KENDRIYA VIDYALAYA SANGATHAN, BHOPAL REGION
Class XII 1st Pre-Board Examination 2025-26
COMPUTER SCIENCE

SET A

Time allowed : 3 hours   *Maximum Marks 70*

General Instructions:
- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some
- questions. Attempt only one of the choices in such questions.
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In-case of MCQ, text of the correct answer should also be written.

Q	Section-A (21 x 1 = 21 Marks)	
1	Find the invalid identifier/ identifiers from the following a) _123_ b) VARname c) true d) VAR-name	1
2	Given the lists L=[1,3,6,82,5,7,11,92] , write the output of print(L[::-1])	1
3	Identify the valid data type of L: L = 5,'computer' a. dictionary b. list c. tuple d. None of the above	1
4	Identify mutable and immutable objects from the following: i. List ii. String iii. Dictionary iv. Tuple	1
5	Suppose a tuple T is declared as T = (10, 12, 43, 39), which of the following is incorrect? a) print(T[1]) b) T[2] = -29 c) print(max(T)) d) print(len(T))	1
6	Declare a dictionary of 3 toppers of a class with their name as keys and marks obtained as their value.	1
7	Is it necessary to have header line as first line in csv file: A. No B. Yes C. Both Yes and No D. None	1
8	You are trying to open a file which does not exist on disk. What kind of error it would be A. Syntax B. Semantic C. Logical D. Runtime	1
9	For reading first four characters from the file what would be the most appropriate command: a. Fileobj.read(3) b. Fileobj.read() c. Fileobj.read(4)	1
10	Which of these will not produce any output if s = 'Computer Science' s[::] B. s[::-1] C. s[-1:-1] D. s[-1::]	1
11	What will be printed by the following code: L = ['apple','banana',[5,3]] print(L[2:][0][1]) a. 5 b. 3 c. a d. b	1

12	A user created the following code to find largest of two numbers, but not getting the desired output in all the cases, Name the type of error present in this code
	
	a = b = 7
	if a>b :
	  print (a)
	elif b>a:
	  print(b)
		1

13	Name two jump statements in Python	1
14	In which of the following file modes the existing data of the file will not be lost? rb, ab, w, w+b, a+b, wb, wb+, w+, r+	1
15	I can keep you signed in. I can remember your site preferences. I can give you locally relevant content. Who am I ?	1
16	Ms. Ravina is using a table 'customer' with custno, name, address and phonenumber. She needs to display name of the customers, whose name start with letter 'S'. She wrote the following command,which did not give the result. *Select * from customer where name = "S%";* Help Ms. Ravina to run the query by removing the errors and write the correct query	1
17	The term _____is used to refer to a record in a table. (a) Attribute (b) Tuple (c) Field (d) Instance	1
18	Prachi has given the following command to obtain the highest marks Select max (marks) from student where group by class; but she is not getting the desired result. Help her by writing the correct command. a. Select max(marks) from student where group by class; b. Select class, max(marks) from student group by marks; c. Select class, max(marks) group by class from student; d. Select class, max(marks) from student group by class;	1
19	A pool of values where from a field can draw values is called ____	1

	Q20 and Q21 are Assertion(A) and Reason(R) based questions.
	Mark the correct choice as:
	      a) Both A and R are True and R is the correct explanation for A.
	      b) Both A and R are True and R is not the correct explanation for A.
	      c) A is True but R is False.
	      d) A is False but R is True.	

20	**Assertion**: The function header **def read (a=2, b=5, c):** is not correct. **Reason**: Non default arguments can't follow default arguments.	1
21	**Assertion** (A): Exception handling handles all types of errors and exceptions **Reasoning**(R): Exception handling is responsible for handling anomalous situations during the execution of a program.	1

	Section-B (7 x 2=14 Marks)	
22	What will be the output of the following? (a) print (True == -0.001) (b) print((87//5.0)==(87//5)) (c) print(87//5.0) (d) print(False == 0.0)	2
23	What are augmented assignment operators? How are they useful? OR What a program that takes a string from the user as input and counts the words having vowels in them. E.g. for **Input** : "Hmm, Myth is Dry Clothes, by the Gym" **Output** : 3 words	2

24	Find the error .Underline and remove error(s)
	
	`        def multiply(numbers);`
	
	`            total = 0`
	
	`            if x in numbers:`
	
	`                total =* x`
	
	`            return total`
	
	`        print(multiply((8, 2, 3, -1, 7)))`
		2

25	Consider the following code:
	
	`    import random`
	
	`    x=random.random()`
	
	`    y=random.randint(0,4)`
	
	`    print(int(x),":",y+int(x))`
	
	Choose the possible output(s) from the given options.
	
	Also write the least and highest value of **y+int(x)** that may be generated.
	
	i. 0:0 ii. 1:6 iii. 2:4 iv. 0:3
		2

26	Answer the following questions in the context of a computer lab with 100 computers. a. Which device is used to connect all computers inside the lab? b. Which device is used to connect all computers to the internet using telephone wire? OR Ms. Anjali Singh, in charge of Knowledge centre in ABC school, recently discovered that the communication between her centre and the primary block of the school is extremely slow and signals drop quite frequently. The distance between these two blocks is 140 meters. a. Name the type of network. b. Name the device which may be used for smooth communication.	2
27	Differentiate between delete and drop command in MySql.	2
28	What is the role of method commit() and execute() in database connectivity.	2

	Section-C (3 x 3 = 9 Marks)	
29	Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message	3
30	Write a function called remove_underscores(s) that accepts a string as an argument and will remove all the underscore from the given string. **Input** : _____Hello____world_____ **Output**: Helloworld	3

31	Create a code to perform the following tasks
	
	• Read a list of integers from a text file named 'data.txt' and store them in a list L *(1 mark)*
	
	• Perform the following tasks on this list L
	
	  o Find the average of all even the values *(1mark)*
	
	  o Find max value from the list *(1 marks)*
		3

	Section-D (4 x 4 = 16 Marks)	

32	Neha of class 12 is writing a program to find the size of the file in bytes, number of lines and number of words.
	
	    # reading data from a file and find size, lines, words
	    f = open('Lines.txt', _____) #line 1
	    str = f.read()
	    size = _____ # line 2
	    print('size of file n bytes ', size)
	    _____# line 3
	    L = f.readlines()
	    word = L.split()
	    print('Number of lines ', _____) # line 4
	    print('Number of words ', len(word))
	    _____# line 5
	
	a) Write the mode of file for line 1.
	b) Find the number of bytes for line2.
	c) Move the file pointer to beginning of file for line 3.
	d) Write function to find number of lines for line 4.
	e) write function to close file for line 5.
		4

33	As a database administer, Amit has decided to Create the following table : **ITEMS**. <table><tr><td>Column name</td><td>Data type</td><td>Size</td><td>Constrain</td></tr><tr><td>Itemno</td><td>Number</td><td>3</td><td>Primary key</td></tr><tr><td>Iname</td><td>Varchar</td><td>15</td><td></td></tr><tr><td>Price</td><td>Number</td><td>10,2</td><td></td></tr><tr><td>Quantity</td><td>Number</td><td>3</td><td></td></tr></table>	4

Table: ITEM

Itemno	Iname	Price	Quantity
101	Soap	50	100
102	Powder	100	50
103	Face Cream	150	25
104	Pen	50	200
105	Notebook	80	120

(a) Write the degree and cardinality of the table ITEM

(b) Write query to create table item.

(c) Write query to insert a new row(105,Pencil,10,100).

(d) Display the item information whose name starts with letter 's'

| 34 | Write SQL queries for (i) and (ii) and find outputs for SQL queries (iii) and (iv), which are based on the tables. | 4 |

Table: VEHICLE

VCODE	VEHICLE TYPE	PERKM
V01	VOLVO BUS	150
V02	AC DELUXE BUS	125
V03	ORDINARY BUS	80
V05	SUV	30
V04	CAR	18

Note: PERKM is Freight Charges per kilometer

Table: TRAVEL

CNO	CNAME	TRAVELDATE	KM	VCODE	NOP
101	K. Niwal	2015-12-13	200	V01	32
103	Fredrick Sym	2016-03-21	120	V03	45
105	Hitesh Jain	2016-04-23	450	V02	42
102	Ravi Anish	2016-01-13	80	V02	40
107	John Malina	2015-02-10	65	V04	2
104	Sahanubhuti	2016-01-28	90	V05	4
106	Ramesh Jaya	2016-04-06	100	V01	25

Note:

• *Km is Kilometers travelled*

• *NOP is number of passengers travelled in vehicle*

(i)   To display CN0, CNAME, TRAVELDATE from the table TRAVEL in descending order of CNO.

(ii) To display the CNAME of all the customers from the table TRAVEL who are traveling by vehicle with code V01 or V02.

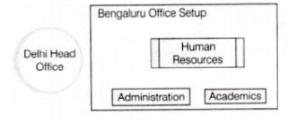|			
	(iii)	SELECT COUNT(*),VCODE FROM TRAVEL GROUP BY VCODE HAVING COUNT(*)>1;	
	(iv)	SELECT A.VCODE, CNAME, VEHICLETYPE FROM TRAVEL A, VEHICLE B WHERE A. VCODE = B.VCODE AND KM<90;	
35	MySQL database named WarehouseDB has a product_inventory table in MySQL which contains the following attributes: • Item_code: Item code (Integer) • Product_name: Name of product (String) • Quantity: Quantity of product (Integer) • Cost: Cost of product (Integer) Consider the following details to establish Python-MySQL connectivity: • Username: admin_user • Password: warehouse2024 • Host: localhost Write a Python program to change the Quantity of the product to 91 whose Item_code is 208 in the product_inventory table.		4

Section-D (5 x 2 = 10 Marks)

36	G.R.K International Inc. is planning to connect its Bengaluru Office Setup with its Head Office in Delhi. The Bengaluru Office G.R.K. International Inc. is spread across an area of approx. 1 square kilometres consisting of 3 blocks. Human Resources, Academics and Administration. You as a network expert have to suggest answers to the four queries (i) to (iv) raised by them. Note Keep the distances between blocks and number of computers in each block in mind, while providing them the solutions. while providing them the solutions.	5

Shortest distances between various blocks

Human Resources to Administration	100m
Human Resources to Academics	65m
Academics to Administration	110m
Delhi Head Office to Bengaluru Office Setup	2350 km

Number of computers installed at various blocks

Block	Number of Computers
Human Resources	155
Administration	20
Academics	100
Delhi Head Office	20

	1. Suggest the most suitable block in the Bengaluru Office Setup to host the server. Give a suitable reason with your suggestion. 2. Suggest the cable layout among the various blocks within the Bengaluru Office Setup for connecting the blocks. 3. Suggest a suitable networking device to be installed In each of the blocks essentially required for connecting computers inside the blocks with fast and efficient connectivity. 4. Suggest the most suitable media to provide secure, fast and reliable data connectivity between Delhi Head Office and the Bengaluru Office Setup. 5. Suggest the placement of a Repeater in the network with justification.	

37	A binary file "item.dat" has structure [itemNo, item_Name,brand,Price].
	
	    a. Write a user defined function CreateFile() to input data for a record and add to item.dat .
	    b. Write a function CountRec(item_name) in Python which accepts the item name as parameter and count and return number of items by the given brand are stored in the binary file "Book.dat"
	
	 OR
	A binary file "STUDENT.DAT" has structure (admission number, Name, Percentage). Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 60. Also display number of students scoring above 60%
		5