

Total No. of Questions : 5]

SEAT No. :

P2135

[Total No. of Pages : 2

[5803]-401

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

CA-401 : NETWORKING

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

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

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

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

- a) What is networking? Explain different types of network.
- b) Explain TCP/IP protocol in details.
- c) What is guided media? Explain types of guided media.
- d) Explain Active and Passive Hub.

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

- a) What are repeaters? Explain different types of repeaters.
- b) What are different mode of communication? Explain with sketch.
- c) What is security services? Explain security mechanisms to provide the services.
- d) Explain Bluetooth in details.

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

- a) What is standard? What is their needs? Explain the two types of standard.
- b) What is Fast Ethernet? Explain categories of Fast Ethernet.
- c) Explain server based and peer to peer LANS.
- d) Differentiate between fiber optic and twisted pair cable.

P.T.O.



**Q4)** Attempt any three of the following :

**[3 × 5 = 15]**

- a) What is attack? Explain various types of attacks.
- b) Explain wireless transmission. Explain any one media in details.
- c) What is addressing? Explain different types of addresses.
- d) Explain IEEE standard 802.11 (WLAN) in details.

**Q5)** Write notes on (Any Two) :

**[2 × 5 = 10]**

- a) Proxy server.
- b) Switch
- c) ISO-OSI Reference model.
- d) Line - of - sight



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SEAT No. :

P2136

[Total No. of Pages : 3

[5803]-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 Ten)

[8 × 2 = 16]

- a) What is extraction and insertion operator?
- b) Explain any two manipulators.
- c) Define constructor.
- d) What is inline function.
- e) What is reference variable? What is its major use.
- f) What is Abstraction and Encapsulation.
- g) What is compile - Time polymorphism.
- h) What is default argument.
- i) What is the use of scope resolution operator.
- 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 with the help of suitable example.
- b) Explain memory allocation for objects with non-static data member and static data member.
- c) When do we make a class virtual base class? Explain it with suitable example.
- d) Explain array of object in C++ with example.
- e) Explain any four formatted input/output functions.

*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 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 Book which contains data members as B-Id, B-Name, B-Author, B- publication. Write member functions to accept and display Book information also display count of books. (Use static data member to maintain count of books)
- c) Write a C++ program to calculate square and cube of integer number by using inline function.
- d) Design C++ class which contains function display(). Write a program to count number of times display() is called. (use static data member).
- e) Write a C++ program to read contents of a text file and count number of characters. Words and lines in a file.

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

- a) Can we pass class object as function arguments? Explain with the help of an example.
- b) Explain various stream classes used to perform console input/output (I/o) operations.
- c) What is class Template? Explain syntax of class template with suitable example.
- d) Write a program to perform addition of two matrices using operator overloading.
- e) Trace the output of the following program and explain it. Assume there is no syntax error.

```
# include < iostream.h>
Class abc
{
    int i;
    public :
    abc (int v = 0)
```

```
{
    Cout <<"In the constructor\n";
    i = v;
}
Void print (Void)
{
    Cout <<"The value of i is " <<<endl;
}
};
Void main ()
{
    abc a (10);
    abc b ;
    a. print ();
    b. print ();
}
```

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

- a) Exception Handling
- b) Operator overloading
- c) Pointer to object with example.





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SEAT No. :

P2137

[Total No. of Pages : 3

[5803]-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) Define the term operating system.
- b) What is meant by multiprocessing system?
- c) What is process?
- d) Which scheduler controls the degree of Multiprogramming?
- e) Define Burst Time.
- 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 Seek Time in Disk Scheduling?

**Q2)** Attempt any four of the following :

[4 × 4 = 16]

- a) List and explain advantages of Multiprocessor system.
- b) Explain Process Control Block (PCB) in detail with diagram.
- c) Explain different method for recovery from a deadlock.
- d) What is Fragmentation? Explain types of fragmentation in details.
- e) Calculate average turn around time and average waiting time for all set of processes using FCFS algorithm.

*P.T.O.*



Processes	Burst Time	Arrival Time
P <sub>1</sub>	5	1
P <sub>2</sub>	6	0
P <sub>3</sub>	2	2
P <sub>4</sub>	4	0

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

- a) List and explain system calls related to Process and Job control.
- b) Explain multilevel Feedback queue Algorithm.
- c) Describe in detail the 'Dinning Philosopher Problem' Synchronization problem.
- d) Write a note on interrupts.
- 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 Free Space Management? Define Bit vector and Grouping.
- 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 short note on solution for critical section problem.
- b) Write a short note on Medium-term scheduler.
- c) Explain Indexed Allocation briefly.





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SEAT No. :

**P4035**

[Total No. of Pages : 2

**[5803]-404**

**S.Y. B.B.A. (Computer Applications)**

**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 Node. JS?
- b) Which type of applications we build using Node. JS?
- c) What is the use of Registry?
- d) Define Anonymous function.
- e) Explain Web Server.
- f) What is Package? JS on file.
- g) Explain global package.
- h) List out the parameters of CreateConnection ( ).
- i) Write down the Syntax to Concatenate Node buffers to a Single Node Buffer.
- j) Write down the types of modules in Node. JS.

**Q2)** Answer the following (Any Four) :

**[4 × 4 = 16]**

- a) Explain Node. JS Process Model.
- b) Write down the steps to create local module.
- c) Write Node.JS program which will convert the output “SY BCA” into upper-case.
- d) Explain the use of Buffer and How to create Buffer.
- e) Explain the need of NPM.

**P.T.O.**



**Q3) Answer the following (Any Four) :**

**[4 × 4 = 16]**

- a) Write a Node. JS Script to check a given number is Perfect or Not using function.
- b) What is Module? Explain Third Party Module.
- c) What is Synchronous and Asynchronous approach?
- d) What is Event Driven Programming?
- e) Explain Anonymous function with an example.

**Q4) Answer the following (Any Four) :**

**[4 × 4 = 16]**

- a) Explain the syntax to create a text file and delete the file.
- b) Explain any two methods of EventEmitter class.
- c) Write a Node. JS Script to check a given number is even or odd using function.
- d) Write Node.JS program to count the occurrence of given word in a file and display the count on Console.
- e) Write a Program to define Module Circle. JS which exports the functions area ( ) and Circumference ( ) and display the details on console.

**Q5) Answer the following (Any Two) :**

**[2 × 3 = 6]**

- a) Which databases does Node. JS Supports.
- b) Write down the Connection String of Node.JS and MySQL.
- c) Explain the use of REPL.



Total No. of Questions : 5]

SEAT No. :

P2138

[Total No. of Pages : 2

[5803]-405

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

CA - 404 :ADVANCE PHP

(2019 CBCS Pattern) (Semseter - 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) What is the use of abstract class?
- b) What is the \$\_Server variable?
- c) Enlist XML element.
- d) What are different technologies are used in Ajax?
- e) What is Web Service?
- f) What is content Management system.
- g) Wha is Serialization?
- h) Define UDDI.
- i) What is PHP frame work.
- j) Define Template of object oriented.

Q2) Attempt Any four of the following :

[4 × 4 = 16]

- a) Explain class and object with example.
- b) What is Document object Model in PHP.
- c) What is SOAP? Explain in detail?
- d) Explain features of Joomla / Drupal.
- e) Explain with example how to connect database using PHP and Ajax.

*P.T.O.*



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

- a) Create a form to accept Employee detail and display it in next page (Use sticky form concept)
- b) Create an abstract Class shape with method area ( ) and volume ( ). Derive two classes rectangle (length, breadth), Circle (radius). Calculate area and volume of all (Use Method Overriding).
- c) Write script to solve following questions (Use "Student.XML" file)
  - i) Create a DOM Document Object and load thisXML file
  - ii) Get the output of this Document to the browser. Write a script to print the names of the student Present in "Student.XML" file.
- d) Write a PHP Script to display server information in table format (Use \$\_SERVER).
- e) Write a PHP Script for the following : Design a form to accept a number from the user. To find Sum of the digits of the number (Use the concept of self processing page).

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

- a) What is Inheritance? Explain with suitable example.
- b) How articles are created in Drupal R. Joomla?
- c) Create a XML file which gives details of books available in "ABC Bookstore" from following.  
Categories i) Technical ii) Cooking iii) YOGA
- d) Define class Employee having private members id, name department, Salary. Define parameterized constructor. Create a Subclass called "Manager" with private member bonus. Create 6 objects of the Manager class and display the details of the Manager having the maximum total salary. (Salary + bonus)
- e) Explain setting Response Headers.

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

- a) WSDL.
- b) XML parser.
- c) XMLHTTP Request object.

