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.

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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.

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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.

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