Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
English (Comp.)
Communication Skill (BCA1101)

Day & Date: Thursday, 08-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions. **08**

1) Gandhiji met his missionary friend at _____.
a) Vellore b) Ahmedabad
c) Panji d) Orissa

2) The grandmother used to fetch the author's _____.
a) notebooks b) slate
c) books d) uniform

3) "Let Me Not Pray to be sheltered from" is a prayer to God for _____.
a) saving from danger b) giving ample comfort in life
c) fight on his own d) feeling god's mercy

4) What is the colour of lily flower?
a) Lovely rose died b) Lily white
c) Bid wing flower d) Queenliest of all flowers

5) How does the father discover the son in the room?
a) sleeping b) weeping
c) sulking d) reading

6) Entering into someone else's house without permission is _____ (legal).
(Use suitable prefix of given word in bracket)
a) liegal b) illogical
c) illowmen d) none of the above

7) She gifted <u>herself</u> a new camera. (identify the underlined word)
a) Personal pronoun b) Reflexive pronoun
c) Read religious books d) Rested on her wooden bed

8) What did the grandmother do in the room all day?
a) Spun on her spinning wheel
b) Cooked and washed
c) Read religious books
d) Rested on her wooden bed

Q.2 Answer any four of the following. **12**

a) How is untouchability related to the essay 'The Birth of khadi'?
b) What are the significances of the sparrow in the story?
c) What are the various qualities that Tagore discusses as important in the poem?
d) Why did the poetess focus on the lotus flower in the poem?
e) What religious lesson is there in the poem “The Toys”?
f) What is the importance of khadi in the context of the freedom struggle?

Q.3 a) Write a note of the model of communication process. **10**

OR

b) What are the probable reasons of communication breakdown?

Q.4 What is intra-personal communication? How to improve to it? **10**

Seat No.	

Set | P

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Fundamentals of Computer (Paper - I) (BCA1102)

Day & Date: Friday, 09-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.

Q.1 Multiple Choice Questions. **08**

1) What is smallest unit of the information?
a) A bit b) A byte
c) A block d) A nibble

2) All Light sensitive device that converts drawing, printed text or other images in to digital form is ____.
a) Keyboard b) Plotter
c) Scanner d) OMR

3) First generation computer was based on which technology?
a) Transistor b) LSI
c) VLSI d) Vacuum Tube

4) Which of the memory is Non-Volatile?
a) SRAM b) DRAM
c) ROM d) All of the above

5) Which of the following is not a characteristic of a computer?
a) Versatility b) Accuracy
c) Diligence d) I.Q.

6) FTP stands for?
a) File Text Protocol b) File Transfer Protocol
c) Firm Transfer Protocol d) File Transplant Protocol

7) Which of the following is not a function of the Output Unit?
a) It produces results that can be easily understood by the user
b) It accepts the results produced by the computer
c) It supplies the data and instructions to the outside world
d) It supplies the data and instructions to the computer for further processing

8) What kind of language can computer understand?
a) Normal language b) Computer language
c) Assembly language d) High-level language

Q.2 Answer the following. (Any Four) **08**

a) Application Software
b) Scanner
c) VDU
d) Algorithm
e) Magnetic Disc
f) WWW

Q.3 Write short note. (Any Two) **08**

a) Explain System Software and Application Software.
b) Explain Machine Language, Assembly language, high level language.
c) Explain Applications of internet.

Q.4 Answer the following. (Any Two) **08**

a) Explain characteristics of computer.
b) Explain input devices in detail.
c) Explain primary memory in detail.

Q.5 Answer the following. (Any One) **08**

a) Explain Types of computers in detail.
b) Explain LAN, MAN and WAN in detail.

Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Office Automation (Paper - II) (BCA1103)

Day & Date: Saturday, 10-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions **08**

1) Formula in Excel starts with _____.
a) % b) =
c) + d) -

2) _____ is the extension of Power Point File.
a) .pmtx b) .pntx
c) .pptx d) .pdf

3) The main screen of the computer is called the _____.
a) Desktop b) Keyboard
c) Motherboard d) None of these

4) Name the keyboard shortcut used to copy the value from the cell above the active cell into the cell or the Formula Bar in MS Excel _____.
a) CTRL + SHIFT + C b) CTRL + SHIFT + "
c) ALT + SHIFT + " d) CTRL + ALT + "

5) _____ keyboard shortcut is used to easily switch open workbooks in excel.
a) Alt + S b) CTRL + S
c) CTRL + Alt d) CTRL + Tab

6) Computer is free from tiredness we call it _____.
a) Accuracy b) Automatic
c) Diligence d) Versatility

7) _____ is called as page to create a presentation in PowerPoint.
a) Sheet b) Slide
c) Paper d) None of the above

8) Ctrl + N is used to _____.
a) Save the Document
b) Open the Document
c) Create a New Document
d) Close the document

Q.2 Answer the following. (Any Four) **08**

a) What is the size limitation for on Access Database?
b) What is Undo & Redo?
c) What is use of PowerPoint?
d) Which are the types of paragraph alignment?
e) What is Recycle Bin?
f) List out the Main components of MS-Word.

Q.3 Write Short Notes on the following. (Any Two) **08**

a) Explain the following terms:
1) Database
2) Table
3) Form
4) Reports
b) Explain steps for adding any one Graphics to the Presentation.
c) Explain different parts of windows.

Q.4 Answer the following. (Any Two) **08**

a) Explain features of MS-WORD.
b) Explain pivot table in Excel.
c) Explain characteristics of computer.

Q.5 Answer the following. (Any One) **08**

a) Explain how you can import data from other databases into MS Access database.
b) What is window? Explain functions of windows.

Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Programming and Problem Solving using 'C' (Paper - I) (BCA1104)

Day & Date: Tuesday, 13-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions **08**

1) sizeof() is a ____.
a) function b) variable
c) Both a and b d) Operator

2) break statement is used for?
a) Quit a program b) Quit the current iteration
c) Both a and b d) None of these

3) What is the default value of a global variable?
a) 0 b) 1
c) Garbage d) Null

4) float a[16], what is the size of array?
a) 60 b) 64
c) 16 d) 17

5) Which pre-defined function is used for joining two strings?
a) strcpy() b) strcat()
c) strrev() d) strcmp()

6) Which of the following is the correct statement?
a) ** comment ** b) */ comment */
c) /* comment */ d) { comment }

7) C programs are converted into machine language with the help of ____.
a) An editor b) A compiler
c) An operating system d) None of these

8) All keywords in 'C' language are ____.
a) Lowercase letters b) Uppercase letters
c) Camel case letters d) All of these

Q.2 Answer the following. (Any Four) **08**

a) State the features of pseudo code.
b) What is the use of continue statement?
c) Write the syntax of switch statement. Give an example.
d) What is the use of strcmp() function?
e) State the types of user defined function.
f) What is an algorithm?

Q.3 Write short notes on the following. (Any Two) **08**

a) Structure of 'C' program
b) Rules for an identifier
c) Multidimensional array

Q.4 Answer the following. (Any Two) **08**

a) Explain the features of 'C' language?
b) Explain the steps to add user defined function in a program
c) Write a program to display addition of 1 to n numbers.

Q.5 Answer the following. (Any One) **08**

a) Explain different operators used in 'C' language.
b) Write a program to create a menu driven program for a matrix and perform the following operations
    1) Transpose of a matrix
    2) Diagonal elements of a matrix

Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Web Programming - I (Paper-II) (BCA1105)

Day & Date: Wednesday, 14-May-2025 Max. Marks:80
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.

Q.1 Multiple choice questions. **08**

1) Which of the following is the container for <tr>, <th>, and <td>?
   a) <data> b) <table>
   c) <group> d) All of the above

2) What are the types of unordered or bulleted list in HTML?
   a) disc, square, triangle b) polygon, triangle, circle
   c) disc, circle, square d) All of the above

3) An HTML program is saved by using the ____extension.
   a) .ht b) .html
   c) .hml d) None of the above

4) A program in HTML can be rendered and read by -
   a) Web browser b) Server
   c) Interpreter d) None of the above

5) In HTML5, which of the following tag is used to initialize the document type?
   a) <Doctype HTML> b) <\Doctype html>
   c) <Doctype> d) <!DOCTYPE html>

6) Which of the following Color Format can also be defined using the keyword rgb, followed by three numbers between 0 and 255, contained in parentheses and separated by commas, with no spaces between them?
   a) RGB Color b) RGBa Color
   c) HSL Color d) HSLa Color

7) Which of the following color has this value #ff0000?
   a) Blue b) Green
   c) Red d) Yellow

8) Which of the following css property is used to define the time it takes one iteration of an animation to play?
   a) Control
   b) animation-duration
   c) transition-duration
   d) all of the mentioned

Q.2 Answer the following. (Any Four) **08**

a) Structure of HTML.
b) What is Anchor tag?
c) Explain advantages of CSS.
d) What is SVG circle?
e) What is Translate () in 2D transforms?
f) What is Placeholder?

Q.3 Write short notes. (Any Two) **08**

a) What is Internal CSS with example?
b) Explain ordered list with example.
c) What is Table Tag?

Q.4 Attempt the following. (Any Two) **08**

a) What is new tags in HTML5?
b) What is Frames and Frameset tag?
c) What is skewX () and skewY () in 2D transforms?

Q.5 Attempt the following. (Any One) **08**

a) Explain Graphics in HTML5.
b) Design different web pages that use CSS All Background properties.

Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) : Examination March/April - 2025
Basics of Mathematics (Paper - I) (BCA1106)

Day & Date: Thursday, 15-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions **08**

1) A set having only one element is called ____.
   a) singleton b) null
   c) both d) none of these

2) A relation which is aRb → bRa then the R is called ____.
   a) reflexive b) symmetric
   c) transitive d) poset

3) A matrix having only one Column is called as ____.
   a) row matrix b) column matrix
   c) null matrix d) none of these

4) A scalar matrix in which all the diagonal element are equal to one is called ____.
   a) square matrix b) column matrix
   c) identity matrix d) none of these

5) Conjunction of two statement p and q are true the both the statements are ____.
   a) False b) True
   c) Both d) none of these

6) p U q ≡ ____.
   a) q U p b) p U p
   c) q U q d) none of these

7) If A = {1,2,3,4,5,7,8,9} then cardinality of a given set is ____.
   a) 4 b) 6
   c) 8 d) 5

8) If A = {1, 2, 3, 4, 5} and B = {2, 4, 5, 6 ,10} then A∩B =
   a) {1, 2, 3, 4, 5, 6, 10} b) {2, 4, 5}
   c) {1, 2, 3, 4, 3} d) {0, 1, 2, 3, 4, 3}

Q.2 Answer the following. (Any Four) **08**

a) State both Distributive law of logic.
b) Define Reflexive relation.
c) Define universal set with suitable example.
d) Draw the truth table of $(p \leftrightarrow q) \vee q$.
e) State both commutative law of two sets.
f) Definition void relation.

Q.3 a) Write Short Note on the followings. (Any One) **03**

1) State and prove both Demorgans law of logic by using truth table.
2) Write short note on Graphical representation of relation.

b) Define Equivalence and partial ordering relation with suitable example. **05**

Q.4 Attempt the following. (Any Two) **08**

a) Prove that: $p \rightarrow (q \rightarrow p) \equiv \sim p \rightarrow (p \rightarrow q)$
b) Let A={a,b,c,d} , B={p,q,r,a,c,s} Find AUB, A∩B, A - B, A + B
c) Write the converse, inverse and contrapositive of the following statement
" If teacher is present then student attend the class"

Q.5 Answer the following. (Any One) **08**

a) Let A={a,b,c} and relation R on A is R={(a,a),(a,b),(b,c),(a,c),(c,a),(c,b)}. Find transitive closure R* by Warshall's algorithm and find diagraph of R*.
b) State and prove both Associative law of logic by using truth table.

Seat No.	

Set P

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Descriptive Statistics (Paper - II) (BCA1107)

Day & Date: Friday, 16-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions. **08**

1) Which one of the following is not a measure of central tendency?
a) Mean deviation b) Mean
c) Median d) Mode

2) Find C.V then E(X)= 23.17 and V(X)= 54.14
a) 7.358 b) 31.76
c) 1 d) None of these.

3) Histogram is used to locate_____
a) Mean b) Median
c) Mode d) Quartile

4) The A.M of first n natural number is____
a) $n(n+1)/2$ b) $(n^2+1)/2$
c) $n(n^2+1)/2$ d) $(n^2+n)/2n$

5) A primary data is a data collected from
a) Office records b) direct interviews
c) Bulletins d) Annual reports

6) Which of the following is Positional average?
a) Arithmetic mean b) Geometric mean
c) Harmonic mean d) Median

7) Mode is ____.
a) Middle most value b) the minimum value
c) most frequent value d) the maximum value

8) If the smallest value in a set is 7 and its range is 85, the largest value of the set is _____
a) 85 b) 78
c) 92 d) None of these

Q.2 Answer the following. (Any Four) **08**

a) Write down types of correlation.

b) Prove that correlation coefficient and regression coefficients have same algebraic Signs.

c) Define Mode.

d) Compute coefficient of range for the following data:
100,24,14,105,21,35,106,16,100,72,68,103,61,90,20.

e) Write two examples of positive correlation.

f) Define regression coefficients.

Q.3 Write Short Note. (Any Two) **08**

a) Write short note on concept of regression.

b) Write short note on methods of sampling.

c) Arithmetic mean and S.D of 12 items are 22 and 23 respectively. Later on it was observed that item 32 was wrongly taken as 23. Compute correct mean, S.D and C.V.

Q.4 Answer the following. (Any Two) **08**

a) Write any two properties of regression coefficients.

b) Draw a histogram for the following income distribution:

Monthly income	1000-2000	2000-2500	2500-3500	3500-5000
Frequency	120	125	180	150

c) Seven students obtained the following percentage of marks in college test(X) and the final examination (Y). Find the coefficient of correlation between these variables.

X	50	62	72	25	20	60	60
Y	48	65	74	33	25	55	66

Q.5 Answer the following. (Any One) **08**

a) Calculate modal income from the following income distribution:

Daily income (Rs.)	30 and below	31-60	61-90	91-120	121-150	Above 150
No.of persons	22	198	110	95	42	33

Also write its merits and demerits.

b) Define regression. Drive the expressions for regression line of X on Y.

Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Fundamentals of Electronics Paper-I (BCA1108)

Day & Date: Saturday 17-05-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions **08**

1) The bottom layer of IC is ____ layer.
   a) Connector b) Insulation
   c) Substrate d) none of these

2) LED uses ____ material.
   a) PN b) PP
   c) NN d) NPN

3) Cathode of diode has ____ polarity.
   a) positive b) negative
   c) Vcc d) GND

4) LCD is ____ device.
   a) input b) output
   c) I/O d) none of these

5) Insulation layer uses ____ material.
   a) SiO b) SiO_3
   c) SiO_2 d) Si_2O_3

6) Transistor is constructed using material_____
   a) NPN b) NP
   c) PN d) none of these

7) In seven segment display each segment uses ____ LED.
   a) 7 b) 3
   c) 2 d) 1

8) LED is used as ____.
   a) indicator b) input
   c) storage d) MEM

Q.2 Answer the following. (Any Four) **08**

a) Define digital IC.
b) Write application of display devices.
c) Explain concept of SMD.
d) Define monolithic IC.
e) Write advantages of PCB.
f) Define metallization of IC.

Q.3 Answer the following. (Any Two) **08**

a) Explain substrate preparation in IC.
b) Explain diffusion process in IC.
c) Explain multilayer PCB.

Q.4 Answer the following. (Any Two) **08**

a) Explain epitaxial growth in IC.
b) Explain construction and working of LED.
c) Explain surface mount devices.

Q.5 Answer the following. (Any One) **08**

a) Explain fabrication process of component resister and capacitor.
b) Explain construction and working of LCD and LED display.

Seat No.	

Set **P**

B.C.A. (Semester - I) (Old) (CBCS) Examination: March/April - 2025
Linear Electronics-II (BCA1109)

Day & Date: Monday, 19-05-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions. **08**

1) The Unit of Resistor is ____.
   a) Ohm b) Faraday
   c) Volt d) Amp

2) Intrinsic Semiconductor is also called as ____.
   a) Pure b) Impure
   c) Both a and b d) None of these

3) Ic 7905 Regulates ____ Voltage.
   a) + 5 b) -5
   c) Both a and b d) None of these

4) In Half wave rectifier ____ Diodes are used.
   a) 4 b) 8
   c) 1 d) 2

5) Si and Ge are examples of ____.
   a) Insulator b) Metal
   c) Semiconductor d) None of these

6) Transistor is ____ controlled device.
   a) Voltage b) Current
   c) Resistance d) none of these

7) Barrier potential of Ge is ____ Volt.
   a) 0.3 b) 0.7
   c) 1 d) 0.9

8) The Unit of Capacitor is ____.
   a) Ohm b) Faraday
   c) Volt d) Amp

Q.2 Answer the following. (Any Four) **08**

a) Define Passive Component.
b) Define Active component.
c) Define Capacitor.
d) Draw 3 pin Ic Regulator.
e) Define Rectifier.
f) Define Metal.

Q.3 Answer the following. (Any Two) **08**

a) Write applications of Regulated Power supplies.
b) Explain the concept of Inductor.
c) Explain working of P-N junction diode.

Q.4 Answer the following. (Any Two) **08**

a) Explain the working of Transistor.
b) Explain the working of Full Wave Rectifier.
c) Explain Electrolyte and Non-Electrolyte Capacitor.

Q.5 Answer the following. (Any One) **08**

a) What is Resistor? Explain its different types?
b) Draw and explain Block diagram of SMPS.

Seat No.	

Set **P**

B.C.A. (Semester - II) (New) (CBCS) Examination: March/April - 2025
English (Comp.)
Communication Skill (BCA1201)

Day & Date: Thursday, 22-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions **08**

1) What was the author reading in the essay “Dose Education Do Harm”?
a) Novels b) Autobiography
c) Biographies d) Poetry

2) In the age of monarchy, who gets manipulated to achieve their own personal interest?
a) The people b) The minister
c) The king d) Apartment

3) Where does the infected rivers cause chaos in the poem “Our Earth Will Not Die?”
a) The population b) The seas
c) The fields d) Lakes

4) Which literary era did Alexander Pope write in?
a) Anglo- Saxon b) Modern
c) Augustan d) Romantic

5) Who is the poet addressing to in poem “Remember”?
a) Her family b) Her friends
c) Her readers d) Her lover

6) What is the profession of the ideal man described in the poem “Ode on Solitude”?
a) Pastor b) Farmer
c) Cobbler d) None of these

7) Identify the correct synonym. Beautiful
a) Good b) Marvellous
c) Gorgeous d) None of these

8) We ____ (go) to Bhutan last year. (Write Past form of verb)

a) Went b) Going

c) Was d) None of the above

Q.2 Answer the following question in brief. (Any Four) **12**

a) What is the relation between education and virtue?

b) What is the true sense of freedom?

c) Discuss the theme of the poem “our Earth Will Not Die”.

d) What picture of a farmer does Alexander Pope in the poem “Ode On Solitude”?

e) What kind of people can achieve the true essence of freedom?

f) What opinion does the author have of the education system of his time?

Q.3 Answer the following. (Any One) **10**

a) Write a letter to your father requesting him to send 4000/- as your class trip is going on to visit Matheran. Mention the details of four tour and places to visit.

b) Write a letter of complaint to Samsung mobile shop in Solapur about a mobile phone you bought recently and was not functioning well. Address your letter to the manager of the Shop.

Q.4 Write an elaborate note on the interpersonal intelligence and its significance. **10**

Seat No.	

Set | P |

B.C.A. (Semester - II) (New) (CBCS) : Examination March/April – 2025
Introduction to Python Programming(BCA1202)

Day & Date: Friday, 23-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions **08**

1) Elements of a tuple are enclosed in ____ and are separated by ____.
a) Parenthesis and commas b) Curly Brackets and commas
c) Both a) and b) d) None of the above

2) Which is the correct operator for power(x^y)?
a) X^y b) X**y
c) X^^y d) None of the mentioned

3) Which of the following command is used to add an element in list?
a) new_list.add(5) b) new_list.added(5)
c) new_list.append(5) d) All of the above

4) All keywords in Python are in ____.
a) lower case b) UPPER CASE
c) Capitalized d) None of the mentioned

5) Which of the following is used to define a block of code in Python language?
a) Indentation b) Key
c) Brackets d) All of the mentioned

6) Which one of the following is the correct extension of the Python file?
a) .py b) .python
c) .p d) None of these

7) Dictionary keys must be ____.
a) Mutable b) Unique
c) Both a) and b) d) None of the above

8) Which of the following represents the bitwise XOR operator?
a) & b) Λ
c) | d) !

Q.2 Answer the following. (Any Four) **08**

a) Which are the membership operators in Python?
b) Define GC.
c) What is Data Dictionary?
d) What is the use of Pass and Assert statement in Python?
e) How to create array in Python?
f) What are the steps for executing a Python program?

Q.3 Answer the following. (Any One) **08**

a) Looping statements.
b) PVM
c) Command Line Arguments.

Q.4 Answer the following. (Any Two) **08**

a) Explain List and Tuples with example.
b) Explain any 4 types of operators in Python.
c) WAP to accept a number and check whether it is Armstrong or not.

Q.5 Answer the following. (Any One) **08**

a) Explain sequences in Python.
b) Explain the features of Python.

Seat No.	

Set **P**

B.C.A. (Semester - II) (New) (CBCS) Examination: March/April – 2025
Operating System (BCA1203)

Day & Date: Saturday, 24-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions **08**

1) What is a long-term scheduler?
   a) It selects processes which have to be brought into the ready queue
   b) It selects processes which have to be executed next and allocates CPU
   c) It selects processes which heave to remove from memory by swapping
   d) None of the mentioned

2) In a time-sharing operating system, when the time slot given to a process is completed, the process goes from the running state to the ____.
   a) Blocked state b) Ready state
   c) Suspended state d) Terminated state

3) Winch one of the following is a synchronization tool?
   a) Thread b) Pipe
   c) Semaphore d) Socket

4) Which of the following is not an operating system?
   a) Windows b) Linux
   c) Oracle d) DOS

5) Which of the following Is not a part of the operating system?
   a) Input/output control program b) Job control program
   c) Supervisor d) Performance monitor

6) A Process Control Block (PCB) does not contain which of the following?
   a) Code b) Stack
   c) Bootstrap program d) Data

7) Which of the following is not the state of a process?
   a) New b) Old
   c) Waiting d) Running

8) What is Scheduling?
   a) allowing a job to use the processor
   b) making proper use of processor
   c) all of the mentioned
   d) None of the mentioned

Q.2 Answer the following. (Any Four) **08**

a) List out types of operating system
b) List out scheduling criteria.
c) What monolithic system?
d) What is FCFS.
e) What is threads? List out its types.
f) What is semaphore?

Q.3 Answer the following. (Any Two) **08**

a) System Calls.
b) PCB
c) System Components.

Q.4 Answer the following. (Any Two) **08**

a) What is process? Explain the life cycle of process.
b) Explain the dinning philosopher problem of synchronization.
c) What is scheduler? Explain the types of scheduler.

Q.5 Answer the following. (Any One) **08**

a) Explain any four types of operating system with advantages and disadvantages.
b) Explain the any two-scheduling algorithm with example.

SLR-YH-13

Seat No.	

Set P

B.C.A. (Semester - II) (New) (CBCS) Examination: March/April - 2025
Programming and Problem Solving using 'C' - II (BCA1204)

Day & Date: Monday, 26-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw necessary diagrams whenever necessary.
4) Non programmable calculators are allowed.

Q.1 Choose correct alternative for the following. **08**

1) What are the types of C Preprocessor Directives?
   a) Macros
   b) Conditional Compilation
   c) File Inclusion
   d) All the above

2) Choose correct statement about Functions in C Language.
   a) A Function is a group of c statements which can be reused any number of times
   b) Every Function has a return type
   c) Every Function may no may not return a value
   d) All the above

3) A function which calls itself is called a ____ function.
   a) Self-Function
   b) Auto Function
   c) Recursive Function
   d) Static Function

4) Output of following program?

```
# include <stdio.h>
void fun(int *ptr)
{
   *ptr = 30;
}

int main()
{
  int y = 20;
  fun(&y);
  printf("%d",y);

  return 0;
}
```

   a) 20
   b) 30
   c) compile error
   d) runtime error

5) Which of the following are themselves a collection of different data types?
   a) String b) Structures
   c) Char d) None of the above

6) For binary files, a ____ must be appended to the mode string.
   a) "b" b) "B"
   c) "binary" d) "01”

7) What is the minimum number of functions to be present in a C Program?
   a) 1 b) 2
   c) 3 d) 4

8) Which of the following accesses a variable in structure *b?
   a) b->var; b) b.var;
   c) b-var; d) b>var;

Q.2 Answer the following. (Any Four) **08**

a) What is extern storage class?
b) syntax of structure?
c) Use of calloc()?
d) What is macro?
e) What is self-referential Structure?
f) use of sscanf()?

Q.3 Write short notes on the following. (Any Two) **08**

a) Nested structure
b) pointer to pointer
c) Recursive functions

Q.4 Answer the following. (Any Two) **08**

a) Write a c program swapping of two numbers using call by reference method.
b) Explain macro substitution directive.
c) Explain different file modes.

Q.5 Answer the following. (Any One) **08**

a) Explain passing structure to function.
b) What is function? Explain user defined types of function.

Seat No.	

Set | P

B.C.A. (Semester - II) (New) (CBCS) : Examination March/April - 2025
Web Programming-II (BCA1205)

Day & Date: Tuesday, 27-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw necessary diagrams whenever necessary.

Q.1 Multiple Choice Questions. **08**

1) Who developed jQuery, and in which year it was first released?
   a) John Richard in 2001 b) Mark Bensman in 2004
   c) John Resig in 2006 d) None of the above

2) Arrays in JavaScript are defined by which of the following statements?
   a) It is an ordered list of values
   b) It is an ordered list of objects
   c) It is an ordered list of string
   d) It is an ordered list of functions

3) The correct syntax to set the background color of all h 1 elements to yellow in jQuery-
   a) $("h1").style("background-color","yellow");
   b) $("h1").html("background-color","yellow");
   c) $("h1").css("background-color","yellow");
   d) $("h1").layout("background-color","yellow");

4) What is the basic difference between JavaScript and Java?
   a) Functions are considered as fields
   b) Functions are values, and there is no hard distinction between methods and fields
   c) Variables are specific
   d) There is no difference

5) Which of the following is an equivalent replacement of $(document).ready(f)?
   a) jQuery(f) b) $(f)
   c) #(f) d) read(f)

6) Which of the jQuery function prevents the code from running before the loading of the document finishes?
   a) $(document).load() b) $(document).unload()
   c) $(document).ready() d) $(document).trim()

7) Why event handlers is needed in JS?
   a) Allows JavaScript code to alter the behavior of windows
   b) Adds inner HTML page to the code
   c) Change the server location
   d) Performs handling of exceptions and occurrences

8) The jQuery method used to remove the set of matched elements is -
   a) Delete () method
   b) Empty () method
   c) Remove () method
   d) None of the above

Q.2 Answer the following. (Any Four) **08**

a) Define the Control structure in JavaScript.
b) What are the advantages of JavaScript?
c) Explain JQuery Selectors.
d) Explain the variables in JavaScript.
e) What is Chaining?
f) What is Sliding?

Q.3 Write short notes on the following. (Any Two) **08**

a) DOM -
b) JQuery Animation.
c) Array in JavaScript.

Q.4 Answer the following. (Any Two) **08**

a) Explain Hide and Show effect in JQuery.
b) Use of Navigator.
c) How we can use jQuery - Add Elements.

Q.5 Answer the following. (Any One) **08**

a) What is JQuery? Need of JQuery? How we can add JQuery to Web Pages?
b) Explain Validation And Event handling in JavaScript.

Seat No.	

Set | P

B.C.A. (Semester - II) (New) (CBCS) Examination: March/April - 2025
Graph Theory (BCA1206)

Day & Date: Wednesday, 28-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw necessary diagrams whenever necessary.

Q.1 A) Multiple Choice Questions. **08**

1) A null graph on 5 vertices is ____ regular graph.
a) 4 b) 5
c) 0 d) 1

2) The edges of G which are not included in the spanning tree T are called ____ of T.
a) Branches b) Chord
c) Rank d) Isthmus

3) A walk in which no vertex is repeated no edge repeated is called as ____.
a) Trial b) Path
c) Circuit d) Tour

4) A vertex with degree one is called ____.
a) Isolated vertex b) Circuit
c) Tour d) Pendant vertex

5) The number of edges in complete graph Km is ____.
a) m(m-1)/2 b) m
c) m-1 d) m+1

6) In Chinese postman problem the parallel edge is added along the shortest path between ____.
a) Two even degree vertices b) Two odd degree vertices
c) Both a and b d) None of the above

7) A tree is an _____ graph.
a) acyclic connected b) cyclic connected
c) Connected d) Eulerian

8) Order of the adjacency matrix of a graph with 4 vertices and 6 edges is ____
a) 4×4 b) 4×6
c) 6×4 d) 6×6

Q.2 Answer the following. (Any Four) **08**

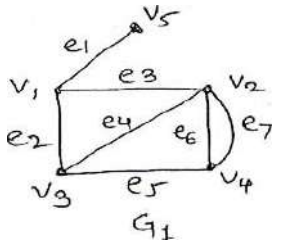
a) Define a simple graph.
b) Define Hamiltonian graph.
c) Define path.
d) Define cut edge.
e) Draw a graph which is Eulerian but not Hamiltonian.
f) Define binary tree.

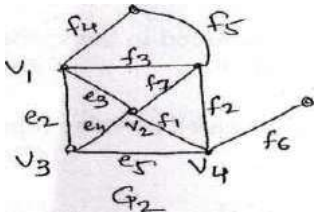
Q.3 Answer the following. (Any Two) **08**

a) If in a graph G there is one and only one path between every pair of vertices then G is a tree.
b) In a graph G (V, E) the number of vertices of odd degree is even.
c) State and prove Hand shaking lemma.

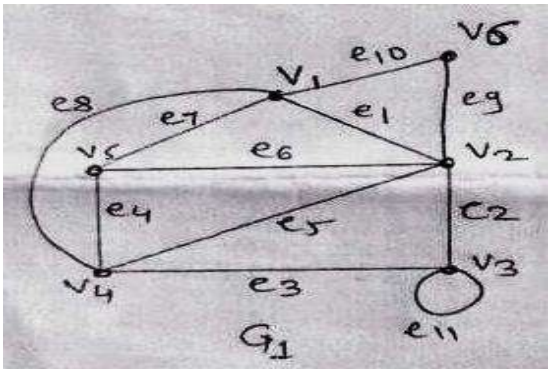
Q.4 Answer the following. (Any Two) **08**

a) From the following graph G_1 and G_2, draw the graphs $G_1 \cup G_2$,and $G_1 \oplus G_2$.





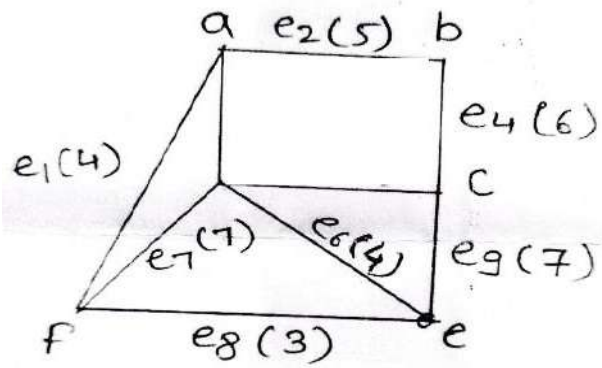
b) Write adjacency and Incidence matrix for the following graph.



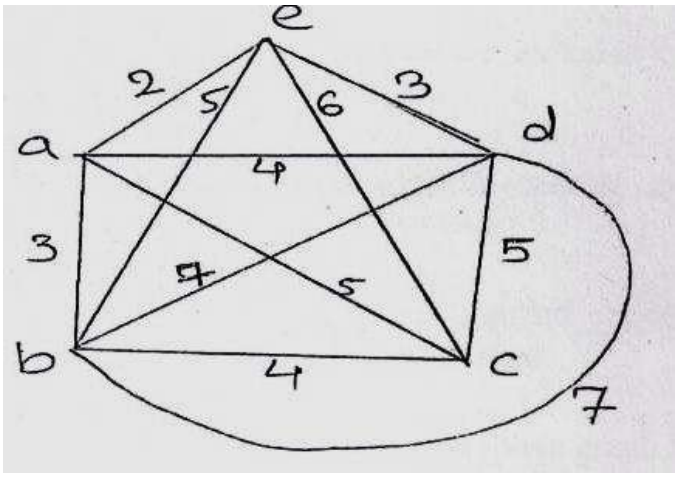
c) Prove that the maximum number of edges in a simple graph of 'p' vertices is $\frac{p(p-1)}{2}$

Q.5 Answer the following. (Any One) **08**

a) Define spanning tree and by Kruskal's algorithm find the shortest spanning tree.



b) Starting with a vertex ‘a’ solve the traveling salesman problem. Also find the minimum distance traveled.



Seat No.	

Set P

B.C.A. (Semester - II) (New) (CBCS) Examination March/April - 2025
Probability Theory (BCA1207)

Day & Date: Thursday, 29-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Use of any type of calculator is allowed.

Q.1 Select most correct alternative. **08**

1) What is the probability of getting exactly one tail in the experiment of tossing two coins simultaneously?
   a) ¼ b) 1/3
   c) ½ d) None of these

2) If a continuous random variable 'X' follows normal distribution with parameter $\mu = 50$ & $\sigma = 9$ then its median is ____.
   a) 41 b) 50
   c) 9 d) 3

3) In the example of number of twin births in a hospital in a month which of the following distribution is useful?
   a) Discrete distribution b) Poisson distribution
   c) Binominal distribution d) Normal distribution

4) Expectation of a constant is ____ always.
   a) Zero b) Constant
   c) does not exist d) None of these

5) If X is Binominal variable with parameters (n, p) then variance of distribution is ____.
   a) npq b) np
   c) nq d) None of these

6) In ${}^{n}C_{r}$; n & r are always such that n ≥ r and are ____ numbers.
   a) Real b) Non-negative real
   c) Non-negative integers d) None of these

7) If $X \to U(-3, 7)$ then $V(X) =$ ____.
   a) 8.33 b) 1.33
   c) 10 d) 5

8) A non-deterministic experiment resulted into ____ outcomes.
   a) Only one b) Unique
   c) More than one d) None of these

Q.2 Answer the following. (Any Four) **08**

a) State additive property of Poisson distribution.

b) If $P(A) = 0.3\ P(B) = 0.4$ then find $P\ (A \cup B)$. If A & B are independent events.

c) In how many ways all the letters of the word 'HOME' can be arranged if repetition of any letter is not allowed?

d) If X is having normal distribution with mean = 2 & variance = 4 then find the distribution of $3X + 5$.

e) Define expectation of discrete random variable.

f) Define continuous random variable.

Q.3 Write note on the following. (Any Two) **08**

a) Properties of distribution function of discrete random variable.

b) Properties of Normal distribution.

c) Fundamental principles of counting.

Q.4 Answer the following. (Any Two) **08**

a) if $X \rightarrow\ U(1,5)$ then find $E(X)$ & hence find $E(2X + 5)$.

b) If discrete random variable X taking values $0, 1, 2, 3$ with probabilities $0.1, 0.15, 0.2$ & k respectively then find

1) The value of k
2) Distribution function of random variable X.

c) Verify whether the function
$f(x) = 3\ x^2 \quad 0 < x < 1$ is pdf or not?

Q.5 Answer the following. (Any One) **08**

a) Define impossible event & prove that probability of an impossible event is always zero.

b) If $X \rightarrow B(10, 0.4)$ then
Find –

1) Mean of X
2) Variance of X
3) pmf of X
4) $P(X = 3)$

Seat No.	

Set **P**

B.C.A. (Semester - II) (New) (CBCS) Examination: March/April - 2025
Digital Fundamentals of Computer (BCA1208)

Day & Date: Friday, 30-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions:1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Multiple choice questions **08**

1) _____Gate is Inverter Gate.
   a) AND b) OR
   c) NOT d) NOR

2) IC7408 is ____ Gate.
   a) AND b) OR
   c) NOT d) NOR

3) MOD -10 means it can counted ____ states.
   a) 0-9 b) 0-10
   c) 1-10 d) None of these

4) MUX has ____ input and ____ Output.
   a) Many, One b) One, Many
   c) Many, Many d) None of these

5) ____ is D flip Flop IC.
   a) 7408 b) 7432
   c) 7474 d) 7486

6) IC 7495 is ____.
   a) Shift Register b) MUX
   c) DEMUX d) FLIP-FLOP

7) DE-MUX has ____ Input and ____ Output.
   a) Many, One b) One, Many
   c) Many, Many d) None of these

8) ____ Gate is Universal Gate.
   a) And b) OR
   c) NOT d) NOR

Q.2 Answer any four of the following. **08**

a) Define Logic Gate
b) Define Flip-Flop.
c) Define Counter.
d) Define shift Register.
e) Define Multiplexer.
f) Define Demultiplexer.

Q.3 Write short notes on any two of the following. **08**

a) Explain Master-slave J-K Flip Flop?
b) Explain in detail SIPO and SISO Shift Register?
c) Draw and Explain pin configuration of IC 7495?

Q.4 Answer any two of the following. **08**

a) Explain with neat diagram Asynchronous counter?
b) Draw and Explain 4 to 1 Multiplexer?
c) Write note on Demorgans Theorem?

Q.5 Answer any one of the following. **08**

a) Draw and Explain Symbol truth table Pin configuration of Logic Gates?
b) Draw and Explain R-S Flip Flop using NAND and NOR Gate?

Seat No.	

Set **P**

B.C.A. (Semester - II) (New) (CBCS) Examination March/April - 2025
Introduction of Microprocessor and Interfacing (BCA1209)

Day & Date: Monday, 02-June-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions:1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithm table and calculator is allowed.
(At. Wts.: H=1, C=12, O=16, N=14, Na= 23, Cl=35.5)

Q.1 Multiple choice questions **08**

1) 8085 is ____ bit microprocessor.
a) 8 b) 16
c) 20 d) 30

2) ____ bus is bi directional.
a) Data b) Address
c) both a & b d) None

3) ____ data transfer instruction.
a) MVI b) Add
c) Jump d) Loop

4) ____ is a stack related operation.
a) POP b) Add
c) Dec d) None

5) ____ data transfer CPU does not involve.
a) DMA b) interrupt initiated
c) None d) All

6) Size of Sp in 8085 is ____ bit.
a) 16 b) 20
c) 8 d) 9

7) Memory connect between main memory and CPU called as ____.
a) Cache b) RAM
c) ROM d) All

8) Associative memory also called as ____.
a) CAM b) RAM
c) ROM d) HD

Q.2 Answer the following. (Any Four) **08**

a) Define System Bus.
b) Define Instruction Cycle.
c) Define Interface.
d) Define DMA Controller.
e) Define Push Operation.
f) Define Program Counter.

Q.3 Answer the following. (Any Two) **08**

a) Explain system bus architecture.
b) Explain instruction format.
c) Explain interrupt initiated data transfer.

Q.4 Answer the following. (Any Two) **08**

a) Write features of 8085.
b) Define addressing mode and gives the classification of it.
c) Explain DMA controller.

Q.5 Answer the following. (Any One) **08**

a) Differentiate between I/O mapped I/O and memory mapped I/O.
b) Define instruction set and gives the classification of it

SLR-YH-19

Seat No.	

Set P

B.C.A. (Semester - II) (CBCS) Examination: March/April – 2025
Software Engineering- II (19409209)

Day & Date: Tuesday, 03-June-2025 Max. Marks: 40
Time: 03:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.
(At. Wts.: H=1, C=12, O=16, N=14, Na=23, Cl=35.5)

Q.1 Multiple choice questions. **08**

1) what does RAD stand for?
   a) Rapid Application Document
   b) Rapid Application Development
   c) Relative Application Development
   d) None

2) Software is defined as ____.
   a) set of programs, documentation & configuration of data.
   b) set of programs
   c) documentation and configuration of data
   d) None

3) Attributes of good software is ____.
   a) Development b) Maintainability & functionality
   c) Functionality d) Maintainability

4) Which of the following is an indirect measure of product?
   a) Quality b) Complexity
   c) Reliability d) All of the Mentioned

5) _____ is the father of Software Engineering?
   a) Margaret Hamilton b) Watts S. Humphrey
   c) Alan Turing d) Boris Beizer

6) _____ is a software development activity that is not a part of software processes.
   a) Validation b) Specification
   c) Development d) Dependence

7) Which of the following document contains the user system requirements?
   a) SRD b) DDD
   c) SDD d) SRS

8) ____ is/are the phases pf system development life cycle.

a) Implementation b) Feasibility study
c) All of the options d) coding

Q.2 Answer the following. (Any Four) **08**

a) Define system. Give its example.
b) What is open system? Write its example.
c) What is feedback?
d) What is software Engineering? State its primary goals.
e) state fact finding techniques.
f) Difference between natural system and man made system.

Q.3 Write short notes on the following. (Any Two) **08**

a) Record Review.
b) Software qualities performance and Reliability.
c) Requirement Analysis.

Q.4 Answer the following. (Any Two) **08**

a) Explain fact finding techniques.
b) Explain different characteristics of system.
c) Who is system analyst? Explain various roles played by the system analyst.

Q.5 Answer the following. (Any One) **08**

a) Explain V-Shape model.
b) Explain Spiral model.

Seat No.	

Set | P

B.C.A. (Semester - III) (New) (CBCS) Examination: March/April - 2025
Object Oriented Programming using Java - I (BCA1301)

Day & Date: Thursday, 05-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions. **08**

1) ____ package contains abstract keyword?
   a) java.lang b) java.util
   c) java.io d) Java.system

2) Which component is used to compile, debug and execute the java programs?
   a) JRE b) JIT
   c) JDK d) JVM

3) Which of these cannot be used for a variable name in Java?
   a) identifier & keyword b) Identifier
   c) Keyword d) None of the above

4) What is the extension of java code files?
   a) .js b) .txt
   c) .class d) .java

5) Which of the following is a type of polymorphism in Java Programming?
   a) Multiple polymorphism b) Compile time polymorphism
   c) Multilevel polymorphism d) Execution time polymorphism

6) Which of the following is a superclass of every class in Java?
   a) ArrayList b) Abstract class
   c) Object class d) String

7) Which of these keywords are used for the block to be examined for exceptions?
   a) Finally b) Throw
   c) Catch d) Try

8) Which one of the following is not an access modifier?
   a) Protected b) Void
   c) Public d) Private

Q.2 Answer the following. (Any Four) **08**

a) What is Java?
b) Write steps to java programming?
c) Define the term Arrays?
d) Define String buffer class?
e) What is constructor?
f) Define Class and object?

Q.3 Answer the following. (Any Two) **08**

a) Write Short note on Operators in java.
b) Write Short note on String comparison.
c) Write Short note on Outputstream and InputStream class.

Q.4 Answer the following. (Any Two) **08**

a) Differentiate in and immutable object.
b) Explain different features of OOP's.
c) What is Interface? Explain multiple inheritances using interface?

Q.5 Answer the following. (Any One) **08**

a) Explain different Features of Java
b) Explain in detail serialization and de- serialization in file?

Seat No.	

Set **P**

B.C.A. (Semester - III) (New) (CBCS) Examination: March/April – 2025
Data Structure Using 'C'-I (BCA1302)

Day & Date: Friday, 06-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions. **08**

1) Which data structure is used for implementing recursion?
a) Stack b) Queue
c) List d) Array

2) What is the value of the postfix expression 6 3 2 4 + -*?
a) 74 b) -18
c) 22 d) 40

3) Which of the following application makes use of a circular linked list?
a) Recursive function calls
b) Undo operation in a text editor
c) Implement Hash Tables
d) Allocating CPU to resources

4) What is the need for a circular queue?
a) easier computations
b) implement LIFO principle in queues
c) effective usage of memory
d) to delete elements based on priority

5) What is a bit array?
a) Data structure that compactly stores bits
b) Data structure for representing arrays of records
c) Array in which elements are not present in continuous locations
d) An array in which most of the elements have the same value

6) In a stack, if a user tries to remove an element from an empty stack it is called _____.
a) Underflow b) Empty collection
c) Overflow d) Garbage Collection

7) A queue follows _____.
- a) FIFO (First In First Out) principle
- b) LIFO (Last In First Out) principle
- c) Ordered array
- d) Linear tree

8) Which of these is not an application of a linked list?
- a) To implement file systems
- b) For separate chaining in hash-tables
- c) To implement non-binary trees
- d) Random Access of elements

Q.2 Answer the following. (Any Four) **08**

a) What is DS?
b) Write any 2 differences between Array and linked list.
c) Define Deque.
d) Write any 4 characteristics of algorithm.
e) Write ADT for Stack and Queue.
f) Write any 2 differences between stack and queue.

Q.3 Write Short Notes. (Any Two) **08**

a) Priority Queue
b) Operations of Stack
c) DLL

Q.4 Answer the following. (Any Two) **08**

a) Explain Circular queue.
b) Explain array operations.
c) Explain Divide and conquer algorithm in detail.

Q.5 Answer the following. (Any One) **08**

a) Explain Linear linked list with its operation.
b) Explain the different applications of Stack.

Seat No.	

Set **P**

B.C.A. (Semester - III) (New) (CBCS) Examination: March/April - 2025
Database Management System –I (BCA1303)

Day & Date: Monday, 09-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternative from the following. **08**

1) Foreign key is the one in which the _____ of one relation is referenced in another relation.
a) Foreign key b) Primary key
c) References d) Check constraint

2) Which of the following is not an integrity constraint?
a) Not null b) Positive
c) Unique d) Check 'predicate'

3) Relational Algebra is a _____ query language that takes two relations as input and produces another relation as an output of the query.
a) Relational b) Structural
c) Procedural d) Fundamental

4) Which of the following is used to denote the selection operation in relational algebra?
a) Pi (Greek) b) Sigma (Greek)
c) Lambda (Greek) d) Omega (Greek)

5) Syntax for creating views is ____.
a) CREATE VIEW AS SELECT
b) CREATE VIEW AS UPDATE
c) DROP VIEW AS SELECT
d) None of these

6) What is index?
a) Type of Dataset b) Type of Database
c) Type of Record d) Type of Data Structure

7) The ____ clause is used to list the attributes desired in the result of a query.
a) Where b) Select
c) From d) Distinct

8) What is information about data called?

a) Hyper data b) Teradata

c) Meta data d) Relations

Q.2 Answer the following. (Any Four) **08**

a) Data Independence?

b) What is Rollback?

c) What is Order by clause?

d) Define Entity.

e) What is index?

f) What is Union?

Q.3 Answer the following. (Any Two) **08**

a) Advantages of DBMS.

b) DDL Commands in DBMS.

c) Sub Query in DBMS.

Q.4 Answer the following. (Any Two) **08**

a) What is E-R mode? Explain Generalization and Specialization.

b) What is Relational Algebra? Explain Project and Cartesian product operations.

c) Difference between DBMS and RDBMS.

Q.5 Answer the following. (Any One) **08**

a) What is join? Explain Types of join with example.

b) What is view? Explain Types of View in details.

Seat No.	

Set **P**

B.C.A. (Semester - III) (New) (CBCS) Examination March/April - 2025
Software Engineering (BCA1304)

Day & Date: Tuesday, 10-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions. **08**

1) Software is defined as _____.
a) set of programs, documentation & configuration of data
b) set of programs
c) documentation and configuration of data
d) None of the mentioned

2) ____ is a software development activity that is not a part of software processes.
a) Validation b) Specification
c) Development d) Dependence

3) What does SDLC stands for?
a) System Design Life Cycle
b) Software Design Life Cycle
c) Software Development Life Cycle
d) System Development Life cycle

4) A company is developing an advance version of their current software available in the market, what model approach would they prefer?
a) RAD
b) Iterative Enhancement
c) Both RAD & Iterative Enhancement
d) spiral

5) In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.
a) Documentation b) Flowchart
c) program specification d) Design

6) Function-oriented design techniques starts with functional requirements specified in ____.
a) SDD b) SRS
c) All of the mentioned d) None of the mentioned

7) The context diagram is also known as

a) Level-0 DFD b) Level-1 DFD
c) Level-2 DFD d) All of the mentioned

8) In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

a) True b) False

Q.2 Answer the following question. (Any Four) **08**

a) Define Data Dictionary.
b) List out the elements of system.
c) Define Effort Estimation and Cost Estimation.
d) What is Software Engineering?
e) What is the full form HIPO charts?
f) What is Prototyping?

Q.3 Answer the following question. (Any Two) **08**

a) Roles of System Analyst.
b) Flow charts.
c) Types of system.

Q.4 Answer the following question. (Any Two) **08**

a) Draw ERD for Library Management System.
b) Explain Decision tree with example in detail.
c) Explain RAD model in detail.

Q.5 Answer the following question. (Any One) **08**

a) Explain normalization in detail.
b) Explain Fact finding techniques in detail

Seat No.	

Set **P**

B.C.A. (Semester - III) (New) (CBCS) Examination: March/April - 2025
Web Development using PHP (SEC-1)

Day & Date: Wednesday, 11-June-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figures to right indicate full marks.
4) Use of log table and calculators is allowed.

Q.1 A) Multiple choice questions. **10**

1) Which one of the following functions is used to send an email using PHP script?
   a) mail_send() b) send_mail()
   c) mailrr() d) mail()

2) Which function is used to read a single line from a file?
   a) fgetc() b) fgets()
   c) fget() d) fgetf()

3) Which one of the following function is used to start a session?
   a) start_session() b) session_start()
   c) session_begin() d) begin_session()

4) In PHP Language variables name starts with ____.
   a) ! (Exclamation) b) & (Ampersand)
   c) * (Asterisk) d) $ (Dollar)

5) Why trim () function is used in php?
   a) to remove whitespaces
   b) to remove lowercase alphabet
   c) to remove uppercase alphabet
   d) to remove underscore

6) What does isset() function do in PHP?
   a) There is no such function in PHP
   b) It checks whether variable is set or not
   c) It checks whether variable is free or not
   d) It checks whether variable is string

7) What does fopen() function do in PHP?
   a) It used to open files in PHP
   b) It used to open Remote Server
   c) It used to open folders in PHP
   d) It used to open Remote Computer

8) Which method is responsible for sending the query to the database?
   a) query() b) send_query()
   c) sendqueryQ d) mysqli_query()

9) By default the scope of variable which is defined inside a function is?
   a) Global b) Local
   c) Restricted d) None of them

10) Which function compares the two strings ignoring the case of the characters.
   a) Strtolower() b) toLowerCase()
   c) Strcasecmp() d) lc()

B) Answer the following. **06**

1) What is an array?
2) What is PHP?
3) What is the purpose of Break statement?
4) What is server?
5) Which Function used to find the length of a string in PHP?
6) How will you get information sent via get method in PHP?

Q.2 Solve the following. (Any Eight) **16**

a) Give 4 Examples of Dynamic website.
b) What are arithmetic operators?
c) Which function is used in php to display current time?
d) What is MySQLI select query?
e) Explain web application.
f) How display current date and time on webpage.
g) Write a query to connect database in PHP.
h) Enlist Comparison operators in PHP.
i) How will you open a file in write only mode?
j) What is a session in PHP?

Q.3 A) Answer the following. (Any Two) **10**

1) Explain loop control statements used in PHP with suitable example.
2) Explain the difference between Static and Dynamic Websites.
3) How is file opened & closed in PHP? Discuss the various file opening modes.

B) Explain the syntax and usage of Multidimensional Arrays in PHP with example. **06**

Q.4 A) Answer the following. (Any Two) **08**

1) Write the PHP code for fetching the data from a database to a webpage.
2) Explain $_GET and $_REQUEST methods used in HTTP to handle form data.
3) How to create and delete cookies in PHP?

B) Explain str_replace(), strcmp(), strlen(), strpos() functions. **08**

Q.5 Answer the following. (Any Two) **16**

a) Explain Ternary operator, Break and continue statements.
b) Create a Login form with validation and authentication from database.
c) What is Session? Explain session state management in detail.

Seat No.	

Set **P**

B.C.A. (Semester - III) (New) (CBCS) Examination: March/April - 2025
Financial Accounting with Tally (BCA1305)

Day & Date: Thursday, 12-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figures to right indicate full marks.
4) Use of log table and calculators is allowed.

Q.1 Multiple choice questions. **08**

1) _____ is an explanation of the journal entries passed.
a) Invoice b) Voucher
c) Transaction d) Narration

2) Sales journal records only _____ Sales of goods.
a) Debit b) Credit
c) Excess d) None

3) A ____ is an intangible.
a) Goodwill b) Stock
c) Building d) Cash

4) Wages paid for installation of machinery should be debited to _____ Account.
a) Machinery b) Wages
c) Trading d) Profit and Loss

5) Fixed assets are valued at cost less _____.
a) Sales Price b) Expenses
c) Depreciation d) Repairs

6) In Preparation of Final account _____ account shows net profit or loss.
a) Trading b) Profit and Loss
c) Balance sheet d) Personal

7) The active gateway of tally _____ shortcut key is used.
a) Ctrl + M b) Ctrl + P
c) Ctrl + G d) Ctrl + D

8) In tally, to change the features of the company _____ key is used.
a) F12 b) F11
c) F4 d) F7

Q.2 Answer the following. (Any Four) **08**

a) Define Depreciation.
b) What is account?
c) Define Goodwill.
d) Write any four-shortcut key in tally.
e) Define Book Keeping.
f) What is Voucher?

Q.3 Attempt the following. (Any Two) **08**

a) Define Book-Keeping and Explain its objectives.
b) Subsidiary Books.
c) Explain accounting Voucher in tally.

Q.4 Attempt the following. (Any Two) **08**

a) Define account and explain Internal and External users of account.
b) Explain the need and importance of Bank reconciliation Statement.
c) Explain the features of tally.

Q.5 Attempt the following. (Any One) **08**

a) Define Account and Explain accounting Concepts.
b) Journalize the following transaction in the books of Ram in month of January 2013.
Jan 1- Ram started business with cash Rs.110000/-.
Jan 4 - Purchased goods for cash Rs.60000/-
Jan 5 - Sold goods for cash Rs.70000/-
Jan 9 - Deposited into Bank of India Rs. 100000/-
Jan 13 - Paid for Stationary Rs. 1000/-
Jan 17 - Purchased computer with printer Rs.40000/-
Jan 25 - Paid Office rent Rs.2000/-
Jan 31 - Received commission Rs.1000/-

Seat No.	

Set P

B.C.A. (Semester - III) (New) (CBCS) Examination: March/April - 2025
Operating System - II (BCA1306)

Day & Date: Friday, 13-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to right indicate full marks.
4) Use of logarithmic table and calculators is allowed.

Q.1 Multiple choice questions. **08**

1) Disk scheduling involves deciding?
a) which disk should be accessed next
b) the order in which disk access request should be made
c) physical location of files
d) type of disks a system should have

2) The memory allocation scheme subject to "external" fragmentation is
a) Segmentation b) Swapping
c) pure demand paging d) multiple fixed contiguous partitions

3) ____ Involves treating main memory as a resource to be allocated to and shared among a number of active processes.
a) Partition management b) Memory management
c) Disk management d) All of these

4) A process is copied into the main memory from the secondary memory.
a) Swapping b) Paging
c) Segmentation d) Demand paging

5) What memory is called separation of user logical memory and physical memory?
a) Memory sharing b) Virtual memory
c) Memory management d) Memory control

6) Invoking periodically to test for deadlock is one of the way for deadlock ____.
a) Prevention b) Avoidance
c) Detection d) Deletion

7) Which directory implementation is used in most Operating System?
a) Single level directory structure
b) Two level directory structure
c) Tree directory structure
d) Acyclic directory structure

8) With ____ a decision is made dynamically whether the current resource Allocation request will, if granted potentially lead to deadlock.
a) deadlock prevention b) deadlock avoidance
c) deadlock detection d) deadlock deletion

Q.2 Answer the following. (Any Four) **08**

a) What is the purpose of Paging?
b) Define logical address and physical address.
c) What is swapping?
d) What is demand paging?
e) What do you mean by first fit?
f) Explain the bit vector representation of free space management.

Q.3 Attempt the following. (Any Two) **08**

a) Deadlock avoidance
b) Fragmentation
c) Free-space management

Q.4 Attempt the following. (Any Two) **08**

a) What is a Virtual Memory? Discuss the benefits of virtual memory technique.
b) What are the various methods for handling deadlocks?
c) Briefly explain the indexed allocation method.

Q.5 Attempt the following. (Any One) **08**

a) What is Thrashing? What is the cause of Thrashing? How does the system detect Thrashing? What can the system do to eliminate this problem?
b) Explain and compare the SCAN and C-SCAN disk scheduling algorithms.

Seat No.	

Set **P**

B.C.A. (Semester - III) (CBCS) Examination March/April - 2025
OOPs with C++ I (19409301)

Day & Date: Saturday, 14-June-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.

Q.1 Multiple choice questions. **08**

1) The name of the variables, functions, labels and other user defined object are called____.
   a) Expression b) Identifier
   c) Pointer d) statement

2) A ____ function has access to all private and protected members of the class for which it is a friend.
   a) Friend b) Member
   c) Nonmember d) Void

3) A ____ is an alias or synonym for another variable.
   a) Pointer b) Structure
   c) Array d) Reference

4) >> is called as ____ operator.
   a) Insertion b) Extraction
   c) greater than d) lesser than

5) The protected access specifier is needed only when ____ is needed.
   a) inline function b) File
   c) Inheritance d) friend function

6) The ____ feature of OOP is used to define multiple methods with the same name but different signatures.
   a) Encapsulation b) Overloading
   c) Overriding d) Inheritance

7) A member function of a class is typically defined outside the class using ____.
   a) -> operator b) . operator
   c) # operator d) :: operator

8) The _____ operator cannot be overloaded.
   a) + b) =
   c) Sizeof d) >>

Q.2 Answer the following. (Any Four) **08**

a) Define a class and an object with an example.
b) What is difference between member function and inline function? Give example.
c) Explain how member functions are defined inside and outside the class. Give example.
d) Explain difference between Procedural Oriented Programming and Object Oriented Programming.
e) What is data encapsulation? How it is achieved in C++. Give example.
f) What is reference parameter? Explain with example.

Q.3 Attempt the following. (Any Two) **08**

a) What are different access specifiers used in C++? Explain all with example.
b) How are arrays of objects created in C++? Write a program.
c) What is implicit and explicit type casting? Explain with example.

Q.4 Attempt the following. (Any Two) **08**

a) How is a friend function different from a member function? Write a C++ program to demonstrate this.
b) What is constructor and Destructor? Explain different types of constructors with example.
c) Explain with an example how a function can return an object in C++.

Q.5 Attempt the following. (Any One) **08**

a) Write a program to overload any two relational operators using member function and friend function.
b) What is use of static keyword? Explain with example.

Seat No.	

Set **P**

B.C.A. (Semester - III) (CBCS) Examination March/April - 2025
Computer Networks - I (19409306)

Day & Date: Saturday, 14-June-2025 Max. Marks: 40
Time: 03:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.
3) Draw necessary diagram whenever necessary.

Q.1 Multiple choice questions. **08**

1) ____ topology uses multipoint technology.
   a) Star b) Bus
   c) Ring d) Mesh

2) ____ layer is responsible for process to process delivery.
   a) Network layer b) Transport Layer
   c) Session layer d) Data link layer

3) ____ layer defines the actual medium which is for carrying data from one computer to another.
   a) Physical b) Data link
   c) Network d) Transport

4) ____ layer takes care of syntax and semantics of the information exchanged between two communication systems.
   a) Physical b) Data link
   c) Session d) Presentation

5) OSI stands for ____.
   a) Open System Interconnection
   b) Open Syntax Interconnection
   c) Open System Internet
   d) Object System Interconnection

6) In ____ communication data can be travel in both direction, but only one direction at a time.
   a) Simple b) Half Duplex
   c) Full Duplex d) None of above

7) Which of the following is not an example of bounded media?
   a) Coaxial Cable b) Fiber optic cable
   c) Infrared waves d) twisted pair cable

8) CSMA/CD stands for ____.
   a) Carrier Sense Multiple Access with Collision Detection.
   b) Carrier Sense Manipulate Access with Collision Detection.
   c) Currier Sense Multiple Access with Collision Detection.
   d) Carrier Sense Multiple Access with Collision Determination.

Q.2 Answer the following. (Any Four) **08**

a) What is computer network?
b) What is signal? List out types of signal.
c) What is frequency and bandwidth?
d) What is error? List out types of error
e) List out components of data communication.
f) What CSMA/CD?

Q.3 Attempt the following. (Any Two) **08**

a) Service primitives.
b) Guided transmission media.
c) Switching.

Q.4 Attempt the following. (Any Two) **08**

a) Explain the any four network topology.
b) Explain stop and wait protocol.
c) Explain the uses of computer network.

Q.5 Attempt the following. (Any One) **08**

a) Explain the types of networks in detail.
b) What is OSI model? Explain the OSI model in detail.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (New) (CBCS) Examination: March/April - 2025
Object Oriented Programming using Java-II
(BCA1401)

Day & Date: Wednesday, 30-April-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **08**

1) Which one of the following collection classes can be used to store unique & sorted objects?
a) HashSet b) TreeSet
c) LinkedHashMap d) ArrayList

2) Which method is used to start the execution of a thread?
a) start() b) run()
c) execute() d) begin()

3) Which class is used to create datagram packets?
a) DatagramSocket b) DatagramPacket
c) UDPDatagram d) UDPPacket

4) Which method is used to check if a specific element is present in a Set?
a) ContainsElement() b) ContainsKey()
c) ContainsValue() d) Contains()

5) Which event listener interface is used for handling onclick events?
a) ActionListener b) ItemListener
c) MouseListener d) KeyListener

6) The automatic conversion of primitive data type into its corresponding wrapper class is known as _____.
a) unboxing b) encapsulation
c) autoboxing d) Data conversion

7) Which of the following method obtains a Connection?
a) Connection.getConnection(url)
b) Driver.getConnection(url)
c) DriverManager.getConnection(url)
d) new Connection(url)

8) What is the main difference between HashSet and TreeSet in Java?
   a) HashSet allows duplicate elements, while TreeSet does not.
   b) HashSet maintains insertion order, while TreeSet does not.
   c) HashSet is unsorted, while TreeSet is sorted.
   d) TreeSet allows null values, while HashSet does not.

Q.2 Answer the following questions. (Any Four) **08**

a) What is the difference between ArrayList and Vector classes in collection framework?
b) What is a thread in Java?
c) List out use of Wrapper classes.
d) Define DB Connectivity Steps.
e) What is type casting?

Q.3 Write short notes. (Any Two) **08**

a) Thread Life cycle
b) Java Event classes
c) Character class and importance methods of character class

Q.4 Answer the following. (Any Two) **08**

a) Explain List interface in detail.
b) Write a java program to event handling by implementing Action Listener.
c) What is Thread? Explain thread synchronization.

Q.5 Answer the following. (Any One) **08**

a) What is Layout Manager and explain FlowLayout and BorderLayout manager in detail?
b) Write a java program to insert, delete, update and display product information such as pid, pname, price, date of manufacture and date of expiry, etc. .(Use ype-4 driver and oracle database)

Seat No.	

Set **P**

B.C.A. (Semester - IV) (New) (CBCS) Examination: March/April - 2025
Data Structure Using 'C'-II (BCA1402)

Day & Date: Friday, 02-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figure to right indicate full marks.

Q.1 Choose correct alternative for the following. **08**

1) Which of the searching method required data to be sorted or unsorted order?
   a) Linear search b) Binary search
   c) Both a and b d) None of these

2) Depth first search graph algorithm uses _____ data structure for its implementation.
   a) Queue b) Stack
   c) Tree d) Graph

3) Which of the following is non-liner data structure?
   a) Stacks b) List
   c) Strings d) Trees

4) Nodes with the same parent are called _____.
   a) Sibling b) Tree
   c) Null tree d) None of these

5) A graph is a collection of nodes, called _____ And line segments called arcs or _____ that connect pair of nodes.
   a) vertices, edges b) edges, vertices
   c) vertices, paths d) graph node, edges

6) Merge sort uses _____.
   a) Divide-and-conquer b) Backtracking
   c) Heuristic approach d) Greedy approach

7) The complexity of selection sort is _____.
   a) O (n) b) $O(n^2)$
   c) O(n logn) d) O(logn)

8) In height balance tree, balance factor of every node is _____.
   a) 0,1,2 b) -1,0,1
   c) 0,1,1 d) -1,0,-2

Q.2 Answer any four of the following. **08**

a) What is searching?
b) What is leaf node and null tree?
c) What is binary tree?
d) Solve the following data in bubble sort method
32, 12, 7, 9, 13
e) What is hashing?
f) What are the applications of graph?

Q.3 A) Write note any One of the following. **03**

1) Explain types of Graph.
2) State difference between linear search and binary search.

B) Write a program for linear search method. **05**

Q.4 Answer any Two of the following. **08**

a) Write a note on radix sort method.
b) What is AVL tree? Explain with example.
c) Explain Indexed sequential search method in details.

Q.5 Answer any One of the following. **08**

a) What is tree traversal? Explain types of tree traversal.
b) Write a program for insertion sort method.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (New) (CBCS) Examination: March/April - 2025
Database Management System - II (BCA1403)

Day & Date: Saturday, 03-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw necessary diagram wherever necessary.
4) Non programmable calculators are allowed.

Q.1 Multiple choice questions. **08**

1) A schedule in which the operations from a set of concurrent transactions are interleaved is called as a _____.
a) Non-serial schedule b) Serial schedule
c) Complete schedule d) None of the these

2) Which of the following keyword is a must have when creating a function in PL/SQL?
a) Replace b) In
c) Return d) Out

3) Which of the following operator is used to assign values to a variable in PL/SQL?
a) = b) ==
c) := d) =:

4) The point in the schedule where the transaction has obtained its final lock is known as _____.
a) Deadlock b) Commit Point
c) Lock point d) None of the above

5) The process of restoring the database to a correct state in the event of a failure is known as _____.
a) Database recovery b) Database modification
c) Reliability of database d) None of the above

6) In implicit cursor _____ attributes are always evaluates to false.
a) %isopen b) %found
c) %notfound d) %rowcount

7) The _____ command can be used to enable and disable triggers.
a) alter b) update
c) modify d) none of these

8) Two phase Locking Protocol suffers from:

a) Deadlock b) cascading rollback
c) Both (a) and (b) d) None of the above

Q.2 Answer of the following. (Any Four) **08**

a) What is Query Optimization?
b) What is Procedure?
c) Write short note on Checkpoints.
d) What is Dirty Read (Uncommitted Read) problem?
e) List the states of Transaction.
f) What is Package?

Q.3 Answer the following question. (Any Two) **08**

a) Explain Shadow Paging.
b) What is Trigger? Explain with example.
c) Explain Two phase Locking Protocol.

Q.4 Answer the following question. (Any Two) **08**

a) Write a PL/SQL block to find sum of digit.
b) Explain Log-based Recovery.
c) Explain Looping in PL/SQL with example.

Q.5 Answer the following question. (Any One) **08**

a) What is Transaction? Explain ACID properties.
b) What is Cursor? Explain steps involved in creating explicit cursor with example.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (New) (CBCS) Examination: March/April - 2025
Software Testing & Quality Assurance (BCA1404)

Day & Date: Monday, 05-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **08**

1) Which of the following testing is related to the boundary value analysis?
a) White box and black box testing
b) White-box testing
c) Black box Testing
d) None of the above

2) Define the term failure?
a) A human action that produces an incorrect result
b) Its departure from specified behavior
c) Found in the software; the result of an error
d) lt is procedure or data definition in a computer database

3) What is the best time to perform Regression testing?
a) After the software has been modified
b) As frequently as possible
c) When the environment has been modified
d) Both option a & c

4) Which of the following testing is also called Acceptance testing?
a) Beta testing b) White-box testing
c) Grey box testing d) Alpha testing

5) What are the different levels of Testing?
a) Integration Testing b) Unit Testing
c) System Testing d) All of the above

6) In which environment we can performed the Alpha testing?
a) User's end b) Developer’s End
c) User's and developer's end d) None of the above

7) Which of the following approaches are the part of Integration testing?
a) Top-down approach b) Bottom-up approach
c) Big-bang approach d) All of the above

8) When we have to stop the testing?

a) The faults have been fixed b) All the tests run
c) The time completed d) The risk is resolved

Q.2 Write short answers. (Any Four) **08**

a) What are the various goals of loop testing?
b) Write down steps of the test plan?
c) List out types of Non-functional testing.
d) Define Bugs and List out Types of Bugs.
e) Define Black Box and White Box Testing.

Q.3 Write short note of the following. (Any Two) **08**

a) Smoke Testing
b) Decision table Testing
c) Informal Reviews

Q.4 Answer the following. (Any Two) **08**

a) Write a test cases of Internet Banking Login.
b) Explain Adhoc Testing in details.
c) Explain Experience based Testing Techniques.

Q.5 Answer the following. (Any One) **08**

a) Explain types of Functional testing.
b) Explain defect life cycle.

Seat No.	

Set | P

B.C.A. (Semester - IV) (New) (CBCS) Examination: March/April - 2025
Digital Marketing (BCA1405)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **08**

1) In _____, we create our online communication sites through which we can share information, images, ideas, audio and video files, as well as other content with our friends, family members, and business partners.
a) Search Engines b) Social Media
c) Google Images d) Google Search

2) _____ is used in digital marketing.
a) Electronic devices b) Internet
c) Both a and b d) None of the above

3) _____ is/are the main component(s) of digital marketing.
a) SEO b) SMO
c) SEM d) All of the above

4) Why do people use social media?
a) Create and publish content
b) To share ideas, views and opinions
c) To recommend products and services to others
d) All the above

5) A search engine marketing strategy uses paid advertisements such as _____ ads that appear above organic results in search engine results pages.
a) Page per click b) Point per click
c) Pay per click d) None

6) Using social media sites like _____, and Google+, you can increase website traffic through social media marketing.
a) Facebook b) Twitter
c) LinkedIn d) All of the above

7) The term online marketing can also be used for refer to _____ and internet marketing.
a) Web Marketing b) Digital Marketing
c) Search Engine Marketing d) All of the above

8) SEM consists of _____.

a) Display ads b) Search ads
c) Shopping ads d) All of the above

Q.2 Answer of the following. (Any Four) **08**

a) What is ORM?
b) Explain Websites.
c) Explain SEM.
d) Explain Visitor Engagement.
e) Explain Digital Marketing.
f) Explain PPC.

Q.3 Write short notes of the following question. (Any Two) **08**

a) Explain difference between Traditional Marketing and Digital Marketing.
b) Define Digital Marketing. Explain its advantages.
c) Explain Facebook Marketing.

Q.4 Answer the following question. (Any Two) **08**

a) Explain Search Engine Optimization Processes.
b) Explain SWOT analysis of business.
c) Explain Web analytics tools.

Q.5 Answer the following question. (Any One) **08**

a) Explain on page and off page SEO techniques.
b) Define Social Media and explain types of social media platforms.

SLR-YH-34

Seat No.	

Set P

B.C.A. (Semester - IV) (New) (CBCS) Examination: March/April - 2025
Python-II (BCA1406)

Day & Date: Wednesday, 07-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat diagrams and give equations wherever necessary
4) Non programmable calculators are allowed.

Q.1 Multiple choice questions **08**

1) In python context, what does GUI stand for?
a) General User Interface b) Graphical Unit Interface
c) Golfing Union of Ireland d) Graphical User Interface

2) Which of the following statements about function arguments in Python is true?
a) All arguments must have default values
b) Functions cannot have more than one argument
c) Arguments are passed by value
d) Arguments can have default values

3) Which of the following is true about the super () function in Python?
a) It calls the superclass's constructor
b) It calls the subclass's constructor
c) It is used to create a new object
d) It is used to access private members

4) How do you define an abstract class in Python?
a) By using the abstract keyword
b) By using the abstract class statement
c) By importing the abc module and using @abstractmethod decorator
d) By using the virtual keyword

5) What is the purpose of the try block in Python error handling?
a) To define the block of code where an exception may occur
b) To catch and handle exceptions that occur within the block
c) To ensure that the code executes without any errors
d) To terminate the program if an exception occurs

6) What is an object in OOP?

a) A variable
b) A block of code
c) An instance of a class
d) A built-in function

.

7) To read two characters from a file object in file, we use _____

a) infile.read(2)
b) infile.read()
c) infile.readline()
d) infile.readlines()

8) Which widget is used to get data from user?

a) Entry
b) Label
c) Button
d) ListBox

Q.2 Answer of the following. (Any Four) **08**

a) What is function? List out types of function.
b) What is GUI?
c) What is thread?
d) What is exception?
e) What is class and object?

Q.3 Write a note on Any Two of the following. **08**

a) Constructor
b) Features of OOPs
c) Button and Label widget

Q.4 Answer any Two of the following. **08**

a) Explain the types of arguments in detail with example.
b) Explain methods of class in python? Explain with example.
c) What is file? Explain modes of file with example.

Q.5 Answer any One of the following. **08**

a) What is inheritance? Explain any four types of inheritance with example.
b) What is exception handling? Explain in detail with example.

Seat No.	

Set **P**

B.C.A. (Semester - V) (New) (CBCS) : Examination March/April - 2025
English
Business English (BCA1501)

Day & Date: Wednesday, 30-April-2025 Max. Marks: 40
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Answer the following questions by choosing the correct options. 08

1) Where did the schoolmaster live in the poem "The Village Schoolmaster"?
a) bungalow b) mansion
c) cottage d) apartment

2) What does Lawrence mean when he says that money has got us down?
a) that it has ruined us
b) that it has made us tremulous
c) that it has made us greedy
d) that it has made us cruel

3) What does Queen Gulnaar desire?
a) the king's attention b) more jewellery
c) a rival d) more clothes

4) What, according to the poet, is the first stage of human life?
a) infant b) old age
c) being a student d) death

5) What did Phatik leave for his brother?
a) bicycle
b) wooden log
c) books
d) fishing-rod, kite, and marbles

6) Where did Dr. Kalam deliver this speech?
a) IIT, Kharagpur b) IIT, Kolkata
c) IIT, Hyderabad d) IIT, Lucknow

7) David will bring the horse.
a) The horse will be brought by David.
b) The horse will been brought by David
c) The horse will be bring by David
d) The horse will brought by David

8) Let's _____ together to get a solution to this problem.

a) work with b) work in
c) work upon d) work out

Q.2 Answer the following questions in short. (Any Four) **12**

a) Why did Phatik's mother readily agree to the uncle's offer?
b) What are the three visions Dr. Kalam had for India?
c) How has money made the individual nervous, afraid, and insecure? What are its long-term effects?
d) Describe the character of the villager schoolmaster.
e) Why the queen unsatisfied and seeks a rival?
f) Explain the basic metaphor of the poem "All the World's a Stage".

Q.3 Answer the following questions. (Any One) **10**

a) Explain in detail the four C's in your own words.

OR

b) Explain the 21st century skills in detail.

Q.4 Describe the types of 21st century skills. **10**

Seat No.	

Set **P**

B.C.A.(Semester - V) (New) (CBCS) : Examination March/April - 2025
Data Communication and Networking (BCA1502)

Day & Date: Sunday, 18-May-2025 Max. Marks:80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figures to right indicate full marks.

Q.1 A) Multiple choice questions. **10**

1) Application layer is implemented in _____.
a) End system b) NIC
c) Ethernet d) None of the mentioned

2) A Hub is used in _____.
a) Network layer b) Data Link Layer
c) Physical Layer d) Application Layer

3) Address Resolution Protocol (ARP) is a _____.
a) 8 Bit Field b) 32 Bit Field
c) 12 Bit Field d) 16 Bit Field

4) In _____ communication we transfer a word or a byte at a time.
a) Serial b) parallel
c) Both d) None of these

5) The _____ layer is the top most layer in the OSI model.
a) Physical b) transport
c) Application d) Session

6) The first Network _____.
a) CNNET b) NSFNET
c) ASAPNET d) ARPANET

7) OSI stands for _____.
a) Open system interconnection
b) Operating system interface
c) Optical service implementation
d) None of the mentioned

8) Internet e-mail system based on the _____.
a) SMTP b) FTP
c) POP d) both b & c

9) Hub is associated with _____ network.
a) Bus b) Star
c) Ring d) Mesh

10) OSI model having _____ layers.

b) 8 b) 9

c) 5 d) 7

B) Fill in the blanks. **06**

1) UDP is _____.
2) WAN stands for _____.
3) _____ type of network consists of both LANs and MANs.
4) ARPANET Stands for _____.
5) HTTP stands for _____.
6) _____ Layer is used to transform a raw transmission facility into a connection link.

Q.2 Solve any Eight of the following. **16**

1) What is analog and digital signal?
2) Define Frequency, Amplitude of signal.
3) Define routing.
4) What is hub?
5) What is FTP?
6) What is long form of SMTP, TCP.
7) what is WWW.
8) Define Flow control.
9) What is long form of RARP?
10) What is bit rate.

Q.3 A) Attempt any Two of the following. **10**

1) What is switching? Explain circuit switching in detail.
2) What is the use of computer network?
3) What are the different types of errors? Explain error detection codes in detail.

B) Explain ARP and RARP Protocol. **06**

Q.4 A) Attempt any Two of the following. **08**

1) Explain transmission modes.
2) What is modulation? Explain types of modulation.
3) Explain the concept of ALOHA.

B) Types of Computer Networks. **08**

Q.5 Attempt any Two of the following. **16**

a) Explain Go Back n ARQ Protocol.
b) What is multiplexing? Explain the types of multiplexing.
c) Explain IP Protocol with Header Block Diagram.

Seat No.	

Set **P**

B.C.A. (Semester - V) (New) (CBCS) Examination: March/April - 2025
Data Warehousing and Data Mining (BCA1503)

Day & Date: Sunday, 25-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.
4) Use of log table and calculators is allowed.

Q.1 A) Select the correct alternative. **10**

1) The process of removing deficiencies and loopholes in the data is called as _____.
   a) extraction of data b) cleaning of data
   c) aggregation of data d) compression of data

2) What do data warehouses support?
   a) Operational database b) OLTP only
   c) OLAP d) Both a and b

3) Data warehousing systems are generally concerned with _____ data.
   a) historical b) virtual
   c) temporary d) zipped

4) What are the functions of Data Mining?
   a) Prediction and characterization
   b) Association and correctional analysis classification
   c) Cluster and Evolution analysis
   d) All of the above

5) Which of the following also used as the first step in the knowledge discovery process?
   a) Data cleaning b) Data selection
   c) Data transformation d) Data integration

6) Which of the following is not a supervised machine learning algorithm?
   a) Decision tree
   b) Naive Bayes
   c) SVM for classification problems
   d) K-means

7) Which of the following statements is true about AdaBoost?
   a) It improves classification accuracy
   b) Complexity of the weak learner is important in AdaBoost
   c) It is particularly prone to overfitting on noisy datasets
   d) It is generally more prone to overfitting

8) Which one of the following can be considered as the correct application of the data mining?
   a) Corporate Analysis b) Market analysis
   c) Fraud detection d) All of the above

9) The self-organizing maps can also be considered as the instance of _____ type of learning.
   a) Supervised learning b) Serial learning
   c) Both a & b d) Unsupervised learning

10) A _____ is a subject-oriented, integrated, time-variant and non-volatile collection of data in support of management's decision-making process.
   a) data warehouse b) data science
   c) knowledge d) information

B) Fill in the blank. **06**

1) KDD Stands for _____.
2) A decision tree is a non-parametric _____algorithm.
3) _____ is the process of searching and analyzing a large batch of raw data in order to identify patterns and extract useful information.
4) OLAP stands for _____.
5) A _____ is a specialized subset of a data warehouse that stores a company's business unit-specific information.
6) SVM stands for _____.

Q.2 Solve any Eight of the following. **16**

a) What is fact table?
b) What are data marts?
c) What is unsupervised learning?
d) What is cube?
e) What is regression?
f) What is SVM?
g) What is schema?
h) What is classification?
i) What is outlier analysis in data mining?

Q.3 A) Attempt any Two of the following. **10**

a) Explain difference between operational database system and data warehouses system.
b) Explain the market basket analysis in details.
c) Write on: Text Mining, Web data mining and Multimedia data mining

B) Short Notes **06**

a) Characteristics of data warehouse
b) Applications and trends in data mining

Q.4 A) Attempt any Two of the following. **08**

a) Explain the Extract, Transform and Load processes in details.
b) What is cluster analysis? Explain density-based method in details.
c) Explain the Apriori algorithm in details.

B) What is KDD? Explain in details. **08**

Q.5 Attempt any Two of the following. **16**

a) Explain the data warehouse architecture in details.
b) What is supervised learning? Explain the K-nearest neighbor algorithm.
c) What are different issues of data mining?

Seat No.	

Set P

B.C.A. (Semester – V) (NEW) (CBCS) Examination: March/April - 2025
.NET Core (BCA1504)

Day & Date: Monday, 05-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternative. **10**

1) _____ is not a .NET Exception class.
   a) StackOverFlowException
   b) DivideByZeroException
   c) OutOfMemoryException
   d) NullException

2) The default value of Boolean type is _____.
   a) True b) False
   c) Null d) Garbage

3) CLS stands for Common Language Specification.
   a) True b) False

4) Which of the following is not a correct statement about the base keyword?
   a) to call the base class method
   b) to call the base class constructor
   c) to point the current instance
   d) useful in the multithreading

5) Every class directly or indirectly extends the _____ class.
   a) Object b) Drawing
   c) System d) Console

6) Which of these methods of thread class is used to Suspend a thread for a period of time?
   a) sleep() b) terminate()
   c) suspend() d) stop()

7) _____ keyword is used to manually throw an exception.
   a) Throw b) Finally
   c) Catch d) Try

8) _____ symbol is used when inheriting a class.
   a) = b) -
   c) + d) :

9) Which of the following statement is correct about Exception?
   a) It occurs during compile-time
   b) It occurs during run-time
   c) It occurs during loading of the program
   d) It occurs during JIT compilation

10) Which of the following are reuse mechanisms available in C#.NET?
   a) Encapsulation b) Polymorphism
   c) Inheritance d) Data Abstraction

B) Fill in the blanks. **06**

1) An interface contains the _____ members.
2) _____ modifiers can be used to prevent from method overriding.
3) Method overloading support at _____.
4) _____ keyword used to declare the indexer.
5) _____ keyword is used to declare a base class method while performing overriding of base class methods.
6) The process of defining a method in a subclass having same name & type signature as a method in its superclass is known as _____.

Q.2 Solve any Eight of the following. **16**

a) Differentiate between Generic and Non-generic classes.
b) List the advantages of BCL.
c) Give the advantages of Multithreading.
d) List the user-defined reference types.
e) Differentiate between value type and reference type.
f) Define boxing and unboxing.
g) Define operator overloading and its advantage.
h) What is Garbage collection?
i) Differentiate between Expression Lambda and Statement Lambda.
j) What is Serialization?

Q.3 A) Attempt any Two of the following. **10**

1) Write a note on “method overriding”.
2) Explain any two concurrent collection class with example.
3) List and explain any two system defined exception classes.

B) Write a note on Enum with suitable example. **06**

Q.4 A) Attempt any Two of the following. **08**

1) Write note on CLR and MSIL.
2) What is multithreading? Explain life cycle of Thread.
3) Explain delegate with suitable example.

B) Attempt any One of the following: **08**

1) Write note on Custom Exception.
2) Explain params and out parameter passing technique with example.

Q.5 Attempt any Two of the following. **16**

a) What is interface? Differentiate abstract class and interface with suitable example.

b) What is LINQ? Explain join query with suitable example.

c) What are Generic Classes? Differentiate generic and non-generic classes. Explain any two Generic collection classes with example.

Seat No.	

Set **P**

B.C.A. (Semester - V) (New) (CBCS) Examination: March/April - 2025
Data Science using Python (BCA1505-A)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.
4) Use of log table and calculator is allowed.

Q.1 A) Choose the correct alternative from the given options **10**

1) Seaborn is a Python data visualization library based on _____.
   a) Graph b) Data
   c) Matplotlib d) None of the above

2) Pandas is a powerful and open-source _____ library.
   a) Python b) Cobol
   c) Pascal d) None of these

3) Pandas was created by _____ in 2008.
   a) Wes McKinney b) Hadly Wickham
   c) Richard Mickinny d) None of the above

4) NumPy arrays have a _____ size at creation.
   a) Not Fixed b) Fixed
   c) Odd d) All of them

5) _____ validation is a technique used in machine learning to evaluate the performance of a model on unseen data.
   a) Zero Data b) Cross
   c) Numeric d) None of the above

6) _____ can make data easier to report and communicate than the original number in data science.
   a) Fixing Digits b) Combining Data
   c) Rounding d) None of the above

7) Data collection in _____ is the process of gathering information to solve a problem.
   a) Program b) Calculations
   c) Searching d) Data Science

8) The elements in a NumPy array are all required to be of the _____data type.
   a) Same b) Different
   c) Scientific d) None of the above

9) Matplotlib was first introduced by _____ in 2002.
   a) John S. Hunter b) John D. Hunter
   c) K. Hunter d) None of these

10) Density plots uses _____ Density Estimation which is a probability density function.
   a) Kernel b) Scatter
   c) Series d) None of these

B) Fill in the blank. **06**

1) The array object in NumPy is called _____.
2) There are two types of indexing in NumPy _____ and advanced indexing.
3) Cross _____ is a technique used in machine learning to evaluate the performance of a model on unseen data.
4) Density Plot is a type of data _____tool.
5) Box plot is a graphical representation of _____ of a dataset.
6) A residual plot is a graph in which the _____ are displayed on the y axis and the independent variable is displayed on the x-axis.

Q.2 Solve any Eight of the following. **16**

a) What is data Science explain?
b) What is Data cleaning?
c) What is data frame in Data Science?
d) What is series in Pandas?
e) What is Outlier analysis in data pre-processing?
f) What is training data and testing data?
g) What is Overfitting and Model Selection?
h) What is Residual Plot?
i) What is prediction in data science?
j) What is a distribution plot?

Q.3 A) Attempt any Two of the following. **10**

a) Write a program to perform tuple concatenation in python.
b) How to access elements of series? Explain with suitable example.
c) How to read text files with pandas?

B) Write short note on any One: **06**

a) Statistical Errors
b) Rounding off Data

Q.4 A) Attempt any Two of the following. **08**

a) What is python NumPy? Explain with suitable example.
b) How to perform arithmetic operations in Python NumPy?
c) What is primary data and secondary data? Explain.

B) What is a Data frame? Write Steps for Creation and Reading Data from Excel Files. **08**

Q.5 Attempt any Two of the following. **16**

a) Explain Applications of Data Science in various fields.
b) What is the data science life cycle? Explain with suitable diagram.
c) What is Matplotlib and Seaborn? Explain Matplotlib scatter and subplot with suitable example.

Seat No.	

Set **P**

B.C.A. (Semester - V) (New) (CBCS) Examination: March/April - 2025
Kotlin Programming (BCA1505-B)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.

Q.1 A) Multiple choice questions. **10**

1) Which of the following is not a basic data type in Kotlin?
   a) Boolean b) String
   c) Float d) Char

2) What is the keyword used to define an interface in Kotlin?
   a) abstract b) class
   c) object d) interface

3) In Kotlin, the default modifier is _____.
   a) protected b) private
   c) default d) public

4) _____ Keyword is used to allow a class to be inherited in Katlin.
   a) final b) override
   c) open d) abstract

5) To call a superclass constructor from a subclass in Kotlin, you use the _____ keyword.
   a) super b) this
   c) object d) final

6) What is the default return in Kotlin?
   a) Object b) Unit
   c) Void d) None

7) Which keyword is used before the class to inherit a class in Kotlin?
   a) final b) extends
   c) super d) None of these

8) _____ is used to implement an interface in a Kotlin class.
   a) Implements b) Extends
   c) : d) Use

9) Which of the following is NOT a valid Kotlin collection type?
   a) List b) Set
   c) Map d) Vector

10) To handle exceptions in Kotlin, you use the _____block.
   a) try b) catch
   c) throw d) exception

B) Fill in the blank. **06**

1) _____ class use it to read user inputs.
2) _____ Number of primary constructors can be defined in Kotlin.
3) When you want to declare a data class in Kotlin, you use the _____ keyword before the class name.
4) _____ function is used to create Array in Kotlin.
5) _____ is immutable collection class.
6) _____ collection uses key and value pair.

Q.2 Solve any Eight of the following. **16**

a) What are basic data types in Kotlin?
b) What is use of val and var keyword?
c) What is difference between class and object?
d) What is recursion function?
e) What are the loop statements?
f) What is use of super keyword?
g) Define null safety.
h) Define encapsulation.
i) List out built in exceptions in Kotlin.
j) What is inner class?

Q.3 A) Attempt any Two of the following. **10**

a) Explain features of Kotlin programming.
b) Write a program to check given number is Armstrong or not.
c) Explain constructor in detail.

B) Write note on Kotlin function. **06**

Q.4 A) Attempt any Two of the following. **08**

a) Write a program to demonstrate multilevel inheritance.
b) Explain sealed Class with example.
c) Explain different types of collections with examples.

B) What is data type? explain all data types in Kotlin. **08**

Q.5 Attempt any Two of the following. **16**

a) Write a Kotlin program that demonstrates the use of try-catch blocks.
b) What is string and explain string functions with example.
c) What is file? Explain file in detail.

Seat No.	

Set | P

B.C.A. (Semester - V) (New) (CBCS) Examination: March/April - 2025
ReactJS (BCA1505-C)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.

Q.1 A) Multiple choice questions. **10**

1) Which of the following are the advantages of React.js?
   a) React.js can increase the application's performance with Virtual DOM.
   b) React.js is easy to integrate with other frameworks such as Angular, BackboneJS since it is only a view library.
   c) React.js can render both on client and server side.
   d) All of the above

2) Which of the following method is not a part of ReactDOM?
   a) ReactDOM.destroy()
   b) ReactDOM.hydrate()
   c) ReactDOM.createPortal()
   d) ReactDOM.findDOMNode()

3) Which of the following command is used to install create-react-app?
   a) npm install -g create-react-app
   b) npm install create-react-app
   c) npm install -f create-react-app
   d) install -g create-react-app

4) What is React primarily used for?
   a) Building mobile apps b) Server-side processing
   c) Building user interfaces d) Data analysis

5) Which of the following keyword is used to create a class inheritance?
   a) Create b) Inherits
   c) Extends d) This

6) What is the correct order of lifecycle phases in a React class component?
   a) Mounting -> Updating -> Unmounting
   b) Updating -> Mounting -> Unmounting
   c) Unmounting -> Mounting -> Updating
   d) None of the above

7) What will be the output of this code snippet?

```
class MyComponent extends React.Component {
constructor(props) {
super(props);
this.state = { count: 1 };
} render() {
return
{this.state.count}
; } }
```

a) 1 b) 0
c) undefined d) An error message

8) What is the main difference between controlled and uncontrolled components in React?
   a) Controlled components do not use state, while uncontrolled components do
   b) Controlled components use refs, while uncontrolled components do not
   c) Controlled components manage their own state, while uncontrolled components store their state in the DOM
   d) None of the above

9) In which of the following condition, the React.js Lifecycle method static getDerivedSateFromProps(props, state) is called?
   a) The component is created for the first time.
   b) The state of the component is updated.
   c) Both of the above
   d) None of the above

10) What of the following is used in React.js to increase performance?
   a) Original DOM b) Virtual DOM
   c) Both a and b d) None of the above

B) Fill in the blanks. **06**

1) _____ should be given inside the array to give the elements a stable identity.
2) _____ are used to display data in an ordered format and mainly used to display menus on websites.
3) React _____ is very similar to DOM events with little changes.
4) _____ represents the rendering of the React component in the given DOM node.
5) React _____ is an advanced state management library for React.
6) _____ allow function components to have access to state and other React features.

Q.2 Solve any Eight of the following. **16**

a) What are the advantages of using React?
b) What is JSX?
c) What is NPM and How to use NPM?
d) Explain conditional rendering in React.
e) What arc props in React?
f) What is the use of Refs?
g) What are forms in React?
h) Explain Advantages & Disadvantages of Hooks.
i) What are the biggest limitations of React?
j) What are the differences between functional and class components?

Q.3 A) Attempt any Two of the following. **10**

a) What are the differences between controlled and uncontrolled components?
b) Explain Redux Architecture.
c) Define Hooks. Explain following Built-in hooks.
   i) useContext & useMemo
   ii) useRef & useReducer

B) Short note/Solve. **06**

Explain the working of Virtual DOM.

Q.4 A) Attempt any Two of the following. **08**

a) Explain Using Keys with component with example.
b) What is React Router? Why do we need a Router in React?
c) Explain Rendering Lists inside components with example.

B) What is state? Explain Defining & Creating a state object with following. **08**

a) State Management API
b) setState() with Function

Q.5 Attempt any Two of the following. **16**

a) How are forms created in React? Explain with example.
b) Define React Events. Explain Synthetic Event with example.
c) What are the different phases of React component's lifecycle?

Seat No.	

Set **P**

B.C.A. (Semester - V) (New) (CBCS) Examination: March/April - 2025
Advanced Java (BCA1506)

Day & Date: Wednesday, 07-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.

Q.1 A) Multiple choice questions. **10**

1) _____ driver is called as thin-driver of JDBC.
a) Type-4 driver b) Type-1 driver
c) Type-3 driver d) Type-2 driver

2) To mark a class as an entity in Hibernate, we use the _____ annotation.
a) @Class b) @ Entity
c) @ ID d) @object

3) Which inheritance strategy in Hibernate uses a single table for all classes in the hierarchy?
a) TABLE_PER_CLASS b) SINGLE_TABLE
c) JOINED d) MAPPED_SUPERCLASS

4) Which tag is used to define the default case in a <c:choose> block?
a) <c:default> b) <c:otherwise>
c) <c:else> d) <c:fallback>

5) Which tag is used to set up a database connection in JSTL SQL?
a) <sql:setConnection> b) <sql:connect>
c) <sql:dataSource> d) <sql:connection>

6) Which of the following is the first method called in the servlet life cycle?
a) doGet() b) service()
c) init() d) destroy()

7) Which method of JdbcTemplate is used to perform a SELECT query and return a list of objects?
a) execute() b) queryForMap()
c) query() d) queryForInt()

8) Which implicit object is used to manage the session in JSP?
a) request b) session
c) response d) application

9) Which implicit object is used to access the HTTP request data in a JSP page?

a) response b) application
c) request d) session

10) Which implicit object allows you to write data to the response stream in JSP?

a) out b) request
c) session d) application

Q.2 B) Fill in the blank/Definition/One sentence answer/ One word answer/ Give the name/Predict the product etc. **06**

i) In Hibernate, @Id is used to declare the _____ of the entity.
ii) The servlet life cycle is managed by _____.
iii) JSP stands for _____
iv) The tag to output the value of an expression in JSP is _____.
v) In XML mapping, the tag used to map a Set is _____.
vi) The _____ interface is used to execute parameterized queries in JDBC.

Q.2 Solve the following (Any Eight) **16**

a) What is Entity Bean?
b) What are the advantages of servlet over CGI?
c) What is the use of JDBC API?
d) What is JSP Page Directive?
e) What are the advantages of Spring?
f) What are the JSTL core Tags?
g) What are the features of Spring Framework?
h) Explain Dependency Injection(DI) and its types.
i) What is Collection Mapping in hibernate?
j) What are the advantages of JSTL.

Q.3 A) Attempt the following (Any two) **10**

a) What is servlet? What is the use of Servlet? How servlet is loaded?
b) Explain TPS inheritance mapping with example.
c) Explain the life cycle of JSP.

B) Write short note on Expression, Declaration, and Scriplet in JSP. **06**

Q.4 A) Attempt the following (Any Two) **08**

a) Write a JSP program to display all the prime numbers between 1 to n
b) Explain implicit objects in JSP.
c) Explain JSTL SQL Tags with example.

B) Explain the types of JDBC Drivers. **08**

Q.5 Attempt the following (Any Two) **16**

a) What is Spring Framework? Explain the architecture of spring framework with suitable Diagram.

b) Explain Hibernate Annotation with suitable example.

c) Write a java program to create an application which will perform following operation on student data. (using JDBC type-IV driver)

i) Insert
ii) delete
iii) update
iv) Display

Seat No.	

Set **P**

B.C.A. (Semester - V) (Old) (CBCS) : Examination March/April - 2025
English (Comp.)
Business English (20409501)

Day & Date: Wednesday, 30-April-2025 Max. Marks: 40
Time: 09:00 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Answer the following questions by choosing the correct option. 08

1) What did Della sell off to buy a gift for Jim?
a) jewellery b) fur coat
c) her hair d) combs

2) Which plant skirted the fence?
a) furs b) furze
c) fagus d) fern

3) Who snatched the queen's mirror?
a) her daughter b) the new bride
c) the king d) none of the above

4) What did the poet carry in his heart?
a) the girl's song b) the scenery
c) the girl's beauty d) the harvest

5) What is the poet sorry about?
a) his action b) his past
c) his life choices d) he couldn't both roads

6) Who came to visit Phatik's mother?
a) their grandfather b) their uncle
c) their aunt d) cousin

7) Wait for the computer to _____.
a) boot up b) hack into
c) click on d) log in

8) The guard opened the door. (change into Passive Voice)
a) The door opened by the guard.
b) The door was opened by the guard.
c) The door were opened by the guard.
d) None of the above

Q.2 Answer the following questions in brief. (Any FOUR) **12**

a) How did Phatik feel arriving at the uncle's house?
b) Why is queen unsatisfied and seek a rival?
c) Describe the character of the village school master.
d) What was the housing situation the couple were facing?
e) Describe the use of nature and harmony in the poem "The Solitary Reaper".
f) What is the significance of the two roads in the poem "The Road Not Taken"?

Q.3 Answer any ONE of the following questions. **10**

a) What is the important of 21st century skills?

OR

b) Write a note on creativity and communication skills give example.

Q.4 Explain life skills and its importance. **10**

Seat No.	

Set **P**

B.C.A. (Semester - V) (Old) (CBCS) Examination: March/April - 2025
Core Java (19409502)

Day & Date: Sunday, 18-May-2025 Max. Marks:80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figure to right indicate full marks.

Q.1 A) Multiple choice questions. **10**

1) Java is a _____ programming language.
a) platform-independent b) platform-dependent
c) code dependent d) sequence-dependent

2) Which of the following will directly stop the execution of a Thread?
a) wait() b) notify()
c) Notifyall() d) exits synchronized code

3) Which of these keyword can be used in subclass to call the constructor of superclass?
a) Super b) this
c) extent d) extends

4) Which of these keywords must be used to handle the exception thrown by try block in some rational manner?
a) try b) finally
c) throw d) Catch

5) Thin driver is also known as _____.
a) Type 3 Driver b) Type-2 Driver
c) Type-4 Driver d) Type-1 Driver

6) Which of the following is advantage of using Prepared Statement in Java?
a) Slow performance b) Encourages SQL injection
c) Prevents SQL injection d) More memory usage

7) Which are the keywords used to handle exceptions in Java?
a) Try and catch b) Finally
c) Throw and Throws d) All the above

8) Which component is used to compile, debug and execute the java programs?
a) JRE b) JIT
c) JDK d) JVM

9) In Java programming language, the code is placed inside _____.
a) Classes, Interfaces b) Methods
c) Blocks d) All the above

10) After compilation, an Interface or Abstract-Class is kept in a_____ file in Java Programming.
b) .java b) .cls
c) .class d) .interface

B) Fill in the blank. **06**

1) _____ software are used to runs a Java program on a computer.
2) Java is a _____ programming language.
3) _____ is the keyword used to implement inheritance in Java.
4) To stop or block inheriting a given class, the _____ keyword is used before the class.
5) An abstract class in Java can be created using the keyword _____.
6) AWT Stands for _____.

Q.2 Solve any Eight of following. **16**

1) Explain different Data types in java.
2) Define Operators? Explain types of operators.
3) Explain any two use of 'this' keyword.
4) Explain Super keyword in java.
5) What is byte and character stream?
6) What is Thread Class?
7) Explain user-defined exceptions.
8) Define the term statement in java.
9) What is Arrays?
10) Explain Layout Managers in java.

Q.3 A) Attempt any Two of the following. **10**

1) Explain FileWriter and FileReader with an example.
2) Define the term Class and Objects. Discuss the concept of constructor with suitable example.
3) Write a code to create the multiple inheritances.

B) Short note on. **06**

1) Abstract classes
2) Java I/O package

Q.4 A) Attempt any Two of the following. **08**

1) What is a thread? Describe the complete life cycle of thread.
2) Explain Prepared Statement and Callable Statement in JDBC.
3) Explain final' keyword with example.

B) Describe/Explain/Solve. **08**

Explain different Features of Java as programming language.

Q.5 Attempt any Two of the following. **16**

a) What is JDBC? Explain Feature & Architecture of JDBC.

b) Explain following Java awt components with example.

1) Label
2) Button
3) List
4) Check Box

c) Define Exception Handling? Explain try, catch and finally block with example.

Seat No.	

Set P

B.C.A. (Semester - V) (Old) (CBCS) Examination: March/April - 2025
Visual Programming (19409503)

Day & Date: Sunday, 25-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.
4) Use of log table and calculators is allowed.

Q.1 A) Select the correct alternative. **10**

1) Which method has the same name as that of its class?
   a) delete b) class
   c) constructor d) none of the mentioned

2) C# runs on the _____.
   a) NET Framework b) Java Virtual Machine
   c) Both a and b d) None of the above

3) Which data type is used to store text value in C#?
   a) text b) txt
   c) string d) str

4) To declare an array, define the variable type with _____.
   a) Square brackets [] b) Curly brackets {}
   c) Round brackets () d) None of the above

5) Which C# concept has the capability of an object to take number of different forms and hence display behaviour as accordingly?
   a) Polymorphism b) Encapsulation
   c) Abstraction d) None of the above

6) Which keyword is used to declare an interface in C#?
   a) Interface b) Interchange
   c) Implement d) None of these

7) Which type of class does not have its own objects but acts as a base class for its subclass in C#?
   a) Abstract Class b) Static Class
   c) Sealed Class d) Protected Class

8) Select the modifiers which can be used with the properties?
   a) Private b) Public
   c) Protected Internal d) All of the mentioned

9) In which of the following collections is the I/O based on a key?
   a) BitArray b) SortedList
   c) Queue d) Stack

10) A C# pointer is used to store the _____ of another type.
   a) Value b) Memory address
   c) Size of the type d) Reference of the variable

B) One sentence answer. **06**

1) Write function of ref parameter.
2) What is constant?
3) Write syntax for how to create object in c#.
4) What is namespace?
5) What is Reference type?
6) What is MDI?
7) Which property is used for making letter as uppercase & lowercase?

Q.2 Solve any Eight of the following. **16**

a) What is difference between method overloading & method overriding?
b) Write use of compareTo() function.
c) What is arraylist?
d) Write down the c# syntax to catch exception.
e) What is value type & reference type?
f) What is input stream & output stream?
g) What is Exception handling?
h) What is managed code?
i) What is data reader in ADO.Net?

Q.3 A) Attempt any Two of the following. **10**

1) What are properties in c#? Explain with example.
2) What is polymorphism & Explain function overloading.
3) What is enumeration & give example.

B) Short Notes **06**

1) Interface
2) Type conversion

Q.4 A) Attempt any Two of the following. **08**

1) What is constructor & explain copy constructor with example.
2) What is a delegate? Write simple example of delegate in c#.
3) Create C# windows form application for super market stock Management & billing system with appropriate form events, control, menus & dialog boxes.

B) Explain parameter passing technique in brief. **08**

Q.5 Attempt any Two of the following. **16**

a) What are the different types of collection in c# & explain.

b) Define exception handling & explain try-catch-throw-finally with example.

c) What is inheritance & explain their types with example.

Seat No.	

Set P

B.C.A. (Semester – V) (Old) (CBCS) Examination: March/April - 2025
Computer Graphics (19409504)

Day & Date: Monday, 05-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Select the correct alternative. **10**

1) In computer graphics, pictures or graphics objects are presented as a collection of discrete picture elements called _____.
   a) Pixels b) Dots
   c) Points d) Coordinates

2) The disadvantage of line DDA is _____.
   a) Time consuming b) Faster
   c) both a and b d) None of the above

3) Computer graphics software allows the user to create _____.
   a) Pie graphs b) Bar graphs
   c) Line graphs d) All of these

4) Computer graphics allows _____.
   a) User interface
   b) Plotting of graphics and chart
   c) Office automation and desktop publishing
   d) All of above

5) Which of the following is the purpose for using clipping in computer graphics?
   a) Copying b) Zooming
   c) Adding graphics d) Removing objects and lines

6) _____ types of translation are present in computer graphics.
   a) 5 b) 3
   c) 4 d) 6

7) Which of the following devices provides positional information to the graphics system?
   a) Pointing devices b) Input devices
   c) Both a and b d) None of these

8) Which of the following is a primary output device of a graphics system?
   a) Printer b) Scanner
   c) Video monitors d) None of these

9) _____ is the most commonly used boundary representation for a 3-dimensional graphics object.
   a) Volume polygon b) System polygon
   c) Data polygon d) Surface polygon

10) Which of the following type of perspective projection is also called “Angular Perspective”?
   a) Four-Point b) Three-point
   c) One-point d) Two-point

B) Fill in the blank. **06**

1) _____ algorithm is a faster method for calculating pixel positions.
2) _____ clipping process handles the clipping of string.
3) Which process is known as the elimination of parts of a scene outside a window or a viewport?
4) DDA Stands for _____.
5) _____ terms is used for the area of the computer captured by an application.
6) _____ is the accurate and efficient line-generating algorithm.

Q.2 Solve any Eight of the following. **16**

a) Define computer graphics.
b) What is clipping?
c) What is vector graphics?
d) What is vanishing point?
e) What is pixel phasing?
f) What is 2D rotation?
g) What is Trackball?
h) What is mean by polygon?
i) What are windows?
j) What is display controller?

Q.3 A) Attempt any Two of the following. **10**

1) Explain different graphical input devices.
2) Explain viewing transformation in detail.
3) Explain different applications of computer graphics.

B) Short Note on. **06**

1) 3D shearing
2) Winding number method

Q.4 A) Attempt any Two of the following. **08**

1) Explain different operations of computer graphics.
2) What is Plotter? Explain Pen plotter in details.
3) Explain DDA circle drawing algorithm with example.

B) Describe/Explain/Solve. **08**

1) What is 'Composition of 2D transformation'? Explain it with suitable example.

Q.5 Attempt any Two of the following. **16**

a) What is transformation? Explain its types in detail.
b) What is Projection? Explain different types Projection.
c) What is 3D geometrical transformation in details?

Seat No.	

Set **P**

B.C.A. (Semester - V) (Old) (CBCS) Examination: March/April - 2025
Recent Trends in IT (19409505)

Day & Date: Tuesday, 06-May-2025 Max. Marks:80
Time: 09:00 AM To 12:00 PM

Q.1 A) Multiple choice questions. **10**

1) Data science is the process of diverse set of data through?
   a) organizing data b) processing data
   c) analyzing data d) All of the above

2) The modern conception of data science as an independent discipline is sometimes attributed to?
   a) William S. b) John McCarthy
   c) Arthur Samuel d) Satoshi Nakamoto

3) Which of the following language is used in Data science?
   a) C b) C++
   c) R d) Ruby

4) Which of the following is correct skills for a Data Scientist?
   a) Probability & Statistics
   b) Machine Learning / Deep Learning
   c) Data Wrangling
   d) All of the above

5) Which of the following are correct component for data science?
   a) Data Engineering b) Advanced Computing
   c) Domain expertise d) All of the above

6) Which of the following are the Data Sources in data science?
   a) Structured b) Unstructured
   c) Both a and b d) None of the above

7) Which of the following focuses on the discovery of (previously) unknown properties on the data?
   a) Data mining b) BigData
   c) Data wrangling d) Machine Learning

8) What is the full form of IoT?
   a) Internet of Technology b) Incorporate of Things
   c) Internet of Things d) Incorporate of Technology

9) What is IoT?
   a) network of physical objects embedded with sensors
   b) network of virtual objects
   c) network of objects in the ring structure
   d) network of sensors

10) When was the actual term “Internet of Things” coined?
   a) 1998 b) 1999
   c) 2000 d) 2002

B) Fill in the blank/Definition/One sentence answer/ One word answer/ Give the name/Predict the product etc. **06**

1) A _____ is a structured representation of data.
2) Hadoop is a framework that works with a variety of related tools. Common cohorts include _____.
3) Cloud Computing means _____.
4) _____ is the father of cloud computing.
5) HDFS supports the _____ command to fetch Delegation Token and store it in a file on the local system.
6) _____ an open source stack for gateways and the edge.

Q.2 Solve any Eight of the following. **16**

a) What is Big Data?
b) What is Green IT?
c) Defining Cloud computing.
d) What is the Internet of Things?
e) What is Structure of Learning?
f) What is Hadoop?
g) Explain Attributes of Big Data.
h) Definition of Data Science.
i) What is Virtualization?
j) What is software?

Q.3 A) Attempt any Two of the following. **10**

a) Explain Life Cycle of a Device.
b) Explain examples of Machine Learning Problems.
c) Difference between Data science vs BI.

B) Short note. **06**

What is Energy-Saving Software Techniques?

Q.4 A) Attempt any Two of the following. **08**

a) What is Big Data and where it is produced?
b) Explain HDFS Architecture.
c) What is Cloud deployment model?

B) Describe /explain /solve **08**

Explain loT Frameworks.

Q.5 Attempt any Two of the following. **16**

a) What are types of Virtualization?

b) What is IoT Architecture?

c) Difference between Training versus Testing.

Seat No.	

Set | P

B.C.A. (Semester - V) (New/Old) (CBCS) Examination: March/April - 2025
Linux and Shell Programming (19409506)

Day & Date: Wednesday, 07-May-2025 Max. Marks: 80
Time: 09:00 AM To 12:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions **10**

1) The Linux Kernel was written by _____
a) Brian Kernighan b) Dennis Ritchie
c) Richard Stallman d) Linus Torvalds

2) GRUB stands for _____
a) Grand Unified Boot Loader
b) Gentoo's Regular Booter
c) Great Unix Boot Loader
d) GNU Released Unix Booter

3) Ubuntu is based on _____
a) Fedora b) Slackware
c) Debian d) None of these

4) The state of the file system is contained in _____
a) Boot block
b) A special block created Book Block
c) Super Block
d) None of the above

5) _____ command is used to display the characteristics of a process.
a) pid b) ps
c) du d) au

6) The command to change the owner of a file is _____
a) chgrp b) set
c) chmod d) chown

7) The system administrator is also called the _____
a) super user b) root user
c) service user d) regular user

8) To search one or more files for matching lines _____ command may be used.
a) grep b) egrep
c) fgrep d) All of these

9) _____command is used to change password of your Linux system.

a) password b) pass
c) change-p d) passwd

10) _____ command do you use to create Linux file systems.

a) fdisk b) mkfs
c) fsck d) mount

B) Fill in the Blanks **06**

1) The heart of Linux operating system is_____
2) LILO Stands for _____
3) The Linux Kernel was written by _____
4) The Linux operating system is an _____ made up of a kernel.
5) The command interpreter is also called the _____
6) Special files are also known as _____

Q.2 Solve Any Eight of the following **16**

a) Define Shell and list out its any two types.
b) List out functions of kernel.
c) Define Linux Distribution.
d) Define File System.
e) State full forms of KDE & GNOME.
f) Define Boot Block.
g) State purpose of $cd and $pwd command.
h) State purpose of $grep command.
i) Define Shell Script.
j) Define the term Shell Process.

Q.3 A) Attempt Any Two of the following **10**

1) What is Filters? List out different Filter command and explain fgrep and egrep command.
2) Differentiate in between GRUB and LILO.
3) Explain File Types in Linux O.S.

B) Short note on

i) Linux Kernel ii) Kill command **06**

Q.4 A) Attempt Any Two of the following **08**

1) Explain $chmod and $chown command
2) What is Shell? Explain types of Shell.
3) Explain Roles for Shell Variables.

B) What System administration? Explain Role of system administrator. **08**

Q.5 Attempt Any Two of the following **16**

a) Explain different Features of Linux Operating system.
b) Explain I/O Redirection and piping in detail.
c) What is mean by Text Editors? Explain vi Text Editors in details.

Seat No.	

Set **P**

B.C.A. (Semester - VI) (New) (CBCS) Examination March/April - 2025
English
Business English (BCA1601)

Day & Date: Wednesday, 30-April-2025 Max. Marks: 40
Time: 03:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative. **08**

1) Which university is the speech delivered in the responsibilities of citizen?
a) Mumbai University b) Aligarh Muslim University
c) Oxford University d) JNU Delhi

2) Who did the wife write petition?
a) Chief of police b) Church
c) Czar d) Chief justice

3) We have no time to _____.
a) love b) lose
c) wish d) talk

4) Who was painted on the wall?
a) duke b) king
c) duchess d) queen

5) What are the things of beauty mentioned in the poem?
a) the sun and the moon b) young trees and streams
c) flowers d) all of the above

6) _____ dream head lifted out of the ground.
a) Sharp b) Clear
c) Vague d) Definite

7) Happily is an adverb of _____.
a) place b) manner
c) time d) frequency

8) He said, “Anu is at home.”
(Change the sentence direct to indirect speech)
a) He told that anu is at home.
b) He said that Anu is at home.
c) He told that Anu was at home.
d) He told that Anu had at home.

Q.2 Answer any FOUR of the following questions. **12**

a) Discuss the difficulties faced by young students.
b) What is the significance of wife's dream in God sees….?
c) What do I do at the end of day in endless time?
d) What is the event in the last duchess?
e) Describe ode to beauty as a romantic poem.
f) What is the theme of trees at my window?

Q.3 Write answer of any ONE of the following. **10**

a) What is information literacy? and write its importance.
b) Write health and civic literacy.

Q.4 Write about any three life skills. **10**

Seat No.	

Set **P**

B.C.A. (Semester - VI) (New) (CBCS) Examination: March/April - 2025
Network Security (BCA1602)

Day & Date: Sunday, 18-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions. **10**

1) The secure socket layer provides _____.
a) Encryption of messages sent by both client and server
b) Server authentication
c) Optional client authentication
d) All of these

2) Biometric authentication works on the basis of _____.
a) Human characteristics b) Passwords
c) Smart cards d) Pin

3) The digest created by a hash function is normally called a _____.
a) Modification detection code
b) Modify authentication connection
c) Message authentication control
d) Message authentication cipher

4) _____ is the science and art of transforming messages to make them secure and immune to attacks?
a) Cryptography b) Cryptoanalysis
c) Hash function d) Digital signature

5) A(n) _____ algorithm transforms plaintext to ciphertext.
a) Encryption b) Decryption
c) either (a) or (b) d) neither (a) nor (b)

6) In _____ cipher, a pair of keys is used.
a) symmetric-key b) asymmetric-key
c) either (a) or (b) d) neither (a) nor (b)

7) An asymmetric-key (or public-key) cipher uses _____.
a) 1 key b) 2 key
c) 3 key d) 4 key

8) DES encrypts data in block size of _____ bits each.
a) 64 b) 128
c) 32 d) 56

9) The Advanced Encryption Standard (AES), has three different configurations with respect to the number of rounds and _____.

a) Data size b) Round size
c) Key size d) Encryption Size

10) _____ is data encryption standard (DES).

b) block cipher b) stream cipher
c) bit cipher d) byte cipher

B) Fill in the blanks. **06**

1) The full form of SSL is _____.
2) In Cryptography, the original message, before being transformed, is called _____.
3) Digital signature cannot provide _____ for the message.
4) _____ key is used in symmetric key cryptography.
5) In monoalphabetic substitution, the relationship between a symbol in the plaintext to a symbol in the ciphertext is always _____.
6) _____ is the first step in DES.

Q.2 Answer any eight of the following. **16**

1) What are roles of public and private key?
2) Define Digital Signature.
3) Define steganography.
4) What is Kerberos?
5) What is message authentication?
6) What is the use of smart cards?
7) What is Cryptography?
8) What is a security need?
9) What is encryption and decryption?
10) Define integrity and nonrepudiation.

Q.3 A) Attempt any Two of the following. **10**

1) Explain the Asymmetric Key Cryptography.
2) Explain the Structure and Analysis of DES.
3) Explain active attack and passive attack.

B) Explain the PGP and S/MIME in detail. **06**

Q.4 A) Attempt any Two of the following. **08**

1) Explain SSL Architecture in network security.
2) Explain IP Security.
3) Explain SHA-512 in detail.

B) Explain substitution techniques in cryptography. **08**

Q.5 Attempt any Two of the following. **16**

a) Explain general structure of AES.
b) Explain the security services and mechanisms in detail.
c) What is Firewalls? Explain types of firewalls.

SLR-YH-51

Seat No.	

Set P

B.C.A. (Semester - VI) (New) (CBCS) Examination: March/April - 2025
Data Visualization using Power BI (BCA1603)

Day & Date: Sunday, 25-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat labelled sigrams wherever necessary.
3) Figure to the right indicates full marks.

Q.1 A) Choose correct alternative (MCQ) **10**

1) The ____ is NOT a Power Bl desktop view.
a) Report view b) Data view
c) Design view d) Model view

2) The main purpose of Power BI Gateway is to ____.
a) connect Power BI to cloud-based data sources
b) synchronize on-premises data with Power BI Service
c) create custom visualizations
d) Schedule data refreshes in Power BI service

3) The ____ option allows you to filter data based on a condition that is evaluated dynamically.
a) Filter Pane b) Slicer
c) Calculated Column d) Measure

4) The ____ operator is used in DAX to check if a value is blank?
a) ISNULL () b) ISBLANK ()
c) ISZERO () d) BLANK ()

5) The ____ formatting option allows different display styles based on value ranges.
a) Static Formatting b) Dynamic Formatting
c) Style Formatting d) Conditional Formatting

6) Which operation would you perform to remove rows that contain null or empty values?
a) Remove Empty Rows b) Remove Null Rows
c) Remove Missing Rows d) Remove Blank Rows

7) When merging two datasets and you want to include only the matching records from both, the appropriate join type is the ____ join.
a) Left Outer b) Right Outer
c) Inner d) Full Outer

8) The ____ transformation should you apply to fill a column's null values with the values.

a) Fill Down b) Replace Values
c) Fill Above d) Append Data

9) ____ Operator would you use to check if a value 'exists within a set of values?

a) EXISTS b) IN
c) MATCH d) FILTER

10) The ____ DAX function is used to combine first name and last name in a single column.

a) JOIN() b) MERGE()
c) APPEND() d) CONCATENATE()

Q.1 B) Fill in the blanks. **06**

a) In Power BI, ____ allows you to create calculated columns and measures using a formula.
b) A ____ column can be used to define custom logic or derived values.
c) To maintain a clean model design, ___ schema is commonly used in Power BI.
d) A dashed relationship line indicates an ____ relationship.
e) The ____ step is used to break one column containing full names into first and last names.
f) To extract the year from a date column, you will use the ____ DAX function.

Q.2 Answer the following: (Any Eight) **16**

a) Why is Power BI popular?
b) Mention four features of Power BI.
c) What kind of data can be loaded from the web into Power BI?
d) How can you be indexing columns in Power BI?
e) What is the difference between merging and appending data?
f) How relationships can be created manually in Power BI?
g) Define Area chart.
h) Define Pata label property with example.
i) Write PAX code for a calculated column to classify sales as "High", "Medium", or "Low" based on the Sales Amount.
j) Define clustered bar chart with example.

Q.3 A) Answer the following: (Any Two) **10**

a) Write and explain a DAX formula to create a custom KPI (Key Performance Indicator) measure using IF() and CALCULATE().
b) Describe different filtering techniques for text, numeric, and date/time data. Explain with example.
c) What is difference between Table and Matrix? Explain with example.

B) What are the main components of Power BI, and how do they interact? **06**

Q.4 A) Answer the following: (Any Two) **08**

a) What is date hierarchies in Power BI? Explain with example.
b) What is Business Intelligence (BI), and how is it used in organizations?
c) Write a DAX formula to calculate Year-to-Pate (YTD) sales. Explain each part of the formula.

B) Explain following operators with example. **08**

1) SEARCH
2) Substitute
3) RELATED
4) DATEDIFF

Q.5 Answer the following: (Any Two) **16**

a) How can you use slicers, cards, and filters effectively in your dashboards? Explain with example.

b) Consider following dataset and write a DAX queries for the following question.

Stud_ID	Name	Gender	Date of Birth	Enrollment Date	Marks	Course
1	Rahul Sharma	M	2003-05-12	2020-06-01	85	Science
2	Priya Mehta	F	2002-11-23	2019-08-15	91	Commerce
3	Amir Khan	M	2004-02-10	2021-01-10	78	Arts
4	Sneha Iyer	F	2001-09-30	2018-07-01	88	Science
5	Karan Joshi	M	2003-12-17	2020-06-15	92	Commerce

1) Average marks of students in "Science" course.
2) List students enrolled before 2020.
3) Find maximum marks scored by any student.
4) How many numbers of students enrolled in each course.
5) Calculate the age of each student.
6) Calculate percentage of female students.
7) Find tire student details whose names length is equal to his course.
8) To find student details where their name contains characters 'ar'.

c) What are the different data sources supported by Power BI? Explain any 3 in detail.

Seat No.	

Set **P**

B.C.A. (Semester - VI) (New) (CBCS) Examination: March/April - 2025
ASP.Net Core (BCA1604)

Day & Date: Monday, 05-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.
4) Use of log table and calculators is allowed.

Q.1 A) Select the correct alternative. **10**

1) Which of the following is not a feature of ASP.NET?
   a) Separation of Concerns b) Testability
   c) Built-in Authentication d) View State

2) _____ is the purpose of routing.
   a) To map URLs to controller actions
   b) To manage session state
   c) To authenticate users
   d) To validate user input

3) What is the use of the ViewBag object?
   a) To pass data from the controller to the view
   b) To pass data from the view to the controller
   c) To store session data
   d) To cache frequently accessed data

4) The @Html helper is used _____.
   a) To create HTML elements
   b) To validate user input
   c) To serialize data
   d) To manage session state

5) Which of the following is not a valid action result type in ASP.NET MVC?
   a) ViewResult b) JsonResult
   c) FileResult d) QueryResult

6) What does the View in MVC represent?
   a) User Interface b) Application Logic
   c) Database Structure() d) Ensure security

7) Which of the following is not a valid way to pass data from a controller to a view in ASP.NET MVC?
   a) ViewBag b) ViewData
   c) TempData d) HttpRequest

8) Which component in MVC handles the business logic?
   a) Model b) View
   c) Controller d) Handler

9) How can you specify a required field in a model using data annotations in ASP.NET MVC?
   a) [Required] b) [Mandatory]
   c) [NotNull] d) [DataRequired]

10) What is Entity Framework in ASP.NET?
   a) A database management tool
   b) A client-side scripting framework
   c) An ORM (Object-Relational Mapper)
   d) A server-side state management tool

B) Fill in the blank. **06**

1) _____ is a dictionary object that allows you to pass data from the controller to the view using key-value pairs.
2) The _____ is a type of action result that formats the given data as JSON and sends it as a response to the client.
3) The _____ middleware is an inbuilt Middleware provided by the ASP.NET Core Framework to handle the static files in an ASP.NET Core Web Application.
4) After creating a migration, need to sync our code base with the database using the _____ command in the Package Manager Console.
5) _____ in the MVC Design Pattern handle the incoming HTTP Request, work with the model, and select a view to render.
6) _____ is a powerful feature that helps manage object dependencies within our application.

Q.2 Solve any Eight of the following. **16**

a) Define Web root folder.
b) Explain Key Attribute.
c) Define FromQuery Model Binding.
d) Define View Result.
e) Define Transactions in Entity Framework Core.
f) Define Layout View.
g) Define One-to-One Relationships.
h) Define Database Connection String in Entity Framework Core.
i) Define Dropdown List.
j) Define Views.

Q.3 A) Attempt any Two of the following. **10**

1) Define Data Annotation Attributes in Entity Framework Core.
2) Define TempData.
3) Explain InProcess Hosting and OutofProcess Hosting.

B) Write a note on DbContext in Entity Framework Core in detail? **06**

Q.4 Attempt any Two of the following. **08**

a) Explain Differences between Cookies and Sessions.
b) Define Routing in ASP.NET Core MVC.
c) Blacklist and Whitelist Checks using Data Annotation.

B) Write a note on Model Validations in MVC. **08**

Q.5 Attempt any Two of the following. **16**

a) Explain CRUD Operations in Entity Framework Core in Detail with Example.
b) Define ViewData, ViewBag, Strongly Typed View, ViewModel in Detail.
c) Explain any four HTML Helpers with controls in details.

Seat No.	

Set | **P**

B.C.A. (Semester - VI) (New) (CBCS) Examination: March/April - 2025
Linux and Shell Programming (BCA1605-A)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions: **10**

1) ____ is a key feature of Linux.
a) Closed-source b) Proprietary
c) Open-source d) Single-user

2) command is used to list all files and directories in the current directory, including hidden ones?
a) Is -a b) Is -1
c) dir d) list all

3) What is the root directory in the Linux file system?
a) /root b) /home
c) / d) /var

4) Which command is used to display the current working directory?
a) cd b) Is
c) pwd d) dir

5) Which command is used to change file access permissions in Linux?
a) chmod b) chown
c) chgrp d) none of these

6) What does the ‘r’ permission signify in Linux file permissions?
a) read b) write
c) execute d) delete

7) Which command is used to change the owner of a file?
a) chmod b) chown
c) chgrp d) none of these

8) How do you kill a process with the process ID 1234?
a) kill -9 1234 b) killall 1234
c) kill -KILL 1234 d) none of above

9) What is a shell script in Linux?
a) A compiled program
b) A series of commands written in a file
c) A binary executable
d) A system call

10) How do you print "Hello, World!" to the terminal in a shell script?
a) echo "Hello, World!"
b) print "Hello, World!"
c) printf "Hello, World!"
d) disp "Hello, World!"

B) Fill in the blanks: **06**

1) ____ command is used to print a file.
2) ____ command is used to display and create flies.
3) ____ command is used to remove files.
4) LILO stands for ____.
5) ____ is the core of the Linux operating system.
6) ____ command is used to sort the lines of data in a file.

Q.2 Solve the following: (Any Eight) **16**

a) Define Shell and list out its any two types.
b) State purpose of $mkdir command.
c) State purpose of $cp command.
d) What is use of FTP protocol?
e) Define Shell variable.
f) State use of If-else statement with syntax.
g) State purpose of $grep command.
h) List out File types in Linux O.S.
i) State purpose of $cd and $pwd command.

Q.3 A) Solve the following: (Any Two) **10**

1) Explain Linux O.S Architecture in brief.
2) Explain $chmod command.
3) Write a note on echo and read statement.

Q.3 B) Short notes. **06**

Explain Features of Linux O.S.

Q.4 A) Attempt the following. (Any Two) **08**

1) List out any 4 rules for shell variable.
2) Write a note on vi editor.
3) Explain Relational operator used in shell programming.

Q.4 B) Describe in details **08**

1) Explain break statement in detail.
2) Explain continue statement in detail.

Q.5 Attempt the following. (Any Two) **16**

a) Write a shell script to find the factorial of a given number.

b) Explain conditional statements in shell scripting.

c) Explain looping statements in shell scripting.

Seat No.	

Set | P

B.C.A. (Semester - VI) (New) (CBCS) Examination: March/April - 2025
Mobile Application Development using Kotlin (BCA1605-B)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.
4) Use of log table and calculators is allowed.

Q.1 A) Multiple choice questions: **10**

1) What is the file extension of Kotlin files?
   a) .java b) .kot
   c) .kotlin d) .kt

2) You can create an emulator to simulate the configuration of a particular type of Android device using a tool like ____.
   a) Theme Editor b) Android SDK Manager
   c) AVD Manager d) Virtual Editor

3) Which of the following is not true about fragments?
   a) A fragment has its own lifecycle and receives its own input events
   b) It is not possible to remove a fragment while the activity is running
   c) A fragment is defined in a Kotlin class
   d) A fragment's UI is defined in an XML layout file

4) In android, mini activities are also known as ____.
   a) Adapter b) Activity
   c) Fragment d) None of these

5) On which kernel is Android-based on ____.
   a) Windows b) Linux
   c) Mac d) Ubuntu

6) The services in android can be stopped using which of the following method?
   a) system.exit() method
   b) stopSelf() and stopService() Method
   c) finish() method
   d) end() method

7) What is manifest XML in android?
   a) It has information about layout in application
   b) It has all the information about an application
   c) It has the information about activities in an application
   d) None of these

8) What is the use of a content provider in Android?
   a) for sharing data between applications
   b) for storing data in the database
   c) for sending data from one application to another application
   d) none of above

9) All layout classes are subclasses of which of the following?
   a) Android.widget
   b) android.view.view
   c) android.view.ViewGroup
   d) None of these

10) _____ of the following which is not a state in the service lifecycle.
   a) Running
   b) Start
   c) Paused
   d) Destroyed

B) Fill in the blanks: **06**

a) _____ manages data sharing between applications.
b) _____ is the default database for android.
c) The full form of APK is _____.
d) _____ is the topmost layer of android architecture.
e) _____ layout in which Android arranges its children into rows and columns.
f) ADB stands for _____.

Q.2 Solve the following: (Any Eight) **16**

a) What is Android?
b) What is an activity?
c) What is a Toast? Write its syntax.
d) What is AVD?
e) Define view and ViewGroup.
f) What is Adapter?
g) Write any two applications of android.
h) Define Fragment.
i) What is an intent? What are the types of Intent?
j) What is context? What are the types of context?

Q.3 A) Solve the following: (Any Two) **10**

1) Explain the dialog boxes supported on Android.
2) Explain the different features of Android.
3) Explain the UI Interface components TextView and EditText

B) Write a note on life cycle of Android activity. **06**

Q.4 A) Attempt the following. (Any Two) **08**

1) What is Content Provider? Explain the use of Content Provider in Android?
2) Explain the structure of android Manifext.xml.
3) Explain the different attributes of Layout.

B) Explain Event Handling with suitable example. **08**

Q.5 Attempt the following. (Any Two) **16**

a) Explain the Architecture of Android Operating System.

b) What is Broadcast Receiver? Explain the Broadcast Receiver Component of Android.

c) Explain the database operations Create, Read, Update and Delete on SQLite Database.

Seat No.	

Set | P

B.C.A. (Semester - VI) (New) (CBCS) Examination: March/April - 2025
Internet of Things (BCA1605-C)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Each question should only one correct option.

Q.1 A) Multiple Choice questions. **10**

1) What is IoT?
   a) network of physical objects embedded with sensors
   b) network of virtual objects
   d) network of objects in the ring structure
   c) network of sensors

2) WSN measures _____ physical parameter.
   a) sound b) Temperature
   c) Pollution d) All of the above

3) _____ elements in the Open IoT Architecture?
   a) 3 elements b) 7 elements
   c) 8 elements d) 6 elements

4) Which of the following microcontroller architectures is used in Raspberry Pi?
   a) AVR b) ARM
   c) PIC d) x86

5) Which of the following is an IoT application in healthcare?
   a) Smart plugs b) Smart lighting
   c) Patient monitoring d) Inventory scanning

6) _____ is the use of fog computing.
   a) Big Data b) Internet of Things
   c) Smart Cities d) All of the above

7) _____ is NOT a component of the IoT ecosystem.
   a) Sensor b) Actuator
   c) Operating System d) Network

8) What is the main purpose of the Perception Layer in the IoT stack?
   a) Manage cloud services
   b) Process user commands
   c) Sense and collect data from the environment
   d) Transmit data over networks

9) _____ is the processor used by ARM7?
   a) 8-bit CISC b) 8-bit RISC
   c) 32-bit CISC d) 32-bit RISC

10) Which of the following is NOT a security requirement in IoT?
   a) Confidentiality b) Availability
   c) Reactivity d) Integrity

B) Fill in the blank. **06**

1) The full form of SCADA is _____.
2) _____ is lowest layer in Zigbee architecture.
3) ARM stands for _____.
4) The layer of the IoT stack responsible for sensing physical data is the _____ layer.
5) A microcontroller commonly used in IoT systems is based on the _____ architecture.
6) Arduino boards are typically programmed using the _____ IDE.

Q.2 Solve any Eight of the following. **16**

a) Define Actuator.
b) Name two application areas of IoT.
c) Define the fog computing.
d) List elements of IOT.
e) Define WSN.
f) What is cloud computing?
g) What is Arduino?
h) Define M2M.
i) What are microcontrollers?
J) Define brownfield IoT.

Q.3 A) Attempt any Two of the following. **10**

1) What are the different challenges in IOT?
2) Explain the Modbus protocol and its applications.
3) Describe various types of sensors used in IoT.

B) Explain different characteristics of IOT. **06**

Q.4 A) Attempt any two of the following. **08**

1) Write a note on future factory concept in IOT.
2) Explain open source IOT stack.
3) What are the various security issues of IOT?

B) Explain M2M and WSN protocol. **08**

Q.5 Attempt any two of the following. **16**

a) Explain in detail the structure and working of the IoTivity stack.

b) With the help of neat diagram, describe the levels of IOT.

c) Explain the IEEE 802.15.4 protocol and its significance in IoT.

Seat No.	

Set **P**

B.C.A. (Semester - VI) (New/Old) (CBCS) Examination: March/April - 2025
English (Comp.)
Business English (19409601)

Day & Date: Wednesday, 30-April-2025 Max. Marks: 40
Time: 03:00 PM To 05:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Rewrite the following sentences by choosing the correct alternative. 08

1) What did the girls call Robert?
a) Sourface b) Paleface
c) No-face d) Sweetface

2) Who did Aksionov meet on his way to the fair?
a) a fellow merchant b) Makar Semyonich
c) convicts d) his wife

3) How many children are listening to the story?
a) five b) two
c) three d) one

4) Robert Browning was a ____ poet.
a) Indian b) English
c) Anglo-Irish d) None of these

5) What are the things that are read or heard by us?
a) Plays and classical music b) novels and songs
c) lovely tales d) poetry and western music

6) What should we not lament?
a) dreams b) fall of hope
c) transient feelings d) fall of roses
.

7) Monika said, “I have finished my homework.”
(Change the sentence direct to indirect speech)
a) Monika said that she had finished her homework.
b) Monika said that she had finished my homework.
c) Monika said that she has finished her homework.
d) Monika said that she has finished my homework.

8) She _____ goes to the college at 10 o’clock. (use suitable adverb)
a) once b) ever
c) usually d) anytime

Q.2 Write the answers in short. (Any four out of six) **12**

a) How did the children behave with the dog?
b) Why did Aksionov leave the inn early?
c) Write in brief about the poem 'Sita'.
d) Describe the personality of Duchess.
e) Why is "Ode to Beauty" considered to be a romantic poem?
f) Write in brief about the poem 'Life'.

Q.3 Answer the following questions. (Any one) **10**

a) How can technology literacy skills help learners in the future?
b) Explain the concept Literacy Skills in detail.

Q.4 Answer the following question. **10**

Explain the concept "Life Skills (FLIPS)" in details.

SLR-YH-58

Seat No.	

Set P

B.C.A. (Semester - VI) (New/Old) (CBCS) Examination: March/April - 2025
Advanced Java (19409602)

Day & Date: Sunday, 18-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks..

Q.1 A) Multiple choice questions. **10**

1) Java code is embedded under which tag in JSP?
a) Declaration b) Scriptlet
c) Expression d) Comment

2) A servlet maintain session in _____
a) Servlet Context b) Servlet container
c) Servlet response heap d) Servlet request heap

3) The Java _____ specification defines an application programming interface for communication between the Web server and the application program.
a) Servlet b) Server
c) Program d) Randomize

4) ___ code is used to get an attribute in a HTTP Session object in servlets?
a) session.alterAttribute(String name)
b) session.getAttribute(String name)
c) session.updateAttribute(String name)
d) session.setAttribute(String name)

5) _____ tag should be used to pass information from JSP to included JSP?
a) Using <%jsp:useBean> tag
b) Using <%jsp:param> tag
c) Using <%jsp:import> tag
d) Using <%jsp:page> tag

6) _____ cookie it is valid for single session only and it is removed each time when the user closes the browser?
a) Persistent Cookie b) Non-persistent Cookie
c) Both A and B d) None of these

7) Which of the following is not a core interface of Hibernate?
a) Configuration b) Criteria
c) SessionManagement d) Session

8) Which of the following method is used inside session only?
a) merge() b) Update()
c) end() d) kill()

9) Which one of the following is correct for directive in JSP?
a) <%@directive%> b) <%!directive%>
c) <%directive%> d) <%=directive%>

10) A JSP page consists of which tags?
a) HTML tags b) JSP tags
c) Both (A) and (B) d) None of the above

Q.1 B) Fill in the blank. **06**

1) _____ is the correct syntax to declare comments in JSP
2) _____ is the extension of Deployment Descriptor file in servlet
3) JSTL stands for _____
4) TPS stands for _____
5) _____ are the objects that constitute the backbone of your application and are maintained by the Spring IoC container
6) In the controller class, _____ is used to read the HTML form data that the user has given.

Q.2 Solve any Eight of the following. **16**

1) What is Session Tracking?
2) What is URL rewriting?
3) What are the methods of HttpServlet?
4) What is mean by JSP?
5) Give the use of exception object.
6) What is the Spring Framework?
7) What is ORM in Hibernate?
8) What are the technologies that are supported by Hibernate?
9) Define the term cookies.
10) What is Spring IOC Container?

Q.3 A) Attempt any Two of the following. **10**

1) What is Servlet? Explain Servlet life Cycle?
2) What are the advantages of Hibernate over JDBC?
3) Explain JSP action tags with suitable example.

B) Short note on **06**

i) JSP API
ii) JSTL formatting tags

Q.4 A) Attempt any Two of the following. **08**

1) Explain life cycle methods of servlet with program.

2) Explain Features of Hibernate

3) What is the difference between doGet and doPost methods?

B) Describe/Explain/Solve **08**

1) What is Java Bean? What is Advantages & Disadvantages of java Bean?

Q.5 Attempt any Two of the following. **16**

1) Explain setProperty and getProperty with suitable program?

2) Explain constructor dependency injection of Spring?

3) Explain the Hibernate Framework architecture with suitable diagram?

Seat No.	

Set **P**

B.C.A. (Semester - VI) (New/Old) (CBCS) Examination: March/April - 2025
Dot Net Technology (19409603)

Day & Date: Sunday, 25-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions. **10**

1) Which protocol is used to transfer files from local host to remote host?
a) HTTP b) FTP
c) TCP d) UDP

2) Which commands are used to specify settings of an .aspx file?
a) Class b) Directives
c) Events d) Validation

3) In which of the following folder source code such as class, dataset etc. are stored?
a) App_Data b) App_Themes
c) App_Code d) App_WebReferences

4) The method applied to change the styles of the elements in a ASP.NET webpage is called _____
a) Master page b) child page
c) cascading style sheets d) Theme

5) Which web server control is used to display advertisements in ASP.NET a webpage?
a) Image b) Image map
c) Panel d) AdRotator control

6) Which of the following server control shows data in a tabular format and allows sorting, paging, edit, delete each record?
a) ListBox b) GridView
c) Repeater d) None of these above

7) Which type of validation is used to check password and confirm password in a login form?
a) CustomValidator b) RangeValidator
c) CompareValidator d) RequiredFieldValidator

8) The Following are the minimum requirement to run Asp.net pages
a) Java Virtual Machine b) Common Language Runtime
c) Windows explorer d) None of the above

9) You are creating a project which stores small amount of frequently changing information about a page on the client. Which is the best method to use?
a) Cookies b) Query String
c) Hidden Form Field d) None of the above

10) Which term is used for pages that depend on the Master page?
a) Content Pages b) Master Pages
c) Web Pages d) None of the above

Q.1 B) One sentence answer. **06**

1) Which validator control you use if you need to make sure the values in two different controls matched?
2) Which protocol is used to call a Web service?
3) What is a query string?
4) What is content area?
5) What is data reader?
6) What is the file extension for a Master Page?

Q.2 Solve any Eight of the following. **16**

1) What is Web Service?
2) What is personalization in asp.net?
3) List out some web control.
4) What is Cross Page Posting?
5) What is master page in ASP.NET?
6) What is Asp.net?
7) What is CLR?
8) What do you mean by cookies?
9) Write use of PostBackURL Property.
10) What is IIS?

Q.3 A) Attempt any Two of the following. **10**

1) Explain any five folders in asp.net.
2) Write Asp.Net code to display selected elements from the checkbox List on a label control.
3) What is Inline code & code behind?

B) Short Note **06**

i) Compilation
ii) Page Life cycle

Q.4 A) Attempt any Two of the following. **08**

1) What is Theme & write how to apply theme
2) What is site Navigation? Explain tree view.
3) Write necessary properties which are common for all validation control.

B) Explain state management & their type. **08**

Q.5 Attempt any Two of the following. **16**

1) What are benefits using AJAX? Explain update panel control in AJAX with example.

2) Write a code to insert & delete data into Sqlserver database from an asp.net web page.

3) Explain any four validation control with suitable example.

Seat No.	

Set | P

B.C.A. (Semester - VI) (New/Old) (CBCS) Examination: March/April - 2025
Data Warehouse and Data Mining (19409604)

Day & Date: Monday, 05-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.

Q.1 A) Multiple choice questions. **10**

1) _____ is a subject-oriented, integrated, time-variant, nonvolatile collection of data in support of management decisions.
a) data mining b) data warehousing
c) web mining d) text mining

2) The important aspect of the data warehouse environment is that data found within the data warehouse is _____
a) subject-oriented b) time-variant
c) integrated d) all of the above

3) _____ predicts future trends & behaviors, allowing business managers to make proactive, knowledge-driven decisions.
a) Data warehouse b) Data mining
c) Data marts d) Metadata

4) Removing duplicate records is a process called _____
a) recovery b) data cleaning
c) data cleansing d) data pruning

5) A goal of data mining includes which of the following?
a) To explain some observed event or condition
b) To confirm that data exists
c) To analyze data for expected relationships
d) To create a new data warehouse

6) _____ are the data objects that don't comply with the general model or behavior of the available data.
a) Evolution Analysis b) Outlier Analysis
c) Classification d) Prediction

7) DSS in data warehouse stands for _____
a) Decision single system b) Decision support system
c) Data support system d) Data storable system

8) Multiple numbers of data sources get combined in which step of the Knowledge Discovery?

a) Data Transformation b) Data Selection
c) Data Integration d) Data Cleaning

9) The process of removing deficiencies and loopholes in the data is called as _____

a) Data aggregation b) Extraction of data
c) Compression of data d) Cleaning of data

10) Data warehouse architecture is based on _____

a) DBMS b) RDBMS
c) Sybase d) SQL Server

B) Fill in the blank. **06**

1) _____ describes the data contained in the data warehouse.
2) _____ is the heart of the warehouse.
3) OLAP Stands for _____
4) The Full form of KDD is _____
5) The star schema is composed of _____ fact table.
6) Data warehouse architecture is based on _____

Q.2 Solve any Eight of the following. **16**

1) What is Data warehouse?
2) Explain Data integration.
3) What is Data transformation?
4) What is mean by Clustering?
5) What is Star Schema?
6) What is Decision tree?
7) What are Bayesian Classifiers?
8) What are operational database systems?
9) Define fact table?
10) What is mean by ROLAP?

Q.3 A) Attempt any Two of the following. **10**

1) Explain KDD with net labeled diagram.
2) Explain importance of OLAP server.
3) What is Data Mining? Differentiate between Data Warehouse and Data Mining

B) Short note on i) Web Data Mining ii) Rule base classification **06**

Q.4 A) Attempt any Two of the following. **08**

1) Explain the procedure of Apriori algorithm with example
2) Explain different Characteristics of Data warehouse.
3) Explain different Application of data mining

B) Explain Data warehouse Architecture and its Components. **08**

Q.5 Attempt any Two of the following. **16**

1) What is association rule? Explain FP- Growth Algorithms.

2) Define Classification? Explain Naive Bayes Classifier in detail.

3) Explain k-means algorithm with suitable example.

Seat No.	

Set | P

B.C.A. (Semester - VI) (New/Old) (CBCS) Examination: March/April - 2025
Cryptography and Network Security (19409605)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks..

Q.1 A) Multiple choice questions. **10**

1) A substitution cipher substitutes one symbol with _____.
   a) Keys b) Others
   c) Multi Parties d) Single Party

2) We use Cryptography term to transforming messages to make them secure and immune to _____.
   a) Change b) Idle
   c) Attacks d) Defend

3) In Cryptography, the original message, before being transformed, is called _____.
   a) Simple Text b) Plain Text
   c) Empty Text d) Filled Text

4) The keys used in cryptography are _____.
   a) secret key b) private key
   c) public key d) all of these

5) A process of making the encrypted text readable again.
   a) Decryption b) Encryption
   c) Network Security d) Information Hiding

6) In which of the following encryption key is used to encrypt and decrypt the data?
   a) Public key b) Private key
   c) Symmetric key d) Asymmetric key

7) Network Security provides authentication and access control for resources.
   a) True b) False

8) SSL is placed in between the _____ layers.
   a) Transport & data link b) Application & presentation
   c) Application & transport d) application & session

9) _____ is a block cipher.
   a) DES b) IDEA
   c) AES d) RSA

10) The processed S/MIME along with security related data is called as _____.
   a) Public key cryptography standard
   b) Private key cryptography standard
   c) Secret key cryptography standard
   d) None of the Above

B) Fill in the blanks. **06**

1) The full form of SSL is _____.
2) A mechanism used to encrypt and decrypt data is _____.
3) DES encrypts data in block size of _____ bits each.
4) _____ type of attack can actively modify communication or data.
5) Biometric authentication works on the basis of _____.
6) _____ is the first step in DES.

Q.2 Solve any Eight of the following. **16**

1) What is Cryptography?
2) Define Cipher text.
3) What is mean by Firewalls?
4) What is mean by password?
5) What is message authentication
6) Define the term Kerberos
7) What is Security service?
8) Define the term Attacks
9) What is block cipher?
10) What is Message digests

Q.3 A) Attempt any Two of the following. **10**

1) Explain the architecture of IP Security.
2) Explain the technical details of firewall and describe any three types of firewall.
3) Explain ELGamal Algorithm in detail.

B) Short note on **06**

1) Use of smart cards
2) Transposition techniques

Q.4 A) Attempt any Two of the following. **08**

1) Write the use of Block Ciphers.
2) Explain services provided by IPSec.
3) Explain Secure Electronic Transaction.

B) Describe/Explain/Solve **08**

What is mean by SSL? Explain SSL Architecture in network security.

Q.5 Attempt any Two of the following. **16**

1) Explain the PGP and S/MIME in detail.

2) Distinguish between MD5 and SHA-512.

3) What is meant by Digital Signature? Explain Attacks on Digital Signature.

Seat No.	

Set **P**

B.C.A. (Semester - VI) (New) (Old) (CBCS) Examination: March/April - 2025
Advanced Python (19409606)

Day & Date: Wednesday, 07-May-2025 Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions. **10**

1) _____ is the Python interface to the Tk GUI toolkit shipped with Python.
a) JPython b) Tkinter
c) GUI d) GUI application

2) What provides two way communication between two different programs in a network?
a) socket b) port
c) http d) protocol

3) XML uses the features of _____
a) VML b) SGML
c) HTML d) XHTML

4) What is the default port of HTTP?
a) 20 20 b) 80 80
c) 10 10 d) 60 60

5) DOM stands for _____
a) Data Object Model
b) Document Object Model
c) Document oriented Model
d) None of the above

6) _____ method is used to ask some question to the user which can be answered in yes or no.
a) askokcancel() b) askquestion()
c) showwarning() d) showinfo()

7) Which is not A W3C-recommended specification?
a) SAX b) DOM
c) Both a & b d) None of the above

8) _____ provide advanced capabilities that allow you to edit a multiline text and format the way it has to be displayed, such as changing its color and font.

a) Window b) Panes
c) PanedWindow d) Text widgets

9) Who developed Django?

a) Adrian Holovaty
b) Simon Willison
c) Guido van Rossum
d) Adrian Holovaty and Simon Willison

10) What Does XML Stand For?

a) EXtensible Markup Language
b) EXtra Modern Link
c) Example Markup Language
d) X-Markup Language

Q.1 B) Fill in the blanks. **06**

1) The _____ is used to implement the graphical slider to the python application so that the user can slide through the range of values shown on the slider and select the one among them.
2) The methods _____and _____ are called at the start and the end of the XML file.
3) A _____ consists of static parts of the desired HTML output as well as some special syntax describing how dynamic content will be inserted.
4) SAX is read-only, while DOM allows changes to the _____ file.
5) The _____ is extremely useful for random-access applications.
6) The _____ is used to display the list items to the user.

Q.2 Solve any Eight of the following. **16**

a) What is Sockets?
b) Explain parseString Method in XML.
c) Explain History of Django.
d) Explain Tkinter Spinbox with syntax.
e) Explain Tkinter Frame with syntax.
f) Explain Tkinter Canvas.
g) What Is a Web Framework?
h) Explain Django URL Mapping.
i) What is DOM in XML?
j) What is Django MVT?

Q.3 A) Attempt any Two of the following. **10**

1) Explain Advantages of Django.
2) Explain Parsing XML with DOM APIs.
3) Explain following types of widgets in Tkinter with example.
    a) Tkinter Checkbutton
    b) Tkinter Menubutton

B) Short note/Solve. **06**

Explain Models in Django with example.

Q.4 A) Attempt any Two of the following. **08**

1) Explain socket Module & Socket Methods.
2) Explain Parsing XML with SAX APIs.
3) Explain Django Template in detail.

B) Explain following types of widgets in Tkinter with example. **08**

1) Tkinter Frame
2) Tkinter Listbox

Q.5 Attempt any Two of the following. **16**

a) Explain MVC Design Pattern in detail.

b) What is XML? Explain XML Parser Architectures and APIs with example.

c) Explain Tkinter Radiobutton options & Methods with example.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (CBCS) Examination: March/April - 2025
OOPS with C++ - II (19409401)

Day & Date: Wednesday, 30-04-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options. **08**

1) What is Inheritance in C++?
a) Wrapping of data into a single class
b) Deriving new classes from existing classes
c) Overloading of classes
d) Classes with same names

2) Which specifier makes all the data members and functions of base class inaccessible by the derived class?
a) private b) protected
c) public d) both private and protected

3) Which is the correct syntax of declaring a virtual function?
a) virtual int func(); b) virtual int func(){};
c) inline virtual func(); d) inline virtual func(){};

4) What is a pure virtual function?
a) A virtual function defined inside the base class
b) A virtual function that has no definition relative to the base class
c) A virtual function that is defined inside the derived class
d) Any function that is made virtual

5) The concept of deciding which function to invoke during runtime is called
a) late binding
b) dynamic linkage
c) static binding
d) both late binding and dynamic linkage

6) Which of the following is not a file opening mode _____.
a) ios::ate b) ios::nocreate
c) ios::noreplace d) ios::truncate

7) Which of the following is used to create an output stream?
a) ofstream b) ifstream
c) iostream d) fsstream

8) What is an exception in C++ program?
   a) A problem that arises during the execution of a program
   b) A problem that arises during compilation
   c) Also known as the syntax error
   d) Also known as semantic error

Q.2 Answer the following questions. (Any Four) **08**

a) Define Inheritance?
b) State the rules of constructor.
c) Define compile time polymorphism.
d) State any four stream state member function.
e) Define pure virtual function.

Q.3 Write short notes. (Any Two) **08**

a) Write a short note on " stream classes used in c++"
b) Write a short note on " try and catch method"
c) Write a short note on " constructor" in single Inheritance.

Q.4 Answer the following. (Any Two) **08**

a) Explain virtual base class with example.
b) Write a program in c++ to copy one file into another file.
c) Describe function templates in c++.

Q.5 Answer the following. (Any One) **08**

a) Explain the difference between runtime polymorphism and compile time polymorphism with example.
b) Explain pointer to base class and pointer to derived class with example.

Seat No.	

Set | P

B.C.A. (Semester - IV) (CBCS) Examination: March/April - 2025
MySQL (19409403)

Day & Date: Friday, 09-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat diagram and give equations wherever necessary.
3) Figures to the right indicate full marks.

Q.1 Multiple choice questions. **08**

1) Which among The Following Have The Maximum Bytes?
a) Varchar b) Char
c) Both Varchar and Char d) Text Type

2) The “father” of MySQL is ____.
a) Bill Joy b) Michael Widenius
c) Bill Gates d) Stephanie Wall

3) MySQL is available for free? Is it open source?
a) True b) False

4) What is the data in a MySQL database?
a) Objects b) Tables
c) Networks d) File systems

5) What is a tuple in a relational database?
a) Table b) Row
c) Column d) Object

6) What keyword is the synonym for DATABASE?
a) TABLE b) OBJECT
c) DB d) SCHEMA

7) MySQL Runs On Which Operating Systems?
a) Unix and Linux Only
b) Unix, Linux, Window and Others
c) Linux and Mac OS-X Only
d) Any Operating System at All

8) Which clause is similar to “HAVING” clause in MySQL?
a) SELECT b) FROM
c) WHERE d) None of the mentioned

Q.2 Answer the following questions. (Any Four) **08**

a) Explain the Aggregate and Math functions in MYSQL.
b) What is Primary Key and Foreign Key explain with example?
c) Define the Type Conversion in MYSQL.
d) How we can Modifying and renaming existing column explain with an example?
e) Explain the Numeric and String data type in MYSQL.
f) How we sort the data in table? Give one example for sorting data in table.

Q.3 Write Short Notes: (Any Two) **08**

a) MYSQL Join
b) Update table command
c) MYSQL Transactions

Q.4 Answer the following question: (Any Two) **08**

a) What is Stored Procedure in MYSQL? How we can create Procedure on table.
b) Explain the given MYSQL clauses:
  i) Distinct
  ii) Group By
c) What is Cursor? Explain the types of Cursor.

Q.5 Answer the following question: (Any One) **08**

a) Explain the components of MYSQL -
DML, DDL, DCL, DQL, TCL
b) What is Union and Indexing in MYSQL? Explain with example.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (CBCS) Examination: March/April - 2025
Ethics and Cyber Law (19409404)

Day & Date: Saturday, 03-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figure to right indicate full marks.

Q.1 Choose correct alternative for the following. **08**

1) What is the name of the IT law that India is having in the Indian legislature?
   a) India's Technology (IT) Act, 2000
   b) India's Digital Information Technology (DIT) Act, 2000
   c) India's Information Technology (IT) Act, 2000
   d) The Technology Act, 2008

2) The legal risks of ethical hacking include lawsuits due to _____ of personal data.
   a) stealing b) disclosure
   c) deleting d) hacking

3) Collecting freely available information over the internet is an example of _____ type of information gathering.
   a) active b) passive
   c) active & passive d) non-passive

4) _____ is the technique used in business organizations and firms to protect IT assets.
   a) Ethical hacking b) Unethical hacking
   c) Fixing bugs d) Internal data-breach

5) _____ is defined as an attempt to steal, spy, damage or destroy computer systems, networks, or their associated information.
   a) Cyber attack b) Computer security
   c) Cryptography d) Digital hacking

6) Which of the following is not done by cybercriminals?
   a) Unauthorized account access
   b) Mass attack using Trojans as botnets
   c) Email spoofing and spamming
   d) Report vulnerability in any system

7) _____ Acts provides legal framework for e-governance in India.
   a) IT (Amendment) Act, 2008
   b) Indian Penal Code
   c) IT Act-2000
   d) None of the above

8) Which of the following is a type of cyber attack?
   a) Phishing b) SQL Injections
   c) Password Attack d) All of the above

Q.2 Answer any four of the following. **08**

a) Define Foot printing.
b) What is Cybercrime?
c) Why are cyber laws needed?
d) Define penetration testing.
e) What is Ethical Hacking?
f) Define Cyber Law.

Q.3 Write note any Two of the following. **08**

a) What is Foot Printing? Explain objectives of Foot Printing.
b) Explain scope and limitations of Ethical Hacking.
c) What is Cybercrime? Explain Passive Attacks and Active Attacks in detail.

Q.4 Answer any Two of the following. **08**

a) What is a keylogger? Explain types of keyloggers.
b) Explain Essential Terminology (Threat, Vulnerability, Target of Evaluation, Attack, Exploit)
c) Explain Elements of Information Security.

Q.5 Answer any One of the following. **08**

a) Explain the key elements certification and monitoring prevention of crimes in Information Technology Act-2000 in detail.
b) What is Hacking? Explain types of Hackers. Explain Reasons for Hacking.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (CBCS) Examination: March/April - 2025
Angular JS (19409405)

Day & Date: Monday, 05-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternative from the following. **08**

1) Which of the following syntax is used to create a module in AngularJS?
a) var myModule= angular.module();
b) var mvModule= new Module();
c) module("app",[]);
d) None of the above

2) Which of the following is true about ng-init directive?
a) ng-init directive initializes an AngularJS Application data.
b) ng-init directive is used to put values to the variables to be used in the application.
c) Both of the above
d) None of the above

3) How to combine filter and expression?
a) Using the comma {{ expression, filtre }}
b) Using point {{ expression, filtre }}
c) Using Pipe {{ expression | filtre }}
d) Using Slash {{ expression / filtre }}

4) Which of the following is not a valid Filler in AngularJs?
a) lowercase b) orderby
c) email d) currency

5) AngularJS directives are used in _____
a) Model b) View
c) Controller d) Module

6) AngularJS supports two-way data binding?
a) True b) False

7) What will be the output for the following code?

```
<div ng-app=”””” ng-init=””points=[1,15,19,2,40]””>
<p>The output is { {points[2] } }</p>
</div>
```

a) The output is 1 b) The output is 15
c) The output is 19 d) The output is 2

8) Who is sometimes called as Father if AngularJS?

a) Brad Green b) Igor Minor
c) Misko Hevery d) Brian Ford

Q.2 Answer any four of the following. **08**

a) List the features of AngularJS.
b) What is Form in AngularJS?
c) Define Ng-repeat Directive.
d) List out the components of filters
e) Define Ng-bind Directive.
f) What is SPA in AngularJS?

Q.3 Write a short note on any Two of the following. **08**

a) Write note on ng-disabled and ng-show Directive.
b) Write a note on AngularJS Expressions.
c) Write short notes on AngularJS Modules.

Q.4 Answer any Two of the following. **08**

a) Write a Sample “hello world” program using Angular JS.
b) What is scope? Explain Scope Lifecycle in details.
c) What is Directives? Explain Directives lifecycle.

Q.5 Answer Any One of the following **08**

a) What s Angular JS? Explain MVC Architecture with example.
b) Write a program to create a controller to shows student information like FirstName, Middle Name, Last Name, Age, Mobile No, and Address in Angular JS.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (CBCS) Examination: March/April - 2025
Advance 4.0 d Computer Networks (19409406)

Day & Date: Tuesday, 06-May-2025 Max. Marks: 40
Time: 12:00 PM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose correct alternative from the following. **08**

1) ICMP is primarily used for _____
a) error and diagnostic functions
b) addressing
c) forwarding
d) routing

2) The network layer is concerned with _____ of data.
a) Bits b) Frames
c) Packets d) Bytes

3) Determining the decryption key for an intruder is extremely difficult even if the intruder has access to _____
a) Public Key b) Private Key
c) Original Data d) Encrypted Data

4) HTTPS stands for Hypertext Transfer Protocol over TLS.
a) True b) False

5) In the slow-start algorithm, the size of the congestion window increases _____ until it reaches a threshold.
a) additively b) exponentially
c) multiplicatively d) suddenly

6) The architecture of Bluetooth is called ____
a) Scatter net b) Infranet
c) Master and Slave d) Piconet

7) In TCP the value of acknowledgement field in a segment defines _____
a) sequence number of the byte received previously
b) total number of bytes to receive
c) sequence number of the next byte to be received
d) sequence of zeros and ones

8) Which of the following describes the function of ARP?

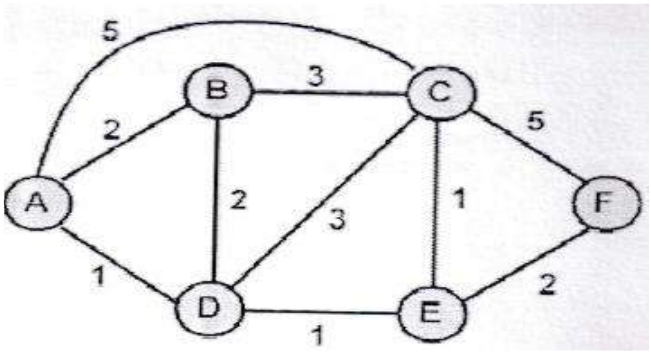
a) It is used to map a 32-bit IP address to a 48-bit ethernet address.
b) It is used to map a 48-bit ethernet address to a 32-bit IP address.
c) It is used to map a 32-bit ethernet address to a 48-bit IP address.
d) It is used to map a 48-bit IP address to a 32-bit ethernet address.

Q.2 Answer any four of the following. **08**

a) Video Compression
b) FTP
c) Encryption
d) Print Server
e) Biometric
f) Remote Sensing

Q.3 Write short notes on any two of the following **08**

a) Write a note on GSM.
b) Explain the user group and management.
c) Consider the following network and apply the shortest path routing protocol. Draw and explain the steps to find path for send packet from source node A to destination node F.



Q.4 Answer any Two of the following. **08**

a) Write a note on User Datagram Protocol.
b) Explain the Digital Signatures Security Technique.
c) Write short note on different flags in header of TCP protocol.

Q.5 Answer Any One of the following **08**

a) Explain the SET mechanism working with diagram in detail.
b) Explain with example Distance Vector Routing algorithm working.

Seat No.	

Set **P**

B.C.A. (Semester - IV) (CBCS) Examination: March/April - 2025
Python Programming (19409407)

Day & Date: Wednesday, 07-May-2025 Max. Marks: 80
Time: 12:00 PM To 03:00 PM

Instructions: 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figures to the right indicate full marks.
4) Non programmable calculator is allowed.

Q.1 Choose the correct alternative. **16**

1) Which of the following data structures is returned by the functions globals() and locals()?
a) list b) set
c) dictionary d) tuple

2) Which is the correct operator for powert (xy)?
a) X^y b) X**y
c) X^^y d) None of the mentioned

3) Which one of these is floor division?
a) / b) //
c) % d) None of the mentioned

4) What is the answer to this expression, 22 % 3 is?
a) 2 b) 1
c) 0 d) 4

5) Which of these in not a core data type?
a) Lists b) Dictionary
c) Tuples d) Class

6) What is the return type of function id?
a) int b) float
c) bool d) diet

7) Which of the following commands will create a list?
a) list1 = list() b) list1 = [ ]
c) list1 = list([1, 2, 3]) d) all of the mentioned

8) Which of the following is a Python tuple?
a) [1,2,3] b) (1,2,3)
c) {1,2,3} d) { }

9) Which module in Python supports regular expressions?

a) re b) regex
c) pyregex d) none of the mentioned

10) The assignment of more than one function to a particular operator is __.

a) Operator over-assignment
b) Operator overriding
c) Operator overloading
d) Operator instance

11) Which keyword is used for function?

a) Fun b) Define
c) Def d) Function

12) Who developed the Python language?

a) Zim Den b) Guido van Rossum
c) Niene Stom d) Wick van Rossum

13) Which one of the following is the correct extension of the Python file?

a) .c b) .py
c) .txt d) .doc

14) What do we use to define a block of code in Python language?

a) Key b) Brackets
c) Indentation d) None of these

15) Creating lines are come in which type of thing?

a) GUI b) Canvas
c) Both of the above d) None of the above

16) Which of these is not a fundamental feature of OOP?

a) Encapsulation b) Inheritance
c) Instantiation d) Polymorphism

Q.2 Answer the any Eight following. **16**

1) What is dictionary?
2) Define list. Give its example.
3) What is GUI?
4) What is regular expression?
5) What is type conversion?
6) What is class and object?
7) Which model is import for mysql?
8) What is method overriding?
9) What is label widget?
10) What is lambda function?

Q.3 A) Answer any Two of the following. **10**

1) What is exception handling? Explain in detail with example.
2) Write a python program to check given number is prime or not.
3) What is Frame? Explain in detail.

B) Write a note on constructor. **06**

Q.4 A) Answer any Two of the following. **08**

1) What is set? Explain all methods of set with example.
2) Write a python code to check given number is odd or even using GUI.
3) Explain the looping statements with example.

B) What is string? Explain any 7 methods of string with example. **08**

Q.5 Attempt any Two of the following. **16**

a) What are conditional statements? Explain in detail with example.
b) What is inheritance? Explain any four types of inheritance with example.
c) What is file? Explain all modes of file with example.