Enrolment No.	

PIMPRI CHINCHWAD UNIVERSITY

(Established Under Govt. of Maharashtra Act No. V of 2023)
Sate, Maval (PMRDA) Dist: Pune Maharashtra – 412106

Program	: SCHOOL OF ENGINEERING AND TECHNOLOGY (SYBTECH)	
Batch	:2023-2027	
Semester	:I	
Course	: PYTHON PROGRAMMING	
Course Code	:CSE203	
Day	:THURSDAY	Maximum Marks : 60 marks
Date	:04-01-2024	Time : 2.5 hrs.

Instructions :
-Assume suitable data wherever is necessary.
-Write python code wherever is necessary.

SECTION A (20 marks) **(All questions are compulsory)**			
Question	**BTL**	**CO**	**Marks**
Q.1) Develop the python code to use for loop to iterate from 0 to 100 and print the sum of all prime numbers.	L3	CO2	**5**
Q.2) Illustrate String slicing with example.	L2	CO3	**5**
Q.3) Demonstrate polymorphism concept in python with example.	L2	CO4	**5**
Q.4) Explain exception handling for user defined exception with example.	L4	CO5	**5**
SECTION B (20 marks) **(Attempt any two questions from three)** **(Each question carries 10 marks)**			
Q.1) Compare and contrast set and Tuple with example.	L4	CO1	**10**
Q.2) Construct a python program to perform string reverse using list and loop.	L6	CO2	**10**
Q.3) Design an iterative python program to perform linear search operation on given values. Program should display message whether the number is found or not. If found display its position also.	L6	CO3	**10**

SECTION C (20 marks)
(Attempt any two questions)
(Each question carries 10 marks)

Q.1) Explain Split and join operation on 10 numbers list.	L5	CO1	**10**
Q.2) Design a python code to find the given number is armstrong or not using while loop.	L4	CO2	**10**
Q.3) Create a python code to perform two String merging and sorting using list.	L6	CO3	**10**
Q.4) Design a python code to design multilevel inheritance with example.	L6	CO4	**10**
Q.5) Develop a python code to Perform File manipulations- open, close, read, write, append and copy from one file to another.	L6	CO5	**10**

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Program	: BCA/BSc-CS	**[SET-C]**
Batch	: 2023-24	
Semester	: 1st	
Course	: Fundamental of Computer Organization	
Course Code	: BCA113/ BSC113	
Day	: Friday	Maximum Marks: 60 marks
Date	: 05.01.2024	Time: 2.5 hrs.

Instructions:
- *All the sections are compulsory.*
- *Assume missing data suitably, if any.*

SECTION A (10 marks) **(All questions are compulsory)**			
Question	**BTL**	**CO**	**Marks**
Q.1) Define De-Morgan's and Distribution theorem.	L1	CO3	**5**
Q.2) Perform Hexadecimal Addition (A+B) A=9654, B=8A43	L1	CO4	**5**
SECTION B (20 marks) **(Attempt any two questions from three)** **(Each question carries 10 marks)**			
Q.1) Implement the following logical expression: F= C+BC+AB using logic gates.	L3	CO1	**10**
Q.2) Discuss Harvard and Von Neumann architecture in detail.	L3	CO2	**10**
Q.3) Write short notes on the following (a) Basic Gates (b) Universal Logic Gates	L3	CO3	**10**
SECTION C (30 marks) **(Attempt any two questions from three)** **(Each question carries 15 marks)**			
Q.1) Convert one number system into another.	L5	CO1	**15**

Convert $(29.4)_{10}$ into Binary number system Convert $(29.4)_{10}$ into Octal number system Convert $(29.625)_{10}$ into Hexadecimal number system			
Q.2) Define the term Multiplexer and De-Multiplexer. Explain 4:1 MUX and 1:4 DEMUX in detail.	L6	CO3	**15**
Q.3) What is flash memory? Write it use and advantages. Explain difference between Primary memory and Secondary memory. Draw basic structure of memory.	L6	CO4	**15**

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Sate, Maval (PMRDA) Dist: Pune Maharashtra – 412106

Program : School of Sciences – B.Sc. (Nutrition /Clinical Psychology) /

Engineering- B Tech 2nd year/BCA

Batch : 2023-26

Semester : I

Course : Environment and Sustainable Studies

Course Code : EVS 101

Day : Tuesday Maximum Marks : 70 marks

Date :09/01/24 Time : 2.5 hrs.

Instructions :

- All questions are compulsory

-Draw a neat labeled diagram where it is necessary.

SECTION A (10 marks)

This section contains short answers.

(All questions are compulsory)P

	Question	BTL	CO	Marks
1	**Q.1)** Define EVS and explain its multidisciplinary nature	L1/L2	CO1/CO2	**5**
2	**Q.2)** Define an ecosystem and illustrate its basic components	L1/L2	CO1/CO2	**5**

SECTION B (30 marks)

This section contains Descriptive / Application-based questions

(Attempt any three questions from four)

(Each question carries 10 marks)

3	**Q.1)** Explain the reasons behind marine pollution and its consequences?	L3/L4	CO3/CO4	**10**
4	**Q.2)** Describe the factors responsible for acid rain and the resulting impacts?	L3/L4	CO3/CO4	**10**
5	**Q.3)** Identify the origins of Solid waste and categorize the various types of solid waste?	L3/L4	CO3/CO4	**10**
6	**Q.3)** Describe the origins/causes of air pollution and categorize the different sources of air pollution.	L3/L4	CO3/CO4	**10**

(P.T.O.)

SECTION C (30 marks)
This section contains Case study / Experiential Learning / Analytics based questions
(Attempt any two questions from three)
(Each question carries 15 marks)

Q.1) Analyze the environmental, social, and economic implications of the Sardar Sarovar Dam, considering both its positive and negative impacts.	L4/L5	CO5	**15**
Q.2) Analyze the contributions of prominent Indian environmentalists, examining the key aspects of their work and the impact it has had on environmental conservation and sustainability.	L4/L5	CO5	**15**
Q.3) Examine the environmental, social, and economic implications of Overexploitation of forest resourses	L4/L5	CO5	**15**

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Sate, Maval (PMRDA) Dist: Pune Maharashtra – 412106

Program	:	Bachelor of Technology [B.Tech] (Computer Science and Engineering)
Batch	:	2023-24
Semester	:	III
Course	:	Data Structures and Algorithms
Course Code	:	CSE201
Day	:	Tuesday
Date	:	02 Jan 2024

Maximum Marks : 60 marks

Time :2.5 hrs.

Instructions :

SECTION A (10marks)

This section contains short answers.
(All questions are compulsory)

Question	BTL	CO	Marks
Q.1) Define Algorithm? Explain the Big O, Omega and Theta notation	L1	CO1	5
Q.2) Difference between Linear and Non Linear data Structure.	L2	CO2	5

SECTION B (20marks)

This section contains Descriptive / Application-based questions
(Attempt any two questions from three)
(Each question carries 10 marks)

Q.1) Difference between PUSH and POP Operation.	L3	CO3	10
Q.2) Sort the following Elements using Quick Sort Techniques 15 | 5 | 24 | 8 | 1 | 3 | 16 | 10 | 20	L4	CO4	10
Q.3) Explain different method for representing graph.	L5	CO5	10

SECTION C (30 marks)

This section contains Case study / Experiential Learning / Analytics based questions
(Attempt any two questions from three)
(Each question carries 15 marks)

Q.1) Define Multidimensional array and WAP to Implement for find sum of Rows and column in 5*5 matrix.	L2	CO2	**15**
Q.2) Implement the Selection Sort Algorithm with code and Complexity of Algorithm for given data: 64 | 25 | 12 | 22 | 11	L3	CO3	15
Q.3) Explain operation of BFS and DFS Algorithm used in Graph.	L5	CO5	15

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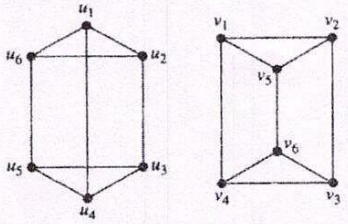
Program	: B.TECH (CSE)	[SET-C]
Batch	: 2023-24	
Semester	: 3rd	
Course	: Discrete Mathematics	
Course Code	: CSE-205	
Day	:	Maximum Marks: 60 marks
Date	:	Time: 2.5 hrs.

Instructions:
- *All the sections are compulsory.*
- *Assume missing data suitably, if any.*

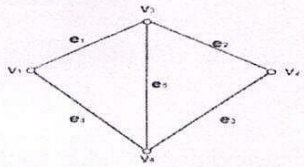
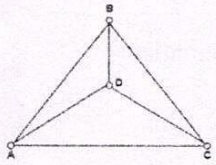
SECTION A (10 marks)
(All questions are compulsory)

Question	BTL	CO	Marks
Q.1) Find the Cartesian product of A = {1, 2} and B = {a, b, c}.	L1	CO3	**5**
Q.2) Define the power set of the empty set and what is the power set of the set {∅}. Find the power set of the set {0, 1, 2}	L1	CO3	**5**

SECTION B (20 marks)
(Attempt any two questions from three)
(Each question carries 10 marks)

Q.1) Identify whether the graphs are isomorphic and how? 	L3	CO1	**10**
Q.2) Construct the truth table for a. $(p \vee q) \vee \neg p$ b. $(p \vee \neg q) \rightarrow (p \wedge q)$	L3	CO2	**10**

(P.T.O.)

Q.3) Solve the linear congruence's a) $14y \equiv 12 \pmod 9$ b) $4x \equiv 5 \bmod (2)$	L3	CO4	**10**
SECTION C (30 marks) **(Attempt any two questions from three)** **(Each question carries 15 marks)**			
Q.1) Determine the matrices of incidence and adjacency of the graphs in Fig 1 and Fig 2 respectively  Figure-1  Figure-2	L5	CO1	**15**
Q.2) Determine Hesse diagram for (P(A), ≤) and (Z, ≤), if a) A= {a, b, c} and ≤ be the relation "subset to" b) Z = {2, 3, 6, 12, 24, 36}, and the relation ≤ be such that x ≤ y if x divides y	L5	CO3	**15**
Q.3) Determine the common solution of the system of congruence's $x \equiv 2 \pmod 3$, $x \equiv 3 \pmod 5$, and $x \equiv 2 \pmod 7$ by Chinese Remainder theorem	L5	CO4	**15**

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Program	:	School of Engineering and Technology- CSE (SY BTech)
Batch	:	2023-2027
Semester	:	I
Course	:	Digital Electronics Logic Design
Course Code	:	ELE202
Day	:	Saturday
Date	:	06/01/2024

Maximum Marks : 60 marks

Time :2.5 hrs.

Instructions :
- Assume Suitable data if required.
- Figures to be right indicate full marks.

SECTION A (10marks)

This section contains short answers.
(All questions are compulsory)

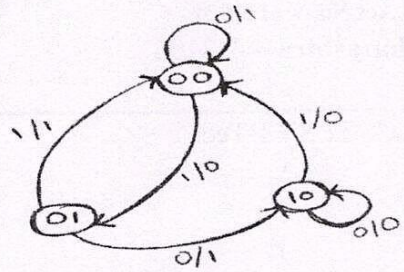
Question	BTL	CO	Marks
Q.1) Solve (10-5) using 2's complement method	L2	CO1	**2**
Q.2) Write the main feature of a combinational logic block.	L1/L2	CO2	**2**
Q.3) Design 2 bit comparator using logic gates.	L4	CO2	**2**
Q.4) Write the names of universal gates?	L1	CO2	**2**
Q.5) Implement OR gate using any one universal gate?	L5	CO1	**2**

SECTION B (20marks)

This section containsDescriptive / Application-based questions
(Attempt any two questions from three)
(Each question carries 10 marks)

Q.1) Explain any two types of memories.	L1	CO5	**10**

(P.T.O.)

Q.2) **Design** a sequential circuit for the given state diagram using D flip-flop.  	L5	CO4	10
Q.3) Demonstrate 2's complement 4 – bit adder/ Subtractor.	L3/L4	CO3/CO4	**10**

SECTION C (30 marks)

This section contains Case study / Experiential Learning / Analytics based questions
(Attempt any two questions from three)
(Each question carries 15 marks)

Q.1) Draw the D flip flop circuit explain its function table and timing diagram.	L4	CO3	**15**
Q.2) Design and explain BCD Counter with timing diagram	L5	CO4	**15**
Q.3) Demonstrate the logical diagram of 4-bit shift register and how shift left operation is performed.	L3/L4	CO5	**15**