Total No. of Questions : 5]

SEAT No. :

P6010

[Total No. of Pages :2

[6144] - 401
S.Y.B.B.A. (Computer Application)
CA-401 : NETWORKING
(CBCS 2019 Pattern) (Semester-IV)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

Q1) Attempt any three of the following. **[3×5=15]**

a) What is ungelided media? Explain types of ungelided media?

b) What is switch? How does it differ from HUB?

c) What is copyright? Explain applications of copyright?

d) Differentiate between connection oriented and connectionless services?

Q2) Attempt any three of the following. **[3×5=15]**

a) Explain functions of each layer ISO-OSI reference model?

b) What is Backbone Network? Explain types of Backbone network.

c) State advantages and disadvantages of LAN, with uses?

d) Explain Ground wave propagation with diagram?

Q3) Attempt any three of the following. **[3×5=15]**

a) Define computer network? Explain goals of computer network.

b) What is attack? Explain various types attack.

c) What is gateways? Explain various levels of gateways.

d) What is NLAN? What are the features of VLAN.

P.T.O.

Q4) Attempt any three of the following. **[3×5=15]**

a) Explain TCP/IP protocol in detail?

b) What is HUB? Explain types of HUB?

c) Explain bluetooth architecture in detail?

d) Explain different modes of communication?

Q5) Write notes on: (any two) **[2×5=10]**

a) Proxy Server

b) Fiber optic cable

c) IP addressing

d) Topology

Total No. of Questions : 5]

SEAT No. : ____

P-6011

[Total No. of Pages : 3

[6144]-402
B.B.A. (CA)
CA-402 : OBJECT ORIENTED CONCEPTS THROUGH CPP
(2019 Pattern) (Semester - IV)

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

Instructions to the candidates:

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

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

a) List any four features of OOP's.

b) Define pure virtual function.

c) What is cascading of I/O operator?

d) List the ways to define a constant.

e) What is an abstract class?

f) Define multiple inheritance.

g) Define destructor.

h) What is 'this' pointer?

i) What is Run-Time Polymorphism?

j) Enlist manipulators in C++.

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

a) Explain function overloading with example.

b) What is inheritance? Explain types of inheritance.

c) Explain static data members and static member functions with example.

d) What is friend function? Write characteristics of friend function.

e) Explain use of any four file opening modes.

P.T.O.

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

a) Write a C++ program to create a class product which contains data members as pname, price, quantity. Write member functions to accept quantity for n products and accordingly generate and display bill.

b) Design a base class person (name, address, phoneno). Derive a class employee (eno,ename) from person derive a class manager (designation, department, basic-salary) from Employee. Accept all details of 'n' managers and display manager having highest basic salary.

c) Write a C++ program to overload the functions to calculate area of circle, square and rectangle.

d) Write a C++ program to print the following pattern

A

B C

D E F

G H I J

e) Write a C++ program to accept length and width of a rectangle. Calculate and display perimeter of a rectangle by using inline function.

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

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

```
# include <iostream.h>
Class Number
{
    Public :   int a, b ;
               static int cnt ;
    Number (int x, int y)
    {
        cout <<"\n constructor called";
        a = x ;
        b = y ;
        cnt ++ ;
```

```
    }
    void display ( )
    {
        cout <<"\n a =" <<a<< "\n b =" <<b;
    }
}
int Number : : cnt ;
void main ( )
{   Number N1(4, 6), N2(2, 8);
    cout <<"\n Total object created :"
        <<Number : : cnt ;
}
```

b) Explain parameterized constructor with the help of suitable example.

c) Explain virtual base class with example.

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

e) Write a program to overload binary plus operator to concatenation of two strings.

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

a) Array of object

b) Access specifier

c) Constructor in derived class

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

P6012 **[Total No. of Pages : 2**

[6144]-403
S.Y.B.B.A. (C.A.)
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 indicates full marks.***

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

a) Define process.

b) What is context switch?

c) What is a page frame?

d) List various operations on files.

e) What is meant by rotational latency in disk scheduling?

f) Define critical section.

g) State Belady's anomaly.

h) List any 4 characteristics of opereting system.

i) Define dead lock.

j) What is the role of operating system?

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

a) 'Operating system is like a manager of the computer system'. Explain.

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

c) Draw and explain process control block. (PCB).

d) Compare multiprogramming with a multiprocessing system.

e) Draw and explain the process state diagram.

P.T.O.

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

a) Compare internal and external fragmentation.

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

Process	Burst Time
P1	10
P2	1
P3	2
P4	1
P5	5

All processes arrived at time () in the order P1, P2, P3, P4, P5.

i) Draw Gantt chart using SJF method.

ii) Calculate average turnaround time and average waiting time.

c) Explain semephores and its types.

d) What is deadlock? Explan various deadlock handling techniques.

e) What are the different types of directory structure? Explain.

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

a) Explain linked allocation in files.

b) Compare paging and segmentation.

c) Assume there are total 200 tracks present on the disk. If the request queue is:

84, 145, 89, 168, 93, 128, 100, 68 and initial position of head is 125.

Apply FCFS disk scheduling algorithm and calculate total head movement.

d) Explain file structure with the help of a diagram.

e) Consider the following page reference string

9, 2, 3, 4, 2, 5, 2, 6, 4, 5, 2, 5, 4, 3, 4, 2, 3, 9, 2, 3

The number of page frames is 4. Calculate the page faults for the given page replacement scheme using FIFO (First in first out)

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

a) Spooling.

b) Dining Philosopher's problem.

c) Contiguous memory allocation.

Total No. of Questions : 5]

SEAT No. :

P-6014

[Total No. of Pages : 2

[6144]-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 indicate full marks.***

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

a) What is the command to initialize node package manager? Write it's syntax.

b) For which task a file system module is used?

c) What is REPL?

d) What is express.js?

e) What is the use of prompt-sync module?

f) List any four core modules in Nodejs?

g) Which command is used for deleting a file?

h) Write syntax to create Buffer?

i) Write a command to install MySQL package by using NPM?

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

a) How we install a package globaly in node js wirte it's command with example?

b) What is the advantages of Nodejs?

c) Explain Node'js Process Mode?

d) How does Node.js handles a file request.

e) Write down the command to create package.js file with example?

P.T.O.

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

a) How to write asynchronous data to a file explain with suitable example?

b) Write a program which uses add Listener (). method of Event Emitter class.

c) Write a short note on NPM.

d) Write a code for selecting all records from Player's table.

e) Explain module. exports in Node.js.

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

a) Compare Traditional webserver Model and Node.js process Model.

b) Write Node.js application to create user defined square module to fine area of square & display the details on console.

c) What is web server?

d) Write a program to create a file in Nodejs.

e) Explain parameter's of create connection?

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

a) Explain Event driven programming.

b) What is Anonymous function?

c) Explain is module?

Total No. of Questions : 5]

SEAT No. :

P-6013

[Total No. of Pages : 2

[6144]-405
S.Y. B.B.A. (Computer Application)
CA-404 : ADVANCED PHP
(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.***
3) ***Neat diagrams must be drawn wherever necessary.***

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

a) Explain the purpose of $ this variable.

b) Name any two functions to extract basic information about classes in PHP.

c) What is SOAP?

d) What is Web Services?

e) List any two PHP HTTP functions.

f) What is setcookie ( ) function?

g) Enlist the PHP Dom's function.

h) What is XML passer?

i) Which are the parts of XML-RPC?

j) Give any two applications of AJAX.

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

a) What is Introspections? Explain any two instrospective function?

b) What is sticky form? Explain with example.

c) Explain how to create and select database using PHP.

d) Explain AJAX web application model.

e) How to handle file upload in PHP?

P.T.O.

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

a) Create a XML file which gives details of books available in "xyz Bookstore" from the following categories : (i) Technical (ii) General knowledge (iii) Fitness

b) Write php script to create CD catlog using XML file.

c) Write a PHP program to create student registration form and display student information (use sticky form concept)

d) Create student table as follows : student (sno sname, per) Write Ajax program to select the student name and print the selected student's details.

e) Define a class Employee having private members_id, name, department, salary. Define parameterized constructors. Create a sub class called 'Clerk' with private member bonus. Create one objects of the clerk class and display the details of the clerk having the maximum total salary (salary + bonus).

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

a) Define class and object. Explain with example.

b) What is PHP session? Explain to start and how to destroy php session with example.

c) Write PHP script to create 'product.xml', which contain p_no, p_name, color, weight. Add four element into it. Write PHP script to display product. XML in table format.

d) Write a PHP program which implements AJAX for additional of two numbers.

e) Differentiate between GET and Post method.

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

a) Super Global variables

b) AJAX

c) Content management system