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

P-1905 **[Total No. of Pages : 2**

[6034]-301

B.B.A. (C.A.)

CA- 301 : DIGITAL MARKETING

(2019 Pattern) (Semester - III)

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:** **[8 × 2 = 16]**

a) What is upload and download?

b) Name the tools of social media marketing.

c) What is web analytics?

d) What is Internet marketing?

e) What is Search Engine Results Pages (SERP)?

f) What is blogging?

g) What is digital marketing in E-commerce?

h) What is cost estimation?

i) What is digital marketing.

j) What is CRM?

P.T.O.

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

a) Write advantages of E-mail marketing?

b) Explain digital marketing and list its advantages.

c) Explain structure of website.

d) Explain the channels of Digital Marketing.

e) Explain the SWOT Analysis.

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

a) What is difference between SEO & SEM.

b) Write advantages and disadvantages of CRM?

c) Write phases in content management lifecycle?

d) How to analyze visitation on LinkedIn?

e) What is social media marketing?

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

a) Explain the CRM cycle.

b) Write on types of SEO.

c) What is SEO Content?

d) Describe the steps to do Cost Control.

e) Write the difference between Digital Marketing and Traditional Marketing.

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

a) URL.

b) E-marketing.

c) Pay-Per-Click.

Total No. of Questions : 5]

SEAT No. :

P1906

[Total No. of Pages : 2

[6034]-302

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

CA-302 : DATA STRUCTURE

(2019 Pattern) (Semester - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

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

a) What are the advantages of linked list over an array?

b) How to measure performance of an algorithm?

c) What is adjacency of Matrix?

d) What is pointer to pointer?

e) What is complete binary tree?

f) What is polynomial? How is it differ from structure?

g) What is Priority queue?

h) State the difference between stack & linked list.

i) What is the need for the header?

j) What is balance factor? How is it calculated?

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

a) What is height-balanced tree? Explain RR and RL rotations with an example.

b) What is linked list? Explain its types in detail.

c) Explain different types of asymptotic notation in detail.

d) Explain insertion sort technique with an example.

e) Differentiate array and structure.

P.T.O.

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

a) Write a function to create & display circular singly linked list.

b) Write a function to insert an element into a circular queue, in which the queue is implemented as an array.

c) Write a function for in order traversal of the tree.

d) Write a function to delete first node from singly linked list.

e) Write a function to search the element from array using binary search.

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

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

b) For given data, constract a binary search tree :
15, 30, 20, 5, 10, 2, 7

c) Sort the following data by using quick sort.
10, 5, 75, 62, 49, 58

d) Write a C-program to traverse the linked list.

e) What is Dequeue? Explain its operation with example.

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

a) Convert the following expression into postfix.

i) (A + B) ∗ C – D

ii) A + B ∗ C – D/E ∗ F

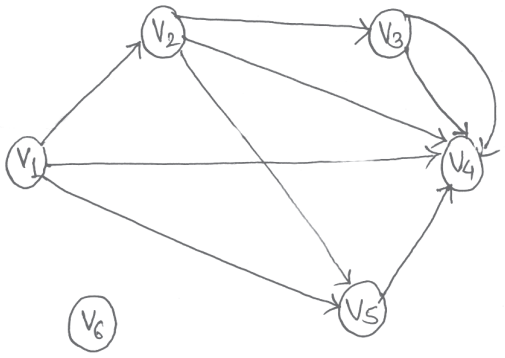
b) Define the following terms :

i) Degree of node

ii) Child node

iii) Path

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



Total No. of Questions : 5]

SEAT No. :

P-1907

[Total No. Of Pages : 2

[6034]-303
B.B.A.(C.A.)
CA - 303: SOFTWARE ENGINEERING
(Semester-III) (2019 Pattern)

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) Define Economical feasibility.

b) What is system Analyst?

c) Define data dictionary.

d) State advantages of Waterfall Model.

e) Define an Entity.

f) Define unit testing.

g) State the principles of software testing?

h) Define open and closed system.

i) What is prototype?

j) What is module?

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

a) Draw first level DFD for Hospital Management System.

b) Explain spiral model in detail.

c) Define software process and software product. Distinguish between them.

d) Discuss different fact finding techniques.

e) Define software maintenance. Explain types of software maintenance.

P.T.O

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

a) A ABC Foods Pvt. Ltd. Company is offering certain discount on the total amount of purchase. If the purchasing amount is more than 5,000 and the customer is making the payment within 5 days, then company 5% discount on invoice. If the purchase amout is between 3,000 to 5,000 and the customer is making the payment within 5 days, then company offers 3% discount. If the amount is less than 3,000 and customer is making the payment within 5days, then no discount offered and customer has to pay full amount. If customer is not able to pay within 5 days, then no discount is given. Draw decision table.

b) Define module. Explain types of modules.

c) Draw ER-Diagram for "Food order system".

d) What is Decision Table? Need of Decision table.

e) Explain elements of Data flow diagrams.

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

a) Material is issued to the department by considering whether the Material Requisition Note (MRN) is signed or not. It contains valid items or not and it is given within 8 Hours or not. Draw decision Tree for the above case.

b) Differentiate between forward and reverse engineering.

c) What is Data Flow Diagram? Explain its Advantages & Disadvantages.

d) What is SDLC? Describe its phases?

e) Design a screen I/P layout for employee's Profile.

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

a) Prototype Model

b) Structured Chart

c) Requirement Gathering.

Total No. of Questions : 5]

SEAT No. : ____

P1908

[Total No. of Pages : 2

[6034]-304
S.Y.B.B.A.(C.A.)
CA - 304 : ANGULAR JS
(2019 Pattern) (Semester -III)

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 side indicate full marks.***

Q1) Answer the following (any EIGHT) **[8×2=16]**

a) What is controller?

b) Explain ng - click.

c) What is currency filter?

d) Explain Two - way data binding.

e) What is Angular view?

f) Explain $http Services.

g) What is AJAX?

h) What is Dependency Injection?

i) Explain $ timeout service.

j) What is SPA?

Q2) Attempt any FOUR of the following :

a) How MVC works in AngularJS? **[4×4=16]**

b) What is difference between Angular JS Expression and JavaScript Expression?

c) What is scope hierarchy?Explain with example.

d) Write an AngularJS program to create service for finding factorial of a number.

e) Write an AngularJS script to display list of games stored in an array on click of button using ng - click.

P.T.O.

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

a) Give the difference between AngularJS and JavaScript

b) What are the most common directives used in AngularJS Applications.

c) What is module life cycle?

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

e) Using Angular JS display the 10 student details in Table format (using ng- repeat directive use Array to store data).

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

a) What are the disadvantages of AngularJS.

b) Distinguish between factory,service and provider.

c) What are the different types of form events?

d) Explain $ document service,$ log service and $ root service in brief.

e) Explain custom filter with example.

Q5) Attempt any TWO of the following : **[2×3=6]**

a) Explain data filter with example.

b) What is model binding ?

c) Explain custom validation.

♦ ♦ ♦

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

P1909 **[Total No. of Pages : 2**

[6034]-305
S.Y.B.B.A.(C.A.)
CA 304 : PHP
(2019 Pattern) (Semester -III)

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 (Out of TEN) **[8×2=16]**

a) Explain difference between static and dynamic website.

b) How to declare variable in PHP?

c) What is the use of count ( ) in PHP?

d) What is a session ?

e) What is cookie?

f) Explain PHP explode ( ) function.

g) How to concate two strings in PHP?

h) What is PHP?

i) Explain $ - SERVER

j) Describe echo statement in PHP.

Q2) Attempt any FOUR (out of FIVE) **[4×4=16]**

a) What are differences between PHP constant and variable ?

b) Explain the syntax for each loop with example.

c) What are the different types of arrays in PHP?

d) Explain methods to submit form.

e) What is a session in PHP? Explain it.

P.T.O.

Q3) Attempt any FOUR (out of FIVE) **[4×4=16]**

a) Explain if ...else statement in PHP using example.

b) Explain difference between client side scripting and server side scripting

c) Write a PHP program to calculate area of circle and triangle.

d) Write a note on relational operators in PHP.

e) Explain Respons and request objects in PHP.

Q4) Attempt any FOUR (out of FIVE) **[4×4=16]**

a) Explain introspection in PHP.

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

c) Write a PHP script to accept user's name and display in on next page.

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

i) String concatenation

ii) String comparison

e) Write a PHP program to display multiplication table of entered value.

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

a) Radio button and checkbox

b) Superglobals in PHP

c) Class and object

♦ ♦ ♦

Total No. of Questions : 5]

SEAT No. :

P-1910

[Total No. of Pages : 2

[6034]-306
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 the right indicate full marks.***

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

a) What is population?

b) What is operators in R?

c) Define array in R?

d) Define sample.

e) What is machine learning?

f) Define data frame.

g) Define market basket analysis.

h) What is data analytics?

i) Define head() and tail().

j) Enlistdata types in R?

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

a) Explain probability in details.

b) Explain the types of Analytics.

c) Explain correlation with its type.

d) Explain the application of big data..

e) Explain Machine learning.

P.T.O.

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

a) How Naive Bayes algorithm works.

b) Explain Decision tree with example.

c) Explain support vector machine with example.

d) Explain digital data with its types.

e) Explain Association rule mining.

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

a) What is regression? Explain with its type.

b) Write an R program to find out number is positive or negative.

c) Write an R program to sort a Vector in ascending and descending order.

d) Write an R Program to print Multiplication Table of 2.

e) Write an R program to check number is Armstrong or not.

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

a) Data manipulation functions.

b) Any 5 types of data visualisation.

c) Loops in R.

Total No. of Questions : 5]

SEAT No. : ____

P-1911

[Total No. of Pages : 2

[6034]-307
S.Y. B.B.A. (CA)
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) Enlist types of Block chain.

b) What is hashing?

c) Define distributed p2p network.

d) Define Digital Signature.

e) What is wallet?

f) Enlist types of forking.

g) What is ledger?

h) What is proof of Stake?

i) What is Ethereum network?

j) Define ICO.

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

a) What is blockchain? Give Limitations of Blockchain.

b) What is public and private blockchain?

c) What are benefits of immutable ledger in blockchain.

d) Which are the components of blockchain?

e) Explain advantages of smart contract.

P.T.O.

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

a) Define transaction and explain its structure.

b) Explain the task of miners.

c) What is Ethereum network? Explain with diagram.

d) Explain Hybrid Blockchain in details.

e) What is fork? Explain with Diagram.

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

a) Explain Byzantine fault tolerance (BFT) in details.

b) What is nonce? Explain with Diagram.

c) What is hash function? Explain its working?

d) Explain the layered architecture of blockchain.

e) What are the advantages of Hyperledger Fabric for blockehain networks.

Q5) Write a short note on Any TWO of the following (Out of THREE)

[2 × 3 = 6]

a) Write a short note on Cryptographic puzzle.

b) Write a short note on DApps.

c) Write a short note on Evolution of blockchain.

Total No. of Questions : 5]

SEAT No. : ____

P1912

[Total No. of Pages : 2

[6034]-401

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

CA - 401 : NETWORKING

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

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) What is protocol?

b) What is cladding?

c) What is proxy server?

d) What is meant by class test Addressing?

e) What is transmission media?

f) What is internetwork?

g) Define stegnography?

h) What is Hub?

i) What is Standard Ethernet?

j) What is Firewall?

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

a) What is Computer Network? Explain Goals of computer Network.

b) Explain Function of each layer ISO-OSI reference model.

c) What is wireless transmission? Explain any one media in detail.

d) Explain IEEE standard 802.11 (WLAN) in detail.

e) What is attack? Explain various types of attacks.

P.T.O.

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

a) What is Bridge? Explain types of bridges.

b) Explain different modes of communication with sketch.

c) Explain TCP/IP protocol in detail.

d) What is guided media? Explain any one in detail.

e) What is Fast Ethernet? Explain categories of Fast Ethernet.

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

a) What is topology? Explain types of topology.

b) What is addressing? Explain different types of addresses.

c) Explain propagation method.

d) What is copyright? Explain applications of copyright.

e) What is Bluetooth? Explain its architecture.

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

a) Switch.

b) Virtual LAN.

c) Types of Network.

Total No. of Questions : 5]

SEAT No. :

P1913

[Total No. of Pages : 3

[6034]-402

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

CA - 402 : OBJECT ORIENTED CONCEPTS THROUGH CPP

(2019 Pattern) (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) Attempt any Eight of the following : (Out of 10) **[8×2=16]**

a) Explain tellg() and tellp() with syntax.

b) Explain any two manipulators.

c) What is destructor?

d) What are the visibility lables used in C++.

e) What is extraction and insertion operator?

f) What is abstraction and Encapsulation?

g) What is default argument in function?

h) Write any two uses of scope resolution operator.

i) What is static Polymorphism.

j) Explain structure of C++ program.

P.T.O.

Q2) Attempt any four of the following: (Out of 5) **[4×4=16]**

a) Explain operator overloading in C++ with an example.

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

c) What is pure virtual function and explain with the help of example program.

d) Explain Dynamic constructor with suitable example.

e) What is inheritance and explain the hierarchical inheritance.

Q3) Attempt any four of the following : (Out of 5) **[4×4=16]**

a) Write a C++ program to create a class which contains two data members. Write member functions to accept, display and swap two entered numbers using call by reference.

b) Write a C++ program to create a class customer which contains data members as C_id, C_name, C_Salary. Write member functions to accept and display customer information, also display information of customer having maximum salary.

c) Write a C++ program to calculate factorial of integer number by using inline function.

d) Design C++ class which contains function count(). Write a program to count number of time count() is called. (Use static data member.)

e) Write a C++ program to copy the contents of a text file into another text file.

Q4) Attempt any four of the following. (Out of 5) **[4×4=16]**

a) Explain object as function arguments? Explain with the help of an example program.

b) Explain different characteristics of friend function.

c) What is class Template? Explain syntax of class template with suitable example.

d) Write a program to overload binary + operator to add two strings.

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

```
# include < iostream.h >
Class point {
Private :
        int x ;
        int y ;
Public :
        Point (int i, int j); // constructor
};
Point : : Point (int i = 0; int j = 0) {
x = i;
y = j;
cout << "constructor called" ;
}
int main ()
{
        point + 1, * t2;
        return 0;
}
```

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

a) This pointer

b) function overriding

c) Exception handling.

Total No. of Questions : 5]

SEAT No. :

P-1914

[Total No. of Pages : 3

[6034]-403
S.Y. B.B.A. (CA)
CA - 403 : OPERATING SYSTEM
(2019 Pattern) (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) **Attempt any Eight of the following :** **[8 × 2 = 16]**

a) Define 'Least Recently Used' in memory management.

b) Define Context Switch?

c) What is a page frame?

d) List various properties of the file.

e) What is 'seek time' in Disk scheduling?

f) What is compaction?

g) Define Belady's Anomaly

h) List any four characteristics of operating system

i) Define a safe state.

j) What is starvation?

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

a) Explain Operating System Structure.

b) What is scheduling? Compare short term scheduler with long term scheduler.

c) Draw and 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) **Attempt any Four of the following :** **[4 × 4 = 16]**

a) State and explain 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 Gantt chart using non preemptive Shortest Job First method.

ii) Calculate average Turnaround time & average Waiting time.

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

d) Explain File System Access Methods.

e) Explain Paging in case of memory management.

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

a) Assume there are a total 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 Shortest Seek Time First (SSTF) disk scheduling algorithm and calculate total head movement.

b) Explain Job Control Block 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 :

i) Optimal Page Replacement Algorithm

ii) FIFO Page Replacement Algorithm

iii) LRU Page Replacement Algorithm

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

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

a) Shortest Seek Time First.

b) Linked Allocation for File System.

c) Address binding in case of memory management.

▽▽▽▽

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

P1915 **[Total No. of Pages : 2**

[6034]-404
S.Y .B.B.A.(Computer Application)
CA 404 : NODE JS
(2019 Pattern) (Semester -IV)

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

Instructions to the candidates:

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

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

a) What isthe Command to intialize Node Package Manager (NPM) ? Write it's syntax.

b) What is REPL?

c) List any four core modules of node.JS

d) Which directive is used to import node.JS modules?

e) List any 4 methods included under path module of node.JS?

f) For which tasks a file system module is used for?

g) Write a command to add dependency "express" using NPM.

h) Write a command to install MYSQL package by using NPM.

i) In which situation node. JS is not recomended to use?

j) Write steps to handle http requests while creating web server using node.JS?

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

a) What are the advantages of nodes.JS?

b) Write a program to update table records using node. JS and MYSQL database.

c) Explain node.JS process model with the helf of diagram.

d) How does node.JS handles a file request?

e) What is the purpose of object module.experts in node. JS?

P.T.O.

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

a) Explain fs.readfile( ) method for all possible values of options?

b) Write a program which uses addlistener ( ) method of Event Emmitter class.

c) Write a short note on NPM.

d) Create a node.JS file that select all records from the “Customers” table.

e) Using node.JS create a web page to read two file names from user and combine in third file.

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

a) What are different different features node. JS?

b) Compare Traditional web server model and node.JS process model.

c) Write a program to use SQL SELECT Qvery to show data from a table using node. JS and MYSQLdata base.

d) Explain steps to install node. JS on windows.

e) Write a program to write to a file in node.JS.

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

a) Write down the connection string of node.JS and MYSQL

b) Explain Event Driven Programming?

c) Explain Anonymous function with an example.

♦ ♦ ♦

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

P1916 **[Total No. of Pages : 2**

[6034]-405
S.Y .B.B.A.
COMPUTER APPLICATION
CA 404 : Advance php
(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 side indicate full marks.***

Q1) Attempt any EIGHT of he following : **[8×2=16]**

a) Which are XML Special entities?

b) What is AJAX?

c) What is sticky form?

d) What is setcookie() function?

e) Define Template.

f) What is Encapsulation?

g) What is the $_SERVER variable?

h) Enlist XML elements?

i) What is Content Management system?

j) What is SOAP?

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

a) What is Document Object Model in PHP?

b) Explain class and object with example.

c) Explain Setting Reponse Headers.

d) Differentiate between GET& POST Methods.

e) Explain XML document structure in details.

P.T.O.

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

a) Write a PHP script for the following : Design a form to accept a number from the user.To find sum of the digits of that number. (Use the concept of self - processing page).

b) Write a PHP Script to display Server information in table format (use $_SERVER).

c) Design a web page to accept student registration details and display it in the next page (use sticky form concept)

d) Write a PHP program which implements Ajax for addition of Two number.

e) Write a PHP script for the following :Design a form to accept a number from the user, check whether it is palindrome or not?(Use the concept of self - processing page).

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

a) What is introspection? Explain get_class_methods( ) and get_ class _ vars( ) with suitble example?

b) What is Inheritance? Explain with suitable example.

c) Explain with example how to connect database using PHP and Ajax.

d) Explain mouse & keyboards event in JavaScript.

e) Create a XML file which gives details of books available in “Bookstore” From following categories

i) Computer

ii) Cooking

iii) YOGA

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

a) Self Processing form.

b) Constructor/Destructor.

c) Serialization.

♦ ♦ ♦

Total No. of Questions : 5]

SEAT No. : ____

P-1917

[Total No. of Pages : 2

[6034]-501
T.Y. B.B.A. (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 diagram 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 cyber security?

b) What is Virus?

c) What is attack vector?

d) State Social media marketing.

e) What is Steganography?

f) Differentiate between virus and Worm.

g) Define Foot printing.

h) What is cyber stalking?

i) What is Phishing?

j) Define term Cyber Security.

k) What is Intellectual Property?

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

a) Differentiate between Active attack and Passive attack.

b) Explain the cyber security real life incident example.

c) Discuss IPR Issues.

P.T.O.

d) What is SQL injection and what are the different countermeasures to prevent the attack?

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

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

a) Discuss how emails are used in forensics analysis.

b) Explain different types of credit card frauds.

c) Explain the rules of Digital Evidence.

d) What is Domain Name? Explain with example.

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) What are the challenges to Indian Law and cybercrime scenario in India?

c) Discuss various password cracking techniques.

d) Explain CIA triad.

e) Explain various types of cyber forensics.

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

a) The Indian IT Act.

b) Need of Cyber Laws.

c) Social Media Marketing.

Total No. of Questions : 3]

SEAT No. :

P1918

[Total No. of Pages : 2

[6034]-502

T.Y.B.B.A. (C.A.)

CA-502 : OBJECT ORIENTED SOFTWARE ENGINEERING

(CBCS 2019 Pattern) (Semester - V)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

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

a) Define Joining

b) What is Inception

c) Consider a single object "Book" and draw object diagram with possible attributes.

d) Define Tagged values

e) What is meant by object oriented design.

f) Write down the purpose of the object diagram.

g) What is meant by Elaboration.

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

a) Explain visibility modes along with well labelled diagram.

b) Describe the Rambaugh method in detail.

c) Define UML. What are the goals of UML.

d) Draw state chart diagram for online Railway Reservation System.

e) What is risk management in project management.

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

a) Define the following terms.

i) System boundary

ii) Swimlane

iii) Branching

iv) Transition

P.T.O.

b) What is SRS? Explain types of SRS specification.

c) What is object orientation? State various reasons for why object orientation.

d) Explain the concept of Aggregation with example.

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

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

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

b) Draw state chart diagram for ATM.

c) What is classifier? List out different classifiers in UML with diagram.

d) Explain UP phase with the help of diagram.

e) Define Relationship. Explain different kinds of relationship.

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

The retail store management system is a system designed for managing for ordering, arranging and selling goods.

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

The retailer then sales the goods directly to the customer. The customer buys the items from retailer. The retailer prepare bill for goods purchased by the customer, be receives amount by credit or by cash from customer.

The supplier supplies the goods to the store in the system.

Consider above situation draw the following UML diagram.

a) Use case diagram

b) Activity diagram

c) Class diagram

Total No. of Questions : 5]

SEAT No. : ____

P-1919

[Total No. Of Pages : 2

[6034]-503
T.Y.B.B.A.(Computer Application)
CA - 503: CORE JAVA
(Semester-V) (2019 Pattern)

Time : 2½ Hours] ***[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]**

i) Define variable in Java? What are the naming rules of variable?

ii) What is recursion?

iii) Define Inheritance?

iv) What is difference between Anay and Array List?

v) What is error? List types of error?

vi) List any two restrictions for applet.

vii) What is an event?

viii) What is Object and Class?

ix) Write the definition of abstract class?

x) What is Container?

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

i) Write a note on package in Java.

ii) What is exception? Expalin its keyword with example.

iii) Explain java. util package.

iv) What is a method in Java? Explain method overloading with example.

v) How to handle events in applet? Explain with example.

P.T.O

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

i) Write a Java program using AWT to display details of Customer (cust_id, cust_name, cust_addr) from user and display it on the next frame.

ii) Write a Java program to reverse elements in array.

iii) Write a Java program using static method which maintain bank account information about various customers.

iv) Define an abstract class Shape with abstract method area() and volume(). Write a Java program to calculate area and volume of cone and cylinder.

v) Write a Java program to display smiley face using applet.

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

i) What is Layout Manager? Explain any one in detail.

ii) How to create and access package in Java? Explain it with example.

iii) Write a Java program to Fibonacci series.

iv) Explain anonymous class in detail.

v) Write a Java program to display contents of file in reverse order.

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

i) Which are the predefined streams?

ii) Define multiple inheritance.

iii) Why Java is a platform neutral language?

Total No. of Questions : 5]

SEAT No. :

P1920

[Total No. of Pages : 2

[6034]-504

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

CA-504 : MONGO DB

(CBCS 2019 Pattern) (Semester - V)

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) Answer the following. (Any eight) **[16]**

a) What is Update Command?

b) Explain Mongo DB.

c) Write the steps to go to Mongo DB Shell.

d) List the Mongo DB utility.

e) Write the difference between Embedding and References.

f) Explain one-to-one relationship with example in Embedded Method.

g) Write a syntax of 'Insert Many'.

h) Explain Checkpoint in MongoDB.

i) Describe Delete command.

j) Explain 'DROP' command

Q2) Answer the following. (Any 4) **[16]**

a) What is a NoSQL database.

b) What is Data Modeling Approach.

c) List any two Mongo Shell commands with examples.

d) Define the journaling process used in Mongo DB.

e) Write on the 'insert one()' operation

P.T.O.

Q3) Answer the following (Any 4) **[16]**

a) Write the difference between NoSQL and SQL.

b) Write a short note on various types of databases.

c) Explain, distributed Queries.

d) Describe TTL index with a suitable example.

e) Explain database profiling in Mongo DB.

Q4) Solve the following. **[16]**

a) Create a collection 'Student'.

b) Create a new document in the 'Student' collection having ID = 01.

c) Write a command to show the details of 'Student'.

d) Show the details of 'Student' by FIND command.

e) Display the detail of 'Student' by the 'FINDONE' command.

f) Display the detail of 'Student' whose course fee is greater than 300000.

g) Display ID, Student NAME, FEE, and use 'PRETTY()'.

h) Display details of students, who were admitted to the course having a fee of 200000.

Q5) Solve the following. (Any 2) **[6]**

a) Explain MongoDB Index types.

b) Write the advantages of Compass used in MongoDB.

c) Explain the features of NoSQL databases.

Total No. of Questions : 5]

SEAT No. :

P1921

[Total No. of Pages : 2

[6034]-505
T.Y.B.B.A. (Computer Application)
CA - 504 : PYTHON
(2019 Pattern) (Semester - V)

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 are special operators in Python?

b) Difference between Python list and Numpy array.

c) State any four time module.

d) What is class variable?

e) List out Geometry management methods.

f) Define term Bind method.

g) What is Sea born?

h) Write any two common exceptions in Python.

i) What are advantages of pandas.

j) How to create class and object in Python?

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

a) Explain math and Cmath module in detail.

b) Explain different data types in Python.

c) Explain inheritance in brief with syntax.

d) Explain various types of exceptional handling in Python.

e) Explain principle of Keras.

P.T.O.

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

a) What are built in dictionary function in Python with example.

b) Explain features of pandas in Python.

c) Explain the following with proper syntax and example entry.delete, entry.insert.

d) Write a Python program to find factors of a given number.

e) Write a Python script to generate Fibonacci termsusing generator function.

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

a) How to define function in Python? Explain with suitable example.

b) Explain EXCEPT Clause with no exception.

c) Explain IS-A relationship and It as-A relationship with example.

d) Write a Python program to check if a given key already exists in a dictionary. If Key exists replace with another key/value pair.

e) Write a Python program to swap the value of two variables.

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

a) Slicing Dictionaries.

b) Data visualization.

c) Custom Exception.

Total No. of Questions : 5]

SEAT No. : ____

P-1922

[Total No. Of Pages : 2

[6034]-601
T.Y.B.B.A.(C.A.)
Recent Trends in Information Technology
(Semester-VI) (2019 Pattern) (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)** **[2 × 8 = 16]**

a) What is OLTP?

b) Define artificial intelligence.

c) Define Data Frames.

d) What is a Data Mart?

e) Define OLAP.

f) What is Robotics?

g) Define spark.

h) List any two applications of artificial intelligence.

i) Which type of model is a Decision Tree?

j) What is full form ETL?

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

a) Differentiate between OLAP and OLTP

b) Explain FP tree algorithm.

c) Explain different RDD operations in spark.

d) What are the disadvantages of 'Hill Climbing' in artificial intelligence?

e) Explain briefly data mining task

P.T.O

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

a) How is Apache Spark different from Map Reduce?

b) What is data preprocessing? Explain

c) Write down the algorithm of Breadth-First Search with is advantages.

d) Explain the various search and control strategies in artificial intelligence.

e) How does Spark work? Explain with the help of its Architecture?

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

a) What is Data ware house? Sate any two advantages.

b) What is a heuristic function?

c) What are the two advantages of 'Depth First Search' (DFS)?

d) Explain the three important artificial intelligence techniques.

e) Explain briefly State Space Representation of Water Jug Problem.

Q5) **Write a short note on any Two of the following (Out of Three)**

[3 × 2 = 6]

a) 'Means End Analysis' (MEA) in artificial intelligence

b) ETL Process

c) MOLAP server

Total No. of Questions : 5]

SEAT No. :

P1923

[Total No. of Pages : 2

[6034]-602
T.Y.B.B.A./B.C.A
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 right indicate full marks.***
3) ***Neat diagram must be drawn wherever necessary.***

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

a) What is Software Testing?

b) What is Static testing?

c) State the advantages of manual testing.

d) What are formulae for calculating cyclomatic complexity?

e) What is Gray-box testing?

f) Define validation testing?

g) What is Debugging?

h) Explain terms - Error, Fault and Failure?

i) Define regression testing.

j) What is software metric?

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

a) Write difference between verification and validation.

b) Explain software testing life cycle with diagram.

c) Explain Boundary - Value analysis in details.

d) Explain Acceptance testing in details.

e) Explain Test Case Design along with example.

P.T.O.

Q3) 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 Sandwich and Big-Bang approach of Integration testing.

d) Explain load and Smoke testing in detail.

e) Write difference between Static and Dynamic testing.

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

a) Explain test case design for the login process.

b) Stub and Driver concept in Unit testing.

c) Explain GUI testing in details.

d) What is difference between client/server and web-based testing?

e) How to calculate the cyclometric complexity of a code? Explain with example.

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

a) Testing for Real - Time System.

b) Stub and Driver concept in unit testing.

c) Load Runner.

Total No. of Questions : 5]

SEAT No. : ____

P-1924

[Total No. of Pages : 2

[6034]-603
T.Y. B.B.A. (Computer Application)
CA-603: ADVANCED JAVA
(2019 Pattern) (Semester - VI) (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 : **[8 × 2 = 16]**

a) List types of Resultset.

b) What is IP Address?

c) What is JDBC?

d) What is servlet?

e) What is cookies?

f) What is UDP?

g) What is thread?

h) What is socket?

i) List the directives in JSP.

j) What is networking?

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

a) List & explain all the interfaces used in JDBC.

b) Differentiate between HTTP servlet and Generic servlet.

c) Explain life cycle of JSP with suitable diagram.

P.T.O.

d) What is synchronization? Explain.

e) Write a java program to count number of records in a table?

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

a) Explain statement interface in detail.

b) Explain Thread priority in detail.

c) Differentiate between TCP socket and UDP socket.

d) Write a java program to print "Hello Java" message 10 times.

e) Write a java program to delete salary column from Emp table. Assume Emp table with attributes ENo, EName and salary is already created.

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

a) Write a java program to display IP Address of a Machine.

b) Explain Architecture of Hibernate.

c) Explain life cycle of servlet with suitable diagram.

d) What is multithreading? Explain.

e) Write a java servlet program to accept name from user & display on browser [use HTML].

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

a) notify( ), notify All( ) & wait( )

b) Applications of spring.

c) Connection Interface.

Total No. of Questions : 5]

SEAT No. :

P1925

[Total No. of Pages : 2

[6034]-604

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

CA - 604 : ANDROID PROGRAMMING

(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.***

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

a) What is view?

b) What is Intent?

c) What is activity?

d) List features of Android Operating System.

e) Define Android Virtual Devices (AVD).

f) What is Layout Manager?

g) What is Dialog Box in Android?

h) Define SQLite Database.

i) What is Toast?

j) What is Text view?

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

a) What is android.xml or manifest file?

b) Explain progress bar with example.

c) Differentiate between JVM & DVM?

d) Explain Date & Time picker with its methods.

e) Explain android Architecture in detail with suitable diagram.

P.T.O.

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

a) Explain activity life cycle with example.

b) Explain types of Intent in detail with example.

c) What is android layout? Explain its types in detail.

d) Explain Toggle Button control with example.

e) Create a simple application which send - Hello message from one activity to another with the help of button (use intext).

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

a) Explain service life cycle in detail.

b) Explain AsynTask in detail.

c) What is content provider? Explain in detail.

d) What is Mapview? Explain in detail.

e) Create an android application to accept two numbers from user and find multiplication. Display the result on the next activity on button click.

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

a) Android JSON

b) Bounded service

c) Context menu

Total No. of Questions : 5]

SEAT No. :

P1926

[Total No. of Pages : 2

[6034]-605

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

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

a) Enlist concatenation operators invb.Net.

b) List properties of Array in C#.

c) What do you mean by constructor?

d) What is ADO.Net Dataset?

e) Write any two string functions in C#.

f) Enlist any four data types used in Vb.Net.

g) What is use of virtual keyword?

h) List any four common web controls.

i) What is use of site Mappath control.

j) List any four properties of combobox control.

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

a) Explain data Gridview control.

b) Explain the architecture of ASP.Net.

c) Explain classes in ADO.Net.

d) What are the properties and methods of server object?

e) Explain message Box function in detail.

P.T.O.

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

a) Write Vb.Net program to accept character from user and check whether it is vowel or not.

b) Write program in C# to create function to find factorial of given number.

c) Write Vb.Net program to accept the details of Employee (Eno, Ename, salary).

d) Write C# program to find armstrong number of given number.

e) Write Vb.Net program to display today's date on the screen.

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

a) Explain advantages of Dot.Net.

b) Explain any four properties of text Box control.

c) Explain pop menus in VB.Net.

d) Write a c # program to find length of string.

e) Write a c # program to calculate area of circle.

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

a) Event Driven programming

b) JIT compilers

c) Method overloading