Total No. of Questions : 5]

SEAT No. :

**PA-1968**

[Total No. of Pages : 2

# [5954]-303
## S.Y. B.B.A. (Computer Application)
## CA - 303 : SOFTWARE ENGINEERING
## (2019 CBCS 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. **[2×8=16]**

a) What is system?
b) Define software?
c) Define RAD.
d) What is SRS.
e) State the principles of Software Testing?
f) What is software Reengineering?
g) State advantages of Waterfall model.
h) State any two types of coupling.
i) Define an Entity.
j) What is Pseudocode?

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

a) Explain various types of system.
b) Explain different McCall's quality factors.
c) Explain spiral model in detail.
d) Discuss different fact finding techniques.
e) Differentiate between White - Box and Black-Box Testing.

***Q3)*** 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 table for the above case.

*P.T.O.*

b) Design a Input screen layout for creating user account on Internet (with personal details, user-id and password, save, cancel commands etc).

c) Draw decision tree for the following case:

A company gives discount on the purchase of goods depending on the sale and duration of payment:

i) 5% discount if order amount > 50,000.
ii) 3% discount if order amount between 25,000 and 50,000
iii) No discount if order amount < 10,000 or payment is not done within 8 days.

d) Design an screen layout for employees salary slip.
e) Draw ER-Diagram for "College Admission System".

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

a) Draw first level DFD for Hospital Management system in which the hospital has Inpatient Department (IPD), outpatient Department (OPD) the system maintains patient records and bills of the patient.
b) Identify all entities of online shopping system.
c) Draw context level diagrams for online shopping system.
d) Draw first level DFD for customer Order system.
e) Explain elements of Data flow diagrams?

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

a) Types of Cohesion
b) Validation and Verfication Testing.
c) Feasibility study.

Total No. of Questions : 5]

SEAT No. :

PA-1966

[Total No. of Pages : 2

# [5954]-301

## B.B.A. (CA) (Semester - III)

## CA-301 : DIGITAL MARKETING

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

a) What is digital marketing?

b) What is email marketing?

c) Define the term Real Marketing.

d) What is Content Management?

e) Define web design.

f) What is CRM platform?

g) What is Social Media?

h) Define YouTube Analytics.

i) What is Resource Planning?

j) What is Blogging?

*P.T.O.*

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

a) Explain the search engine optimization.

b) Describe Digital Marketing channels.

c) Explain the concept SEO optimization.

d) Explain CRM models in detail.

e) Describe Digital Display Marketing.

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

a) How to understand Social Media Marketing?

b) What is Social Media? Explain Blogging in detail.

c) What is Web analytics? Describe the levels.

d) Explain the concept of cost budgeting.

e) Explain MS Expression Web.

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

a) Explain the visual identity of a facebook page.

b) Explain the analyzing visition on Linkdin.

c) What is email marketing? How to keep up with the conversion?

d) Explain the concept Google Ads.

e) How to create business account on YouTube?

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

a) Optimization of Instagram profile.

b) Social Networking.

c) SWOT Analysis.

* * *

Total No. of Questions: 5]

SEAT No. :

PA-1970

[Total No. of Pages : 2

# [5954]-305

## B.B.A. (Computer Application)

## PHP

## (2019 Pattern) (Semester-III) (CA-304)

*Time : 2 ½ Hours* *[Max. Marks : 70*

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

a) List the types of array.
b) What are different arithmatic operators in PHP?
c) What is abstract class in PHP?
d) Define sticky form.
e) What is validation?
f) What is use of array-slice () in PHP?
g) What are the databases supported by PHP?
h) what is the use of session?
i) Which attribute is used for multiple selections in select tag?
j) What is the purpose of break statement?

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

a) Explain multidimensional array in PHP with example.
b) Write a PHP Program to check whether given year is leap year or not (use if else)
c) Write a PHP script to define an interface which has methods area () volume (). Define constant PI. Create a class cylinder which implements this interface and calculate area and volume
d) What are the built in functions of string?
e) Write a PHP program to reverse an array

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

a) What is variable in PHP? Explain its scope with example.
b) What is the difference between for and for each in PHP?
c) Write a PHP Program to display reverse of a string.
d) How to create cookies? Give an example.
e) Explain passing values by reference with an example.

*P.T.O.*

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

a) What is array? Explain different types of array in PHP.
b) What is the difference between a while loop and do while loop in PHP.
c) Write a PHP program to find the sum of digit of a given number.
d) Write a PHP program to use multiple checkbox to select hobbies
e) List various MYSQL Queries with their Syntax.

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

a) Explain advantages of PHP built in functions
b) Explain GET Method
c) List Advantages of PHP.

Total No. of Questions : 5]

**PA-1967**

SEAT No. :

[Total No. of Pages : 2

**[5954]-302**

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

**CA - 302 : DATA STRUCTURE**

**(2019 Pattern) (Semester - III)**

*Time : 2½Hours]* *[Max. Marks : 70*

*Instructions to the candidates:*

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

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

a) How to measure performance of an algorithm?
b) What is polynomial? How is it differ from structure?
c) What is balance factor? How is it calculated?
d) What are Abstract Data types?
e) What is Ancestor of Node?
f) State the types of graph.
g) Differentiate array and structure.
h) What is space and time complexity?
i) What is pointer to pointer?
j) What is spanning tree?

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

a) Explain Insertion sort technique with an example.
b) What is circular queue? How it is differ from static queue?
c) What is stack? What are the various applications of stack. List operations performed on stack.
d) Explain different types of AVL rotations with an example.
e) Explain various types of Dynamic Memory Allocation functions.

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

a) Write a function to create and display doubly link list.
b) Write a recursive functions to traverse a tree by using inorder (), preorder () and postorder traversing functions.

*P.T.O.*

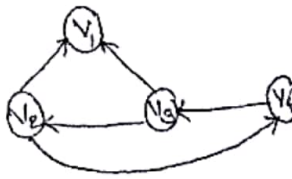
c) Write a function to delete first node from singly linked list.
d) Write a function to reverse a string using stack.
e) Write a 'C' Program for evaluation of polynomial.

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

a) Construct an AVL tree for following sequencial data:
Jan, Feb, Apr, May, July, Aug, June.
b) Use merge sort technique on following data:
45, 85, 96, 78, 34, 12, 49, 38, 18.
c) Write a 'C' program to creat link list with given number in which data part of each node contains individual digits of the numbers.
d) What is circular queue? Explain it with example.
e) Construct Binary search tree of following data:
RAM, SITA, AMIT, JOEL, IVAN, ASHA

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

a) Define the following terms:
i) Directed graph
ii) Strict binary tree
iii) Cyclic graph
b) Convert the following expression into postfix
i) A/B $ CD * E - A *C
ii) (A + B * C -D)/ E $ F
c) What is degree of vertex? Find the indegree and outdegree of following graph of each vertex:



Total No. of Questions : 5]

SEAT No. :

**PA-1971**

[Total No. of Pages : 2

**[5954]-306**

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

**CA- 305 : BIG DATA**

**(2019 CBCS Pattern) (Semester-III)**

*Time : 2½ Hours]* *[Max. Marks : 70*

***Instruction to the candidates:***

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

*Q1)* Attempt any EIGHT of the following. **[16]**

a) What is big data?

b) What is data manipulation?

c) What is data science?

d) What is statistical Inference?

e) Enlist the stages of data science?

f) Define Machine Learning.

g) Define SVM?

h) What is the use of histogram?

i) What is data analysis?

j) What is the use of themes?

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

a) Explain different types of data analytics.

b) Give advantages and Disadvantages of Machine Learning.

c) Explain the process of data analysis.

d) Explain probability distribution modeling.

e) Explain applications of big data.

*P.T.O.*

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

a) State advantages and disadvantages of SVM.

b) Explain Data frame with example.

c) Explain types of regression models.

d) What is histogram? Explain with example in R.

e) Explain functions included in "dplyr" package

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

a) Explain Naive Bayes with the help of example.

b) What is data visualization? Explain with example in R.

c) Write a R program to accept temperatures in Fahrenheit (F) and print it in Celsius (C).

d) Accept three dimensions length (l), breadth (b) and height (h) of a cuboid and print its volume.

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

*Q5)* Write a short note on Any TWO of the following. **[6]**

a) Tools used in Big Data.

b) Advantages of Big data.

c) Advantages and Disadvantages of EM algorithms.

❖ ❖ ❖

Questions : 5]

P1913

SEAT No. : 20128

[6034]-402

[Total No. of Pages : 3

**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.

Total No. of Questions : 5]

P1912

SEAT No. :

[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.



**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]

**P1916**

SEAT No. :

[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]

P-1914

SEAT No. : 20129

[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.