

Total No. of Questions : 5]

SEAT No. :

PA-1978

[Total No. of Pages : 2

[5954]-501

B.B.A. (C.A.)/B.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) *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) Define term Cybercrime.
- b) What is online fraud?
- c) Define term Cyber Security.
- d) What is reconnaissance?
- e) What is Phishing?
- f) Define attack vector?
- g) Define denial-of-service (DoS) attack.
- h) What is Public-key Certification in Digital Signature?
- i) What is Steganography?
- j) Define Cyber Terrorism?

Q2) 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.

P.T.O.

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

- a) What are the challenges to Indian Law and cybercrime scenario in India?
- b) Explain in brief each type of Intellectual Property.
- c) What is cyber forensics explain in details?
- d) Explain the cyber security real life incident example.
- e) What are the consequences of cybercrime and their associated cost?

Q4) 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?

Q5) Write a short note on Any Two of the following. (9 out of Three) **[2 × 3 = 6]**

- a) Hacking.
- b) The Indian IT Act.
- c) Phishing.



Total No. of Questions : 5]

SEAT No. :

PA-1979

[Total No. of Pages : 3

[5954]-502

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

OBJECT ORIENTED SOFTWARE ENGINEERING
(2019 Pattern) (Semester - V) (CA-502) (CBCS)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

- 1) *All questions are compulsory.*
- 2) *Neat diagram must be drawn whenever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) Attempt any Five of the following :

[5 × 2 = 10]

- a) What is realization?
- b) What is interface?
- c) What is the use of section 4 in SRS format?
- d) Define forking.
- e) List any two advantages and disadvantages of prototyping model.
- f) Define Generalization.
- g) Write down the purpose of the object diagram.

Q2) Attempt any Four of the following :

[4 × 4 = 16]

- a) Explain visibility modes along with well labelled diagram.
- b) Draw component diagram for online shopping.
- c) Describe the coad and yourdon method in detail.

P.T.O.

- d) What is use cases? State include and extend relationship among use cases with sample.
- e) How to identify the element of an object model.

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

- a) What is package? Explain it with import and export stereotypes.
- b) Define Relationship. Explain different kinds of relationship.
- c) Define UML. What are the goals of UML?
- d) Define Up phases with the help of diagram.
- e) Explain generic components of the object oriented design model.

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

- a) Draw a collaboration diagram for ATM system.
- b) What is meant by Object Oriented Analysis?
- c) Define sequence diagram. Explain sequence diagrams notations.
- d) Write short note on Type and Roles.
- e) Define the following terms :
 - i) Link.
 - ii) State.
 - iii) Branching.
 - iv) Note.

Q5) Attempt the following : **[12]**

Railway reservation system is a system used for booking tickets over internet. Any customer can book tickets for different trains. Customer can book a ticket only if the tickets are available. Customer searches for available ticket then if the tickets are available he books the tickets by initially filling details in a form.

Tickets can be booked in two ways by i-ticket or by e-ticket booking.

In case of i-ticket booking customer can book the tickets online and the ticket are couriered to particular customer at their address.

But in case of e-ticket booking and cancelling tickets are booked and cancelled online sitting at the home and customer himself has to take print of the ticket but in both the cases amount for ticket are deducted from customers account.

For the cancellation of ticket the customer has to go at reservation office & fill form and ask the clerk to cancel the ticket and refund the amount.

After booking ticket the customer has to checkout by paying fare amount to clerk.

Consider above situation. Draw the following UMLdiagram.

- a) Use case diagram.
- b) Class diagram.
- c) Sequence diagram.



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SEAT No. :

PA-1980

[Total No. of Pages : 2

[5954]-503

T.Y. B.B.A. (Computer Application)

CA 503 : CORE JAVA

(2019 Pattern) (Semester - V)

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 carry equal marks.*
- 4) *All questions are compulsory.*

Q1) Attempt any Eight :

[8 × 2 = 16]

- a) What is Java? Why Java is a platform neutral language?
- b) What is access specifiers? List them.
- c) Define Keyword-Static.
- d) Why we set environment variable in Java?
- e) Write advantages of Inheritance.
- f) Define class and object with one example.
- g) What is Swing?
- h) When buffered reader is used?
- i) What is main difference between exception and error?
- j) What is Panel?

Q2) Attempt any four :

[4 × 4 = 16]

- a) What is Super Keyword? Explain the use of super keyword with suitable example.
- b) Describe file handling in brief.
- c) What is datatype? Explain types of datatypes used in Java.
- d) What is interface? Why they are used in Java?
- e) Why the main() method in public static? Can we overload it? Can we run java class without main() method?

P.T.O.

Q3) Attempt any four :

[4 × 4 = 16]

- a) Write a java program which accepts student details (Sid, Sname, Saddr) from user and display it on next frame. (Use AWT).
- b) Write a package MCA which has one class student. Accept student details through parameterized constructor. Write display() method to display details. Create a main class which will use package and calculate total marks and percentage.
- c) Write Java program which accepts string from user, if its length is less than five, then throw user defined exception “Invalid String” otherwise display string in uppercase.
- d) Write a Java Program using Applet to create login form.
- e) What is recursion in Java? Write a Java Program to find factorial of a given number using recursion.

Q4) Attempt any four :

[4 × 4 = 16]

- a) Explain method overloading and method overriding in detail.
- b) Write an applet application in java for designing smiley.
- c) Explain in brief delegation event model for handling events.
- d) Write a java program to copy the dates from one file into another file.
- e) Write a java program to accept 'n' integers from the user & store them in an ArrayList Collection. Display the elements of ArrayList collection in reverse order.

Q5) Write short note any two :

[2 × 3 = 6]

- a) What is repaint method does?
- b) Write constructors of Jtabbed panel.
- c) Abstract class.



Total No. of Questions : 5]

SEAT No. :

PA-1981

[Total No. of Pages : 2

[5954]-504
B.B.A. (CA)
CA - 504 : 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.*
- 3) *Draw a neat label diagram whenever necessary.*

Q1) Answer the following : (Any 8)

[8 × 2 = 16]

- a) Define the term Replica set.
- b) Explain the use of "Mongostat"
- c) How scaling is handled in MongoDB
- d) What is the importance of "-id" field in a MongoDB.
- e) Define the term TTL index.
- f) What is the significance of write concern value in *w* field?
- g) What is the importance of an index in data.
- h) What is MMS backup?
- i) Write any two features of MongoDB.
- j) Write syntax of update command.

Q2) Solve the following : (Any 4)

[4 × 4 = 16]

- a) Differentiate between core server and MongoDB shell in detail.
- b) Explain Why MongoDB is preferred over RDBMs in some applications.
- c) Explain the pattern matching operators used in MongoDB with suitable example.
- d) Write on the importance of database profiling.
- e) Explain the different applications of graph database.

P.T.O.

Q3) Solve the following : (Any 4)

[4 × 4 = 16]

- a) Explain the document data model of MongoDB.
- b) Write on how write queries are handled in replicated environment.
- c) Explain the aggregation framework in brief.
- d) Explain the concept of "2d sphere" index with suitable example.
- e) What is page fault in MongoDB.

Q4) Solve the following :

[8 × 2 = 16]

- a) Create a collection "Online Course".
- b) Create a new document in "Online Course" collection having ID = 02.
- c) Write a command to show the details of "Online Course".
- d) Show the details of "Online Course" by Find command.
- e) Retrieve the document from "Online course" by find one command.
- f) Display the details of "Online course" whose fee is greater than 20,000.
- g) Display ID, coursename, Fee, use " Pretty course".
- h) Display the details of course having fees 20,000 and duration 6 months.

Q5) Solve the following : (Any 2)

[2 × 3 = 6]

- a) Explain the MongoDB CRUD CONCERNS.
- b) Explain the various types of NOSQL database.
- c) Explain the Map-Reduce function with suitable example.



Total No. of Questions : 5]

SEAT No. :

PA-1982

[Total No. of Pages : 2

[5954]-505
T.Y. B.B.A. (CA)
CA - 504 :PYTHON
(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) Attempt any eight of the following questions.

[8×2=16]

- a) List out special operators in Python?
- b) Explain any two tuple operations with an example.
- c) What is the use of '+' and '*' operators on tuples?
- d) What is the use of random() in random module?
- e) What is the syntax of constructor in Python?
- f) What is the use of try - finally block?
- g) List out any 5 button options in Python?
- h) How is grid() geometry management method used in tkinter?
- i) What are advantages of Pandas?
- j) State the uses of tensor flow.

Q2) Attempt any four of the following questions.

[4×4=16]

- a) Explain function Arguments in detail?
- b) Explain any three widgets in tkinter in brief.
- c) Explain IS-A Relationship and Has - A relationship with example?
- d) Write a python program to create a class circle and compute the Area and the circumferences of the circle. (Use parametrized constructor).
- e) Write a python script using class to reverse a string word by word?

P.T.O.

Q3) Attempt any four of the following questions.

[4×4=16]

- a) What is Pandas? Explain features and advantages of Pandas.
- b) Write in brief about anonymous functions.
- c) Explain math built-in-module with examples?
- d) Write a python class to accept a string and number 'n' from user and display 'n' repetition of strings by overloading *operator.
- e) Write python GUI program to generate a random password with upper and lower case letters.

Q4) Attempt any four of the following questions.

[4×4=16]

- a) Explain Exception handling in python with example?
- b) Explain methods for geometry management in tkinter with examples?
- c) Explain functions to delete elements in Dictionary?
- d) Write a python program to accept string and remove the characters which have odd index values of given string using user defined function.
- e) Write a python program to swap the value of two variables.

Q5) Write a short note on any two of the following.

[2×3=6]

- a) NumPy
- b) Slicing dictionaries.
- c) Raise statement.



Total No. of Questions : 5]

SEAT No. :

PA-1983

[Total No. of Pages : 2

[5954]-601

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

RECENT TRENDS IN INFORMATION TECHNOLOGY

(2019 Pattern) (Semester - VI) (CA-601)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

- 1) *Questions : Total Number of Questions are 5 (Five).*
- 2) *Total Marks assigned: 70*
- 3) *Time assigned: 2½ Hours.*

Q1) Attempt any EIGHT of the following (Out of TEN) : [8 × 2 = 16]

- a) What is artificial intelligence?
- b) Explain component of spark.
- c) What is data mart?
- d) List any two applications of data warehouse.
- e) Define OLTP.
- f) Define ETL tools.
- g) Define Data mining.
- h) What is a Ridge in artificial intelligence?
- i) What is natural language processing?
- j) Define Meta data.

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

- a) Describe the Architecture of data warehouse.
- b) Explain briefly the various components of spark.
- c) Explain the three important artificial intelligence techniques.

P.T.O.

- d) What are the disadvantages of Depth First Search?
- e) What are the difference between OLTP and OLAP?

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

- a) Explain the various search and control strategies in artificial intelligence.
- b) Describe technique of data mining.
- c) Explain any four uses of data warehouse.
- d) What is the philosophy of artificial intelligence?
- e) Write down the steps of KDD process.

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

- a) What is a heuristic function?
- b) What is multidimensional data model? Explain.
- c) Define data cleaning. Describe various method of data cleaning.
- d) Explain briefly with solution Missionaries and Cannibals Problem Statement.
- e) Explain Graph mining in brief

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

- a) State the 'Water Jug Problem' in artificial intelligence with the help of diagrams and propose a solution to the problem.
- b) Data mining task.
- c) ROLAP and HOLAP.



Total No. of Questions : 5]

SEAT No. :

PA-1984

[Total No. of Pages : 2

[5954]-602

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 TEN) :

[8 × 2 = 16]

- a) What is Software Testing?
- b) What is Static testing?
- c) State the advantages of manual testing.
- d) What are formulae for calculating Cyclomatic complexity?
- e) What is Gray-box testing?
- f) Define validation Testing.
- g) What is Debugging?
- h) Explain terms- Error, Fault and Failure.
- i) Define regression testing.
- j) What is software metric?

Q2) Attempt any FOUR of the following (out of FIVE) :

[4 × 4 = 16]

- a) Write difference between verification and validation.
- b) Explain Software testing life cycle with diagram.
- c) Explain Boundary-Value analysis in details.
- d) Explain Acceptance testing in details.
- e) Explain Test Case Design along with example.

P.T.O.

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

- a) Explain any four testing principles in detail.
- b) Explain white box testing and its techniques.
- c) Explain Sandwich and Big-Bang approach of Integration testing.
- d) Explain load and Smoke testing in detail.
- e) Write difference between Static and Dynamic testing.

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

- a) Explain test case design for the login process.
- b) Stub and Driver concept in Unit testing.
- c) Explain GUI testing in details.
- d) What is difference between client/server and web-Based testing?
- e) Calculate the cyclometric complexity of a code which accepts 3 integer values and print the highest and lowest value.

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

- a) Testing for Real-Time system.
- b) Stub and Driver concept in Unit testing.
- c) Load Runner



Total No. of Questions : 5]

SEAT No. :

PA-1985

[Total No. of Pages : 2

[5954]-603
T.Y. B.B.A. (CA)
CA - 603 : ADVANCED JAVA
(2019 Pattern) (Semester - VI)

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) Write down 2 methods of connection interface.
- b) What is sleep() method in multithreading.
- c) What is the method to set the thread priority.
- d) Write down 2 classes used in socket programming.
- e) What is IP address.
- f) What is doGet () method of servlet?
- g) What are the parameters of service() method of servlet.
- h) What is JSP?
- i) What is Hibernate?
- j) What is getConnection method?

Q2) Attempt any four of the following.

[4×4=16]

- a) What is statement? Explain the types of statements in JDBC.
- b) Explain thread life cycle with diagram.
- c) What are the implicit objects in JSP. Explain any 4.
- d) Write down the difference between doGet() and doPost()method.
- e) Write a java program to count number of records in a table.

P.T.O.

Q3) Attempt any four of the following.

[4×4=16]

- a) Explain Architecture of libernate.
- b) What is Result set interface in JDBC? Explain methods in Resultset interface.
- c) Explain JSP life cycle with diagram.
- d) Write a java program in to print from 100 to 1. (use sleep() method)
- e) Write a java program to create table student with attributes Rno, Sname, Per.

Q4) Attempt any four of the following.

[4×4=16]

- a) What are the states of the object in hibernate?
- b) What is session tracking? What are the different ways of session tracking in servlet.
- c) What is thread Priority? How to set the thread priorities?
- d) Write a JSP application to accept a user name and greet the user.
- e) Write a java program to display IP address of a machine.

Q5) Write a short note on any two of the following.

[2×3=6]

- a) Connection interface.
- b) Runnable interface.
- c) Thread synchronization.



Total No. of Questions : 5]

SEAT No. :

PA-1986

[Total No. of Pages : 2

[5954]-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 questions (Any 8) :

[8 × 2 = 16]

- a) What is Android?
- b) Enlist android versions.
- c) Define user interface.
- d) What is Date Picker Dialog?
- e) Describe Array Adapter.
- f) What are the layers present in the android architecture?
- g) What is cursor?
- h) What is Toast?
- i) What is Android ISON?
- j) What is Text Fields?

P.T.O.

Q2) Attempt the following (Any 4) :

[4 × 4 = 16]

- a) Describe activity Life cycle.
- b) What is spinner? How to create it? Explain with Example.
- c) How to create database in SQLite? Explain with Example.
- d) Define AsyncTask? How it works? Explain with Example.
- e) Describe Bounded and Unbounded service in detail.

Q3) Answer the following (Any 4) :

[4 × 4 = 16]

- a) Create linear layout for student registration page in Android with its component properties.
- b) Create an Android application that demonstrate Time Picker.
- c) Write a program to create the custom dialog in Android.
- d) Write a program to implement map in Android.
- e) Create an Android App with login screen on successful login, gives message go to next activity [Without using Database and use Table layout].

Q4) Answer the following (Any 4) :

[4 × 4 = 16]

- a) What is Dialog Box? Explain with example.
- b) Discuss about views and view groups.
- c) Create a simple application, which read a positive number from the user and display its factorial value in another activity.
- d) What is Content Providers? Explain with example.
- e) Develop a simple calculator using table layout.

Q5) Write a short note of the following (Any 2) :

[2 × 3 = 6]

- a) List view.
- b) Google Maps.
- c) Intent.



Total No. of Questions : 5]

SEAT No. :

PA-1987

[Total No. of Pages : 2

[5954]-605

B.B.A. (Computer Application)
CA - 604 : DOT NET FRAMEWORK
(2019 Pattern) (Semester - VI)

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 (out of Ten) :

[8 × 2 = 16]

- a) What is CTS?
- b) State any two advantages of .Net.
- c) What is Event Driven Programming?
- d) Explain difference between menu and popup menu in .Net.
- e) List any two properties of Radio Button Control.
- f) What do you mean by value type and Reference type?
- g) What is boxing in C#?
- h) What is mean by ADO.Net?
- i) Enlist any four data types used in .Net?
- j) What is use of 'this' keyword in C#?

Q2) Attempt any Four of the following (out of Five) :

[4 × 4 = 16]

- a) Explain ASP .NET page life cycle in detail.
- b) What are the classes in ADO.Net. Explain in detail.
- c) How to create menus in VB.Net?
- d) Enlist and explain various objectives of .Net frameworks.
- e) State and explain various statements used in VB.Net.

P.T.O.

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

- a) Write a program in C# for multiplication of two numbers.
- b) Write a program in C# to calculate area of a square.
- c) Write a VB .NET program to check given number is palindrome or not.
- d) Write a VB.NET program to print Yesterday's date on screen.
- e) Write a VB.NET program to display Studentid. Student Name and student course and student fees.

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

- a) What are the HTML controls? Explain.
- b) Write steps to connect to database using ADO.Net.
- c) Explain Common Type Systems (CTS) and Common Language Specification (CLS).
- d) Write a program to show list of doctors visiting to "Sahyadri Multispecialty Hospital".
- e) Write a program to find prime numbers betⁿ 2 to 20.

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

- a) Inheritance.
- b) ASP.Net server controls.
- c) Constructor and Destructor.

