[6226]-301

S.Y.B.B.A.

COMPUTER APPLICATION

CA - 301 : Digital Marketing

(CBCS 2019 Pattern) (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)   Explain On Pages SEO and Off Page SEO.

   b)   Write any two advantage of CRM model.

   c)   What is Cost Control?

   d)   Write any two advantages fo Social Media.

   e)   Define MS Expression Web.

   f)   What is Facebook Ads?

   g)   What is Content Management.

   h)   Define Digital Display Marketing.

   i)   What is Mobile Marketing?

   j)   Explain Website.

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

   a)   What is social media marketing? Give its advantages and disadvantages.

   b)   What is MS Expression web? Write the features of MS Expression?

   c)   Explain type of E-Commerce in detail.

   d)   Write the process of SEO.

   e)   Explain Target group analysis.

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

   a)   Write down the steps to create a Facebook Page.

   b)   Explain type of E-Mail Marketing.

   c)   Define resource planning and its type.

   d)   Write down the benefits SEO.

   e)   Elaborate various strategies to optimize websites.

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

   a)   Write difference between traditional SEO and SEM.

   b)   Explain Pay-per-click advertising.

   c)   Define CMS and its type.

   d)   What is websites design. Write down the steps to design website.

   e)   Define CRM and its components.

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

   a)   SWOT Analysis.

   b)   Instagram.

   c)   Twitter.

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[6226]-302

S.Y. B.B.A. (Computer Application)
CA - 302: DATA STRUCTURE
(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: (Out of Ten)** **[8 × 2 = 16]**

a) What are the different types of graph?

b) How to measure performance of an algorithm?

c) What is a circular queue?

d) List out different types of data structures

e) What is the level of a node?

f) What is meant by tree traversal?

g) What is sorting? State its techniques

h) What is DFS?

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

j) What is a binary tree? List its types.

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

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

b) Explain bubble sort technique with an example

c) Explain BFS with example.

d) What is the queue? Explain different operations performed on queue.

e) Explain Binary search method with an example.

P.T.O.

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

    a)   Write a function for preorder traversal of the tree.

    b)   Write a C program for static Implementation of stack.

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

    d)   Write a function to create a doubly circular linked list.

    e)   Write a program to dynamically allocate memory for an array of integers and then print the elements of the array.

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

    a)   What is the priority queue? Explain it with an example.

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

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

    d)   Construct Binary search tree of following data 10, 12, 5, 4, 20, 8, 7, 15, 13

    e)   Write a 'C' program for dynamic implementation of stack.

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

    a)   Convert the following expressions into prefix

        i)   (A+B)*(C–D)

        ii)   P + (Q*R)(S–T)

    b)   Define the following terms

        i)   Directed graph

        ii)   Parent node

        iii)   Complete binary tree

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

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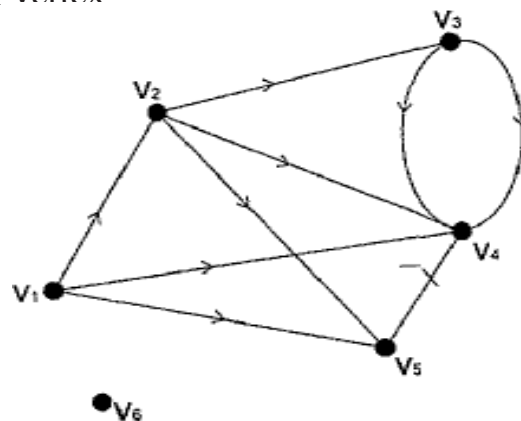
[6226]-303

S.Y. B.B.A.(C.A.)

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)   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 system?

   b)   What are the types of system testing?

   c)   Define data dictionary.

   d)   What is SRS?

   e)   Define an Entity.

   f)   What is process?

   g)   What are the advantages of Prototyping?

   h)   What is feasibility study?

   i)   What is Software Maintenance?

   j)   What is module?

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

   a)   Differentiate between forward Engineering and Reverse Engineering.

   b)   Explain Functional and non-functional testing.

   c)   Explain the various components of system.

   d)   Explain in brief about Software Engineering.

   e)   Explain fact finding methods in brief.

P.T.O.

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

a) Draw decision table and decision tree for following case: A college has following categories if the employees :

   i)   Teaching staff

   ii) Non-teaching staff

   iii) Research staff

      I)   In -case of teaching staff, if staff has experience of 7 or more years, then he or she gets the bonus of Rs. 10000 every year.

      II)   If staff has experience of >= 5 and < 7 years then he or she gets the bonus of Rs. 7000 every year.

      III) Rs. 5000 otherwise.

            Non-teaching staff gets the bonus of Rs. 5000 per year, research staff gates the bonus of Rs. 10000 per year.

b) What is coupling? Give the types of coupling.

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

d) Explain elements of Data flow diagrams.

e) Explain Requirement elaboration in detail.

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

a) Draw FDD for employee self-service system.

b) State various quality factors stated by Mc-Call.

c) What is SDLC Describe its phases

d) Explain spiral model in detail with neat diagram.

e) Design a screen O/P layout for Student's Profile.

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

a) Interview

b) RAD

c) Software Maintenance.

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SEAT No. : ☐

[6226]-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 diagrams must be drawn wherever necessary.*
   3)   *Figures to the right indicate full marks.*

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

   a)   What is AngularJS?

   b)   Explain ng-app directives.

   c)   What is SPA.

   d)   Explain Two-way data binding.

   e)   What is controller?

   f)   Explain $http Services.

   g)   What is AJAX?

   h)   Write name of any two Editors used for AngularJS.

   i)   Explain $timeout service.

   j)   Explain ng-repeat directives with example.

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

   a)   Explain MVC architecture in detail.

   b)   Write angularJs program for multiplication of two numbers.

   c)   Explain scope hierarchy in detail.

   d)   Write an AngularJS program to display the 4 students details in table format(using ng-repeat directives use array to store data).

   e)   Explain Custom filters with example.

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

    a)   What is Module? Write advantages of Module?

    b)   Explain lowercase and uppercase filter with example.

    c)   Write a program to demonstrate use of ng-controller.

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

    e)   Give the difference between AngularJS and Javascript.

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

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

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

    c)   What is Module life cycle?

    d)   Explain AngularJS Data binding.

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

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

    a)   Dependency Injection.

    b)   Event Handling.

    c)   Custom Directives.

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[6226]-305

B.B.A. (Computer Application)

CA - 304 : PHP

(2019 Pattern) (Semester - III)

Time : 2½ Hours]
[Max. Marks : 70

Instructions to the candidates:

1) *Answer all questions.*

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

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

   a) Describe echo statement in PHP.

   b) How to concate two strings in PHP?

   c) How to declare variable in PHP?

   d) Which are the methods to submit form?

   e) What is the purpose of break statement?

   f) Explain $ - SERVER?

   g) Explain split ( ) function in PHP.

   h) What is validation?

   i) What is the use of print_r ( )?

   j) Explain difference between static and dynamic website.

Q2) **Attempt any Four (out of Five) :**
[4 × 4 = 16]

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

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

   c) Write a PHP Script to display the total and percentage of Marks of Subjects (Out of 100) Data Structure, Digital Marketing, PHP, SE and Big data.

   d) Explain cookies in PHP.

   e) Write a PHP Program to check whether Enter age from user is allowed for vote or not.

P.T.O.

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

    a)   What is the difference between GET and POST method?

    b)   Explain if _____ then _____ else in PHP.

    c)   What are data types of MySQL? Explain with example.

    d)   Write a PHP function to calculate factorial of a number using recursion.

    e)   Write a PHP Script to create a class Fruit that contains data members as Name, Color and Price. Write a member function to accept and display details of Fruit.

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

    a)   What is function in PHP? Explain with example.

    b)   What is inheritance in PHP? Explain using example.

    c)   Write a menu driven program in PHP to display arithmetic operations.

    d)   Write a program to illustrate sending email through PHP.

    e)   Write a PHP program to print greatest number among given 3 numbers.

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

    a)   Class and object

    b)   Radio button and checkbox

    c)   Explain Structured Query Language

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PB-1464

[6226]-306
S.Y. B.B.A. (C.A.)
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) **Attempty any EIGHT of the following.**   **[8 × 2 = 16]**

   a)   What is big data?

   b)   What is supervised learning?

   c)   What is population?

   d)   Define sample.

   e)   What is WEKA?

   f)   What is KNN?

   g)   Define SVM.

   h)   What is the use of histogram?

   i)   What is EM algorithm?

   j)   What is R?

Q2) **Attmpt any FOUR of the following.**   **[4 × 4 = 16]**

   a)   Explain the types of Data Analytics.

   b)   What is probability? Explain its types.

   c)   Explain Association rule mining.

   d)   Explain applications of Apriori algorithm.

   e)   Expla in types of cluster analysis.

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

   a)   Explain types of regression models.

   b)   What is digital data? Explain its types.

   c)   Explain five applications of Machine Learning.

   d)   State advantages and disadvantages of SVM.

   e)   Explain Decision tree with example.

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

   a)   Explain Naive Bayes with the help of example.

   b)   Explain applications of big data.

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

   d)   Write an R program to create a simple bar plot of five subject's marks.

   e)   Write an R program accept any year is input and check whether the year is leap or not.

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

   a)   Data Science.

   b)   Data Visualization.

   c)   Data Frames.

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Total No. of Questions : 5]

SEAT No. :

PB-1465

[Total No. of Pages : 2

[6226]-307

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) **Attempty any eight of the following : (out of ten)**   [8 × 2 = 16]

   a)   What is Smart Contract?

   b)   What is Solidity?

   c)   Explain Truffle in Ethereum.

   d)   What is Ledger?

   e)   Explain Digital Signature.

   f)   Explain Cryptography.

   g)   What is Hashing?

   h)   What is Genesis Block?

   i)   What is Mist in Blockchain?

   j)   What is Digital Token?

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

   a)   Explain components of Blockchain.

   b)   What is EVM? Explain Ethereum network.

   c)   Differentiate between DBMS and Blockchain.

   d)   Explain working of hash function.

   e)   Explain lifecycle of Blockchain.

P.T.O

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

   a)   Explain structure of Blockchain.

   b)   Explain Byzantine Fault Tolerance (BFT) in detail.

   c)   Explain Hyperledger Fabric in detail.

   d)   Write an Ethereum application in JavaScript for HELLO World contract.

   e)   Write a blockchain application in JavaScript for the creation of Transaction block for the account holder.

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

   a)   Explain DApps in details.

   b)   Explain P2P Payment Gateway in brief.

   c)   Explain types of network

   d)   Write an Ethereum application in JavaScript for smart contracts.

   e)   Write a JavaScript code for the implementation of block chain technology. (At least two block)

Q5) **Attempt any Two of the following : (out of three)**   **[2 × 3 = 6]**

   a)   Explain advantages of Blockchain.

   b)   What is Web3?

   c)   Define following term :

       i)   Public Key

       ii)   Private Key

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[6226]-401

S.Y.B.B.A.

COMPUTER APPLICATION

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 diagrams must be drawn wherever necessary.*

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

   a)   Write name of addresses used in TCP/IP protocol.

   b)   Define Computer Network.

   c)   What are the types of transmission media?

   d)   What is wireless LAN?

   e)   Define HUB.

   f)   What is encryption?

   g)   What is need for network security?

   h)   Define Intranet.

   i)   What is bridge?

   j)   What are the two types of standards?

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

   a)   Difference between connection oriented and connectionless network models.

   b)   Explain TCP/IP protocol in details.

   c)   Define unguided media. Explain any one in detail.

   d)   Describe the frame format and physical layer of ethernet.

   e)   What is cryptography? Explain symmetric key cryptography.

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

   a) Explain types of security services.

   b) Define ISO/OSI reference model. Explain any one layer in detail.

   c) Difference between twisted pair cable and coaxial cable.

   d) Define network topology? Explain any one in detail.

   e) What is wireless transmission? Explain any two media in details.

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

   a) What are the network connectivity devices? Explain any one in detail.

   b) Explain communication modes in details.

   c) Comparison between server based LAN and peer to peer LAN.

   d) What is copyright? Explain its application.

   e) Explain classfull addressing in details.

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

   a) Propagation modes.

   b) Intranet and Extranet.

   c) Firewall.

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[6226]-402

S.Y. B.B.A. (C.A.)
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 Ten) :   **[8 × 2 = 16]**

   a)   Define Encapsulation.

   b)   What is inline function?

   c)   What is Class? Give its syntax.

   d)   What is Constructor?

   e)   Explain any two use of Scope Resolution operator.

   f)   List the operators which cannot be overloaded?

   g)   What is virtual function?

   h)   What is stream?

   i)   Explain get () and put () function.

   j)   What are the access specifiers used in C++.

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

   a)   Explain Memory management operators in detail.

   b)   What is friend function? Explain with an example?

   c)   Explain array of object in C++ with example.

   d)   Explain the different types of Inheritance with example.

   e)   List different types of constructor. Explain any one constructor with example.

P.T.O.

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

a) Write a C++ program to find the maximum of two integer numbers using inline function.

b) Write a C++ program to find the area of circle and area of triangle using function overloading.

c) Write a C++ program to swap the values using call by reference method.

d) Write a C++ program to create a class employee which contains data members as e_id, e_name, e_Salary. Write member functions to accept and display employee information, also display information of employee having maximum salary.

e) Write a C++ Program to overload unary ++ operator.

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

a) What is Template? Explain its types in detail.

b) Explain file opening methods in C++ with syntax.

c) Explain the types of polymorphism in detail.

d) Write a C++ program to calculate the Simple Interest. (Use default value for rate)

e) What is the output of the following program? (Assume there are no syntax errors)

```
# include < iostrearn.h>
void stat( )
{
int m = 0;
static int n = 0;
m++;
n++;
cout<<m<< " "<<n<< "\n";
}
void main( )
{
stat( );
stat( );
getch ( );
}
```

Q5) Write a Short notes any two of the following. (out of Three) :   **[2 × 3 = 6]**

   a)   Manipulators in C++.

   b)   Exception Handling.

   c)   'this' pointer.

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SEAT No. :

[Total No. of Pages : 2

[6226]-403

S.Y. B.B.A. (C.A.)
CA - 403 : OPERATING SYSTEM
(2019 Pattern) (CBCS) (Semester - IV)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) Answer all questions.

2) Figures to the right side indicate full marks.

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

a)   Write any two services provided by OS.

b)   What is meant by System Call?

c)   What is process?

d)   Define a safe state?

e)   Define Dispatcher.

f)   What is semaphores?

g)   What do you mean by Rollback?

h)   What is meant by Address Binding?

i)   List various operation on File.

j)   What do you mean by Deadlock?

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

a)   Explain Operating System Structure.

b)   Explain 'Dining Philosopher' Synchronization problem.

c)   Explain different method for recovery from a deadlock.

d)   What is Fragmentation? Explain types of fragmentation in details.

e)   List and explain system calls related to Process and Job control.

P.T.O.

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

a) State and explain Critical Section Problem.

b) Explain different methods for recovery from deadlock.

c) State and explain Critical Section Problem.

d) Calculate average turn around time and average waiting time for all set of processes using FCFS algorithm.

Processes	Burst Time	Arrival Time
P_1	5	1
P_2	6	0
P_3	2	2
P_4	4	0

e) Consider the following page reference string :

4, 6, 7, 8, 4, 6, 9, 6, 7, 8, 4, 6, 7, 9.

The number of Frames is 3. Show page trace and calculate page Fault for the following page replacement schemes.

i) FIFO   ii) LRU

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

a) What is meant by Shortest Seek Time First? Explain in details.

b) Define the terms :

i) Logical Address

ii) Physical Address

c) Explain Resource Allocation Graph in detail.

d) What are the difference between Preemptive and Non-Preemptive Scheduling?

e) Assume there are total 0-199 tracks that are present on each surface of the disk. If request queue is 68, 172, 4, 178, 130, 40, 118 and 136 initial position of the head is 25. Apply FCFS disk scheduling algorithm & calculate total head Movement.

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

a) Write a note on interrupts.

b) Explain semaphores and its types in detail.

c) Write Short note on fragmentation.

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[6226]-404
S.Y. B.B.A. (C.A.)
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)   What are the components of NPM?

   b)   Write the syntax to read a file asynchronously in Node.js using the fs module.

   c)   Explain the syntax for configuring a database connection in a Node.js application.

   d)   What is NodeJS?

   e)   What is REPL?

   f)   Define Anonymous function

   g)   What are the features of Node Js?

   h)   Write about arrow function.

   i)   What are the types of streams in NodeJs?

   j)   What is a module? List its types

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

   a)   Write a program in Node Js to create a Historical Place portal

   b)   Write a Node.js program that updates the marks of a given student Rno in "student" table and displays the result.

   c)   What is the purpose of module.exports in node.js?

   d)   Explain difference between AngularJS and NodeJS

   e)   What is a listener? Explain function requestListener() with suitable examples.

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

a) Explain the traditional web server model in detail? List its limitations

b) Write a NodeJS program which will convert the output "SY BBA - CA" into upper - case and lower - case.

c) What is a file System? Explain different operations performed on files.

d) What is the event explained in detail? Explain any two methods of event in detail.

e) Write a Node.js program to write data to file in synchronous and asynchronous modes.

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

a) Write a NodeJS Program to create a customer DB and account table (cid, name, balance) in mysql.

b) Write a code to perform the following operations on Buffer data – Concat, slice, compare.

c) What is the package in NodeJS? Explain with example.

d) Write a NodeJS program to search a given word in a file and display the result to Console.

e) What are dependencies and devDependencies in package.json file?

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

a) Explain web server in detail.

b) What is the difference between blocking and Non-blocking?

c) Explain the usage of a buffer class in Node.js?

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[6226]-405
S.Y. B.B.A. (C.A.)
CA - 404 : ADVANCE PHP
(2019 Pattern) (Semester - IV)

Time : 2½ Hours] *[Max. Marks : 70*
Instructions to the candidates:
　　1) **All questions are compulsory.**
　　2) **Neeat 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 web service?

　　b)　What is class?

　　c)　What is serialization?

　　d)　What is Ajax Script?

　　e)　What is $-REQUEST variable?

　　f)　What is XML?

　　g)　State purpose of final keyword?

　　h)　What is $-SERVER variable?

　　i)　Enlist XML elements?

　　j)　What is content management system?

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

　　a)　Explain class & object with example.

　　b)　What is DOM in PHP?

　　c)　What is SOAP? Explain in detail?

　　d)　Write difference between GET & POST method.

　　e)　Write a PHP program which implement AJAX for addition of two number.

P.T.O

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

a) Write PHP script to display server information intable format (Use $ - SERVER).

b) Create an abstract class shape with method area( ) and volume ( ). Derive class rectangle (length, breath), circle (radius). Calculate area & volume of all (use method overridding).

c) Create a form to accept Student details & display in next page (use sticky form concept)

d) Write a PHP script to define class employee with emp–code, emp–name, and emp–designation as data member. define constructor & destructor for the class. Also define display function to display emp details.

e) Write PHP script to print customer names from "customer.XML" file.

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

a) Explain structure of WSDL.

b) What is inheritance explain with example.

c) Write a program of converting temperature from fahrenheit to celcius (use sticky form).

d) What is advantage of AJAX?

e) Write PHP script to read book. XML and print book details in tabulor format using simple XML content of book (book code, book name, author, price).

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

a) Features of Joomla.

b) XML parser.

c) Encapsulation.

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[6226]-501
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)   *A 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)   What is Phishing?

    b)   Define Cyber Terrorism.

    c)   Define term Cyber Security.

    d)   What is Public-key Certification in Digital Signature?

    e)   Define term Cybercrime.

    f)   What is reconnaissance?

    g)   Define denial-of-service (DoS) attack.

    h)   Define attack vector.

    i)   What is Steganography?

    j)   What is online fraud?

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

    a)   Why there is need of Computer Forensic?

    b)   Discuss various password cracking techniques.

    c)   Discuss different types of active attack and passive attack.

    d)   Explain how botnets can be used as a fuel to cybercrime.

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

P.T.O.

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

   a) What are the consequences of cybercrime and their associated cost?

   b) Explain in brief each type of Intellectual Property.

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

   d) Explain the cyber security real life incident example.

   e) What is cyber forensics explain in details?

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

   a) Define virus. Discuss the types of viruses.

   b) What is Domain Name? Explain with example.

   c) What is CIA? Discuss three concept of CIA model.

   d) Explain different types of credit card frauds.

   e) Explain the rules of Digital Evidence.

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

   a) Copyrights.

   b) The ITA 2000 sections.

   c) Online Scams.

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[6226]-502

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

CA-502 : OBJECT ORIENTED SOFTWARE ENGINEERING

(2019 Pattern) (CBCS) (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.

3) Neat diagram must be drawn wherever necessary.

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

a) List the types of inheritance.

b) What is active class?

c) Define term object orientation.

d) Explain polymorphism.

e) List any four characteristics of a system.

f) Define Role Names.

g) What is Action?

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

a) Explain what is requirement elicitation.

b) Explain UML architecture.

c) Explain activity diagram with Notations.

d) Draw the collaboration diagram for hospital management system.

e) Describe UP phases with the help of diagram.

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

a) Explain deployment diagram. State any four notation of deployment diagram.

b) What is classifier? Explain different classifiers.

c) Explain which diagrams are called as interaction diagram and explain these diagrams are used to model which aspect of system.

d) Explain prototyping model with diagram.

e) Explain object oriented design process.

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

a) What is Package? Explain different kinds of packages.

b) Explain Jacobson method of object oriented design.

c) Define relationship. Explain different kinds of relationship.

d) Define the following terms :

   i) Composition

   ii) Note

   iii) Forking

   iv) Joining

e) What do you mean by task management component?

Q5) Attempt the following : [12]

Hospital Management system help in registering information about patient and handles patient query. A unique ID is generated for each patient affer registration This help to maintain relationship and maintain medical history of patient. This system also monitor the doctor appointment when ID is generated the patient receive the appointment time and number from the receptionist and accordingly visit the doctor. The system also deal with patient Test detail.

The system also deals with bed allotment to various patients by checking their ID. The system identifies whether the person is a doctor or staff and handel various activities such as draw salary and give salary | add doctor | staff information into the database.

As per the doctor diagnoses the patient, gives treatment and give suggestion to patient and prescribe laboratory tests and medicines.

The patient can pay bill through credit card, cash or cheque whose information is maintained by the system.

Consider above situation draw the following UML diagram.

a) Use case diagram

b) Activity diagram

c) Class diagram

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[6226]-503

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

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.*

3)   *All questions are compulsory.*

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

   a)   What is Java?

   b)   What is an Exception?

   c)   Enlist types of Inheritance.

   d)   What is AWT?

   c)   State the purpose of throw keyword.

   f)   What is Abstract class?

   g)   What is an event?

   h)   What is Method Overloading?

   i)   Why Java is a architectural neutral language?

   j)   Define Encapsulation.

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

   a)   Write Features of Java in detail.

   b)   What is polymorphism? Explain its types.

   c)   What is difference between constructor and method? Explain types of constructors.

   d)   Write a Java program to calculate power of number using recursion.

   e)   Write a Java program using AWT to display details of Employee (emp_id, emp_name, emp addr) from user and display it on the next frame.

                                                           P.T.O.

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

     a)   Write a Java program to print Fibonacci Series.

     b)   Write a Java program to calculate area of circle, Triangle and Rectangle (Use Method over loading)

     c)   Explain try and Catch with example.

     d)   What is applet? Explain its types.

     e)   What is Array? Explain types of array in detail.

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

     a)   Write a java program to copy the dates from one file into another file.

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

     c)   What is Collection Framework? Explain any two interfaces used in Collection Framework.

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

     e)   Write a Java program to find maximum number in array.

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

     a)   Multiple Inheritance.

     b)   Final Keyword.

     c)   Abstract Class.

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[6226]-504
T.Y. B.B.A. (C.A.)
MONGO DB
CA - 504(A) : Mongo DB
(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) **Answer the following: (Any 8)**   **[8 × 2 = 16]**

    a)   Define NoSQL

    b)   What is a collection in mongoDB?

    c)   Write mongoDB command to drop a collection

    d)   Explain pretty()

    e)   What is a single field index?

    f)   What is the importance of the Seq operator?

    g)   Write syntax of findOneAndDelete.

    h)   Define Pipeline.

    i)   What is a key-value pair?

    j)   How is deleteOne() different from deleteMany()?

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

    a)   Explain need of NoSQL Databases

    b)   Describe Collection, Documents and Key Values

    c)   Explain MongoDB CRUD concepts.

    d)   Explain READ commands like findOne and find with syntax.

    e)   Explain cursor in MongoDB

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

    a)   Explain types of NoSQL databases

    b)   Compare Document databases with column family databases.

    c)   Explain insert(), insertOne() and insertMany() with suitable example.

    d)   Discuss the types of aggregation with examples.

    e)   Discuss index and its types in MongoDB.

Q4) **Answer any THREE of the following questions.** [16]

    Create a 'films' collection of documents with the following fields:

    {

        title : "Jurassic Park',

        director "Steven Spielberg',

        release_year: 1993,

        language:"English",

        film_type : ["Action, "Adventure "],

        actors : ["Sam Neill", "Laura Dern", "Jeff Goldblum"]

    }

Write below statements (8 statements for 2 marks each) in MongoDB to do the following:

    1.   Insert at least 2 documents in a collection.

    2.   Display all documents of 'films' collection in proper format.

    3.   Give all English films released before year 2000.

    4.   Display title and release year of 'Action' films that starts with the letter 'K'.

    5.   Display the latest five 'Hindi' films released in easy-to-read format.

    6.   Count the number of films in which 'Sam Neill' has not acted.

    7.   Update release year of a film 'Jungle Book' to 2016.

    8.   Display director of films that ends with the letter 'K'.

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

    a)   Explain features of MongoDB

    b)   Explain Sharding

    c)   mongoimport Command

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[6226]-505

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

504 CA: Python

(Semester-V) (2019 Pattern)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) *All questions are compulsory.*

2) *Figurs to the right indicate full marks.*

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

a) Write down difference between set and dictionary in python?

b) Define numpy.

c) What is exception in python.

d) Explain features of python

e) Explain the input( ) function.

f) Define Tkinter.

g) How to create class and object in python.

h) How to import package in python.

i) Define functions in python.

j) What is Modules.

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

a) Explain int 'float' Str, range data types with syntax and examples.

b) Describe for loop in python with syntax and example.

c) Differentiate between list and Tuple.

d) What is Inheritance? Explain its types with syntax and example.

e) Explain predefined and user defined functions with example

P.T.O.

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

    a)   Explain different types of python libraries.

    b)   Explain data time and calendar module with example.

    c)   Describe Local and Global variable with syntax and example.

    d)   Write a python GUI program to display an alert message when a button is pressed.

    e)   Write a python program to print a table of any number.

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

    a)   Explain SYS module in detail.

    b)   Explain different types of Tkinter widgets with example.

    c)   Which are the basic dictionary operations? Explain any 4 with example.

    d)   Write a program to create class which perform basic calculator operations.

    e)   Write a program to implement the concept of queue using list.

Q5) **Write short note on following : (Any 2)**   **[3 × 2 = 6]**

    a)   Exception handling in python

    b)   Data types in python

    c)   Matplotlib library

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[6226]-601

T.Y. B.B.A. (CA)

CA601 : RECENT TRENDS IN INFORMATION TECHNOLOGY

(2019 Pattern) (CBCS) (Semester - VI)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

 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) Define Search Strategy.

 b) Data mining is also called as?

 c) What is OLTP?

 d) Define Local Maximum in artificial intelligence.

 e) Define Metadata?

 f) Explain Apache kafka

 g) Define Expert System.

 h) Why a data warehouse is said to contain a 'time-varying' collection of data?

 i) Define Ridge.

 j) Define graph mining.

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

 a) Explain Face Detection and Recognition.

 b) Define 'Problem Space' in artificial intelligence.

 c) What are two advantages of Depth First Search?

 d) Explain Association rule mining with example.

 e) Explain any four uses of Data Warehouse.

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

a) What is the difference between Data ware house and OLAP?

b) How do we create RDDs in Spark?

c) What do you understand by Spark Streaming?

d) Define Data Warehouse. State any two advantages of Data Warehouse.

e) Explain datamining and knowledge discovery in database.

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

a) Why RDD needs in a Spark?

b) Explain the 'Tower of Hanoi' problem in artificial intelligence with the help of diagrams and propose a solution to the problem.

c) Explain Web mining in detail.

d) Explain AO* Algorithm in brief.

e) What is the major difference between star schema and snowflake schema?

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

a) Data mining

b) Action

c) Spark SQL

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[6226]-602
T.Y.B.B.A (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)   *Neat diagram must be drawn wherever necessary.*
    3)   *Figures to the right indicate full marks.*

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

    a)   What is Debugging?

    b)   What is verification?

    c)   Define software review.

    d)   What is load testing?

    e)   Define regression testing.

    f)   Define Stub & driver.

    g)   What is dynamic testing ?

    h)   What is SQA?

    i)   Define Winrunner.

    j)   Explain terms-Fault, Error.

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

    a)   Explain testing fundamental in detail.

    b)   Explain Black box testing in detail.

    c)   Explain software testing process.

    d)   Explain verification and validation in detail.

    e)   Explain software testing life cycle with diagram.

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

    a)   Explain unit testing.

    b)   Explain integration testing with its types.

    c)   Explain GUI testing in detail.

    d)   Write test case design for login process.

    e)   Explain acceptance testing in detail.

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

    a)   Explain JUnit in detail.

    b)   Explain CMM in detail.

    c)   Explain performance testing in detail.

    d)   Explain difference between static & dynamic testing.

    e)   Explain any four principles of testing.

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

    a)   Software review.

    b)   Testing documentation.

    c)   Goals of software testing.

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[6226]-603
T.Y. B.B.A.(C.A.)
CA - 603: ADVANCED JAVA
(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 :**   **[8 × 2 = 16]**

    a)   What is servlet?

    b)   What is protocol?

    c)   What is socket?

    d)   What is TCP/IP?

    c)   What is the sleep ( ) method?

    f)   List types of Result Set.

    g)   List any 4 implicit objects of JSP.

    h)   What is Hibernate?

    i)   What is port?

    j)   What is session?

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

    a)   Explain JSP Life Cycle with diagram.

    b)   List & explain JDBC drivers.

    c)   Differentiate between do Get ( ) and dopost ( ) methods

    d)   Write a Java program to display odd numbers, between 1 to 100 in each number should display after 2 seconds (multithreading)

    e)   Write a servlet application to display hello Java message on the browser.

P.T.O.

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

    a)   Explain thread synchronization with example.

    b)   What is cookies? Explain use of cookies in session tracking with example.

    c)   Explain JSP directives in detail.

    d)   Write a JSP script to display factorial of a given number.

    e)   Write a Java program to display date of server machine on client's machine.

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

    a)   Explain statement interface in detail along with prepared statement and callable statement.

    b)   Explain any 4 methods used in thread life cycle

    c)   Write a JDBC program to insert record into student table. (Assume student table is already created having columns rno, name, percentage)

    d)   Write a java program using multithreading to print "Hello Java" message for 500 times.

    e)   Explain socket of Server Socket class in detail.

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

    a)   Hibernate

    b)   Connection interface

    c)   Thread Priorities

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[6226]-604
T.Y.B.B.A. (CA)
CA-604 :ANDROID PROGRAMMING
(2019 Pattern) (CBCS) (Semester-VI)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1)   All questions are compulsory.

2)   Draw neat diagrams wherever necessary.

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

a)   What is Activity?

b)   What is UI?

c)   What is Thread?

d)   Write a brief note on Options Menu?

e)   Explain features of toast?

f)   Define types of layouts?

g)   Define attribute of Widgets?

h)   What is Mobility?

i)   What is hand-off?

j)   What do you mean by Wireless Devices?

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

a)   Write advantages of mobile computing?

b)   What are uses of intent & types of intent

c)   What is toast in android?

d)   Write a Program for list View

e)   What is Menu? Explain types of menu.

P.T.O.

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

    a)   What are json types?

    b)   Create a Simple Application Which Send —Hello message from one activity to another with help of Button (Use Intent).

    c)   Create alert dialog box?

    d)   Explain UI thread with example?

    e)   Discuss Components of Android Application.

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

    a)   What are different types of layout? Explain any two types in brief?

    b)   Explain event Handling in brief?

    c)   Define methods of Asynctask?

    d)   Write program for Date picker?

    e)   Describe mobile and Wireless devices with example.

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

    a)   Activity lifecycle with diagram.

    b)   Step create and send notification.

    c)   Short Note on Toast

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[6226]-605

B.B.A. (CA)
CA-604 :DOT Net Framework
(Semester-VI) (CBCS) (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.

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

a)   How to declare a constant?

b)   What is garbage collection?

c)   Enlist any four errors in VB.Net.

d)   Define MSIL.

e)   List any 4 properties of form.

f)   What is CLS?

g)   What is method overloading?

h)   What is destructor?

i)   What is event? List any two mouse events in VB.Net.

j)   Explain any two properties of data grid.

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

a)   Explain features of Dot Net

b)   Explain scrollbar control with its property and methods.

c)   What are the ADO. Net components?

P.T.O.

d) Design GUI and write a code using Rich Text Box

    i)   Add font size in combobox

    ii)   Select size and change text size in textbox.

e) Write a VB.Net program to display the numbers continuously in textbox by clicking on button.

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

a) Write a VB.Net program to accept a character from the keyboard and check whether it is vowel or consonant.

b) Write a program in c#.Net to find the sum of all elements of the array.

c) Write a c#.Net program to display fibonacci series.

d) Write a c#.Net program to find given number is prime or not.

e) Write a VB.Net program to find given number is perfect or not.

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

a) Explain various built in dialog boxes.

b) Explain ASP.Net life cycle events.

c) What is validation in ASP.Net? Explain any 2

d) Write a VB.Net program for blinking an image.

e) Write a c#.Net program to sort the given array.

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

a) Crystal Reports

b) Conductor

c) Command object

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