.

c) Explain Architecture of hibernate.

d) Write a JDBC Program to delete the record of employee.

e) Write a JSP Program to accept number from user and check whether it is armstrong or not.

P.T.O.

Q3) Attempt any Four of the following : **[4×4=16]**

a) What are the implicit objects in JSP? Explain any four.

b) Explain all the interfaces used in JDBC.

c) What is session tracking? What are the different ways of session tracking in servlet.

d) Write a java program using multithreading to display from 'A' to 'Z' after time interval 3 seconds.

e) Write a socket program in java for simple standalone chatting application.

Q4) Attempt any Four of the following : **[4×4=16]**

a) Explain JSP life cycle with diagram.

b) Write advantages and disadvantages of spring.

c) Explain thread synchronization in detail.

d) Write a JDBC program to display the details of employees (eno, ename, department, sal) whose department is 'Computer Application'.

e) Write servlet program to accept number from user and print square of that in red colour.

Q5) Write a short note on any Two of the following : **[2×3=6]**

a) Application of spring.

b) notify( ), notifyAll( ), wait( ).

c) JDBC Drivers.

Total No. of Questions : 5]

SEAT No. : ____

PD1455

[Total No. of Pages : 2

[6441]-804
T.Y. B.B.A. (Computer Application)
CA-604: ANDROID PROGRAMMING
(2019 CBCS Pattern) (Semester - VI)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Draw neat diagrams wherever necessary.***

Q1) Attempt any eight of the following. **[8×2=16]**

a) What is Activity?

b) What is Intent?

c) What is APK format?

d) Name any three Layouts in Android.

e) What is fragment?

f) List any four Android versions.

g) List three types of Google map.

h) What is Spinner?

i) Give two permissions to set in manifest file when using Google maps.

j) What is toast?

Q2) Attempt any four of the following. **[4×4=16]**

a) Explain android architecture with suitable diagram.

b) Explain activity life cycle with diagram.

c) Define Asyntask. How it works with diagram?

d) Create a Simple Application, which read a positive number from the user and display its factorial value in another activity?

e) Create an Android App, it reads the Students Details (Name, Surname, Class) and Display all the information in another activity on click of Submit button.

P.T.O.

Q3) Attempt any four of the following. **[4×4=16]**

a) Explain views and viewgroup in android.

b) Create an Android Application to find the cube of a number and Display the Result on Alert Box.

c) Explain with diagram Bounded and Unbounded service in detail.

d) Create an Android Application that Demonstrate RatingBar and Display the number of stars selected on Toast and Text View.

e) Write advantages and disadvantages of SQLite.

Q4) Attempt any four of the following. **[4×4=16]**

a) What is content provider? Explain in detail.

b) Explain the significance of activity_main. xml file and android. manifest file.

c) Write an Android Program to Demonstrate Date Picker Dialog in Android.

d) Explain android types of adapters and their use.

e) Explain broadcast receiver.

Q5) Write short notes on any two of the following. **[2×3=6]**

a) Google maps

b) Dialog boxes in android

c) Android JSON

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Total No. of Questions : 5]

SEAT No. : ____

PD1456

[Total No. of Pages : 2

[6441]-805
T.Y. B.B.A. (Computer Application)
CA-604: DOT NET FRAMEWORK
(2019 Pattern) (Semester - VI)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt any Eight of the following. **[8×2=16]**

a) What is CTS?

b) What is use of 'this' keyword in C#?

c) State any two advantages of Dot Net.

d) What is Boxing and Unboxing in C#?

e) Explain Timer control in VB.NET.

f) What is mean by ADO.NET?

g) What is IDE?

h) List any two properties of Radio Button Control.

i) Explain JIT Compiler?

j) Enlist any 4 properties of Form Control in VB.net?

Q2) Attempt any Four of the following. **[4×4=16]**

a) List and explain different access modifiers available in C#.

b) Explain the event handling in ASP.NET.

c) Explain Connection object and Command object.

d) State and explain Loops used in VB.NET.

e) Explain Architecture of. Net framework

P.T.O.

Q3) Attempt any Four of the following. **[4×4=16]**

a) Write a VB.NET program to accept a number from user through input box and display its multiplication table into list box?

b) Write a Menu driven program in C#.Net to perform following functionality: Addition, Multiplication, Subtraction, Division.

c) Write a program in C#.Net to create a function for the sum of two numbers.

d) Write a VB.NET program to check whether Enter string is Palindrome or not.

e) Write a VB.NET program for find max number among Entered three number.

Q4) Attempt any Four of the following. **[4×4=16]**

a) Explain constructors in C# with suitable Example.

b) Explain Common Type Systems (CTS) and Common Language Specification (CLS).

c) Explain Validation control in ASP. NET

d) Write a C#.Net application to display the vowels from a given String.

e) Write a VB.NET program to accept the details Supplier (SupId, SupName, PhoneNo, Address) store it into the database and display it.

Q5) Write a short note on any Two of the following. **[2×3=6]**

a) Inheritance in C#.

b) ASP.Net server controls.

c) Explain Data type in VB.NET

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