

Sai Mahavidyalaya Bhilai

Half yearly Exam 2021-2022

Class-BCA-3

Subject-statistical Analysis

MM-80

Unit-1

Note-Attempt any three question.

Q1) a. if ${}^{2n+1}P_{n-1} : {}^{2n-1}P_n$ find the value of n

b. if $nC_x = 56$ and $nP_x = 336$ find , n and x.

c. find the equation by binomial theorem

$$(2x + 3/4a)^n$$

d. In how many ways 4 boys and 4 girls can be seated in a row , so that boys and girls are alternate .

UNIT-2

Note-Attempt any three question.

Q2) a. Find the mean deviation from the following series

Age(less than)	10	20	30	40	50	60	70	80
NO of persons	15	30	53	75	100	110	115	125

b. find the mean and standard deviation from the following frequency distribution .

Age	10-20	20-30	30-40	40-50	50-60	60-70	70-80
frequency	4	8	10	16	12	6	4

c. calculate the Bowley's co-efficient of skewness from the following data: 45, 46, 44, 48, 50, 56, 48, 62, 60, 49, 51, 54

d. find the Quartile deviation of the following frequency distribution:

Daily wages	10-15	15-20	20-25	25-30	30-35
No of workers	6	12	18	10	4

UNIT -3

Note-Attempt any two question

Q3)a .IF A and B are two events ,where $P(A)=\frac{1}{2}$, $P(B)=\frac{1}{3}$,and $P(A \cap B)=\frac{1}{4}$ then evaluate the following:

1) $P(A \setminus B)$, 2) $P(B \setminus A)$, 3) $P(A \cup B)$.

b. A card is drawn from an ordinary pack of cards and a player bets that it is a spade or an ace . what are the odds against his winning the bet?

c .State and prove Bayes theorem.

SAI COLLEGE, SECTOR-6, BHILAI

B. C. A. (Part III) HALF YEARLY EXAMINATION, 2021-22

DOT NET TECHNOLOGY

[Time: Three Hours]

[Maximum Marks: 80]

Note: Attempt any 3 parts from Unit I & II. Attempt any two questions from UNIT-III

Unit—I

1. (a) Explain .net Common Language Runtime(CLR) & its Functions.
- (b) Explain Just-In-Time (Jit) Compiler in .net. Explain its types.
- (c) Explain Microsoft Intermediate Language (MSIL) & its role in a .net Environment
- (d) Write Short note on:
 1. Class Library Namespaces
 2. Garbage Collector.

Unit-II

2. (a) Describe various types of primitive Datatypes used in VB.net.
- (b) Describe various types of Operators used in VB.net with suitable Example.
- (c) Explain Various If Statements in VB.Net with suitable Example.
- (d) Explain the following:
 1. For Next Loop with Example.
 2. Goto Statement
 3. Dynamic Arrays.

Unit-III

1. Explain any two of the following with its Properties
 1. Textbox Control
 2. Combo Box Control
 3. Radio Button Control
 4. Check Box Control

SAI MAHAVIDYALAYA
Half Yearly Exam Jan 2021-22
BCA-III (New)
[Software Engineering]

Time : 3 hrs

MM : 80

SOLVE ANY THREE QUESTION FROM UNIT 1&2 AND ANY TWO FROM UNIT 3

[UNIT-1]

- | | |
|---|----|
| Q-1) What is SRS ? Describe SRS standards. | 10 |
| Q-2) Explain Iterative and Prototype model. | 10 |
| Q-3) Describe software engineering and knowledge engineering. | 10 |
| Q-4) Explain Formal specification method in detail. | 10 |

[UNIT-2]

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|--|----|
| Q-1) What is data oriented design ? Explain E-r modelling. | 10 |
| Q-2) What is object oriented design ? Explain with Booch approach. | 10 |
| Q-3) What is cohesion and coupling ? Explain it's types. | 10 |
| Q-4) Describe Gane and sarson notation and Yourdon notation. | 10 |

[UNIT-3]

- | | |
|--|----|
| Q-1) Explain the role of case tools. What is high-end and low-end case tools ? | 10 |
| Q-2) What is legacy systems ? Explain Re-engineering legacy system. | 10 |
| Q-3) Explain Mixed language programming. | 10 |

SAI COLLEGE, SECTOR-6, BHILAI

B.C.A (PART III) HALF YEARLY EXAMINATION 2021-22

DATA STRUCTURE

[TIME : THREE HOURS]

[MAXIMUM MARKS: 80]

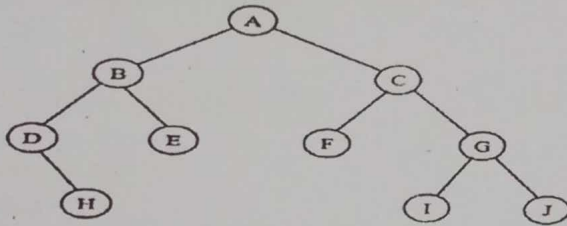
NOTE : All questions carry equal marks.

UNIT-III (Attempt any 2)

1. Write an algorithm to insert a node in the beginning of the linked list.
2. Write an algorithm to search an element in linked list.
3. Explain linked list and its types.

UNIT-IV (Attempt any 3)

4. Traverse the given tree using inorder, preorder and post order traversal.



5. Create binary tree for the following list
10, 51, 12, 7, 8, 18, 6, 20
6. Define the following
 - (a) depth of a tree
 - (b) height of a tree
7. Explain different types of tree with example.

UNIT-V (Attempt any 3)

8. Sort the given values using selection sort
65, 70, 80, 85, 60, 55, 50, 45
9. Explain algorithm of insertion sort method using an example array.
23, 5, 16, 8, 19
10. Write an algorithm to sort a list of elements using merge sort technique.
11. What do mean by searching? Explain sequential search with the help of an example.

Sai College, Bhilai
Half Yearly Exam 2021-22
Class-BCA-3
Subject-Computer System Architecture

Max. -80

Note : Attempt any 3 questions from unit 1 & 2.
Attempt any 2 questions from unit 3.
Each question carries equal marks.

Unit-1

- Q1) Explain Gray Code and BCD Code? [10]
Q2) Explain some error detection codes? [10]
Q3) Explain some error correction codes? [10]
Q4) Explain 1`s and 2`s complement method? [10]
Q5) Solve following? [10]
a) $(156)_{10} = (?)_2$ b) $(10F) = (?)_2$

Unit-2

- Q1) Explain Basic Logic Gates with logical Diagram? [10]
Q2) What is De morgan`s Law? Explain? [10]
Q3) What is Flip Flip explain SR Flip Flop? [10]
Q4) Explain Full Adder with Diagram? [10]
Q5) Explain Half Adder with Diagram? [10]

Unit-3

- Q1) What Common System BUS? Explain with diagram? [10]
Q2) What is Register Explain Program Counter? [10]
Q3) Explain SMPS? [10]

SAI MAHAVIDYALAYA
HALF YEARLY EXAM, 2021-22
BCA Part III
PROGRAMMING IN PYTHON

Date: 12-01-2022

[Max Marks: 80]

NOTE: All questions carry equal marks

UNIT-1 (Any-3)

- 1) What are datatypes in Python? Explain its types.
- 2) Explain loop control statement in Python.
- 3) WAP in Python to a print series: 1,4,9,16,25.....
- 4) What are the features of Python?

UNIT-2 (Any-3)

- 1) WAP to print even number from 2 to 20.
- 2) How can we create empty function in python?
- 3) What are arguments ? Explain types of argument.
- 4) Explain 5 Built-in functions with example.

UNIT-3 (Any-2)

- 1) What is file handling? What are the various mode in which a file can be accessed?
- 2) How can you rename a file using Python program?
- 3) WAP to open a file **hello.txt** and write 5 lines about Python.