केन्द्रीय विद्यालय संगठन तिनसुकिया संभाग

KENDRIYA VIDYALAYA SANGATHAN TINSUKIA REGION

पूर्व परिषदीय परीक्षा 2025-26 / PRE-BOARD EXAMINATION 2025-26

विषय/Subject :- Computer Science Subject Code(CBSE):-083

कक्षा/ Class:- /बारहवीं-XII

प्रश्न पत्र कोड /Q.P. Code:- QP12ACS02PB25

निर्धारित समय/Time Allowed:- 3 घंटे/3 Hours अधिकतम अंक/Maximum Marks :-70

GENERAL INSTRUCTIONS:-
Read the following instructions carefully and follow them:
(i) This question paper contains 37 questions.
(ii) All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
(iii) This question paper contains five sections, Section A to E.
(iv) Section A have 21 questions (1 to 21) carrying 01 mark each.
(v) Section B has 07 questions (22 to 28) carrying 02 marks each.
(vi) Section C has 03 questions (29 to 31) carrying 03 marks each.
(vii) Section D has 04 questions (32 to 35) carrying 04 marks each.
(viii) Section E has 02 questions (36 to 37) carrying 05 marks each.
(ix) All programming questions are to be answered using Python Language only.
(x) In case of MCQs, text of the correct answer should also be written.

प्रश्न क्र./ Q. No.		अंक/ Marks
	SECTION A	
1.	State True or False The '==' operator checks for value equality	1
2.	Which of the following is generally used for performing tasks like creating the structure of the relations, deleting relation? (a) DML(Data Manipulation Language) (b) Query (c) Relational Schema (d) DDL(Date Detition Languag)	1
3.	What will be the output of this code? for i in range(3): print(i) (a) 0 1 2 (b) 1 2 3 (c) 0 1 2 3 (d) None of the above	1
4.	Write a query to display first_name and last_name of all employees who have their first_name starting with 'A'. (a) Select first_name from employees where first_name LIKE '%A'; (b) Select first_name from employees where first_name LIKE "'A'%"; (c) Select first_name from employees where first_name LIKE 'A%'; (d) Select first_name from employees where first_name LIKE '%A%';	1
5.	Which type of topology is best suited for large businesses which must carefully control and coordinate the operation of distributed branch outlets? (a) Ring (b) Local area (c) Hierarchical (d) Star	1

6.	Computers connected to a LAN (local area network) can (a) Run faster (b) Go on line (c) E-mail (d) Share information and/or resources	1
7.	What is the output of: try: print(1) finally: print(2) (a) 1 (b) 2 (c) 12 (d) Error	1
8.	What is the output of the following code? a=[11,12,13,14] print(a[1:3]) (a) [11,12] (b) [12,13] (c) [13,14] (d) Error	1
9.	Which command is used to add a new row? (a) insert (b) create (c) update (d) add	1
10.	A key which uniquely identify a row in a relation knows as (a) Primary (b) Candidate (c) Alternate (d) Foreign	1
11.	Which of the following is used to remove the column? (a) drop (b) delete (c) remove (d) None	1
12.	Write the value of c after executing the code. a,b=1,2 c=a>b or 0<=b<=4 and not(a+b!=10) (a) True (b) False (c) 0 (d) 1	1
13.	Which of the following statements is FALSE, for a python dictionary? (a) Dictionaries are mutable. Bur keys must be immutable types (b) When a dictionary name is used, its keys are accessed. (c) Items() method returns a list of tuples, each having key-value pair (d) (remove() method deietes all key-value pairs from a dictionary.	1
14.	In SQL. Select query,_____ keyword will prevent the entry of duplicate rows? (a) unique (b) distinct (c) primary key (d) NULL	1
15.	What will "abc".find("d") return? (a) 3 (b) -1 (c) Error (d) None	1
16.	What will random.randint(1,10) include? (a) 1 to 9 (b) 1 to 10 (c) 0 to 9 (d) 0 to 10	1
17.	Select the correct output of the code: a="foobar" a=a.partition("o") print(a) (a) [“fo”,””,”bar”] (b) [“f”,”oo”,”bar”] (c) [“f”,”o”,”bar”] (d) [“f”,”o”,”obar”]	1
18.	What does lst.insert(1, 'X') do? (a) Replaces element at index 1 with 'X' (b) Inserts 'X' at index 1, shifts others right (c) Appends 'X' at the end (d) Raises error	1
19.	Pawan wants to transfer files and photos from laptop to his mobile. He uses Bluetooth Technology to connect two devices. Which type of network will be formed to this case.	1

	(a) PAN (b) LAN (c) MAN (d) WAN	
	Q. 20 and Q.21 are ASSERTION (A) AND REASON (R) based questions. Mark the correct choice as (a) Bath & and R true and R is the correct explanation for A (b) Bath A and R true and R is not the correct explanation for A. (c) A is True but R is False. (d) A is False but R it is True.	1
20.	str=”Hello”+”welcome” ASSERTION (A) Value of 'stri will be "Hellowelcome" REASON (R) The + Operator adds the operands, if both are numbers & concatenates the if both operands are strings. str=”Hello”+”welcome”	1
21.	What will the following code print? def greet(): print("Hello") greet() (a) greet (b) hello (c) Error (d) None	1
	SECTION B	
22.	A. Explain the difference between explicit and implicit type conversion in Python with a suitable example. OR B. Explain the difference between break and continue statements in Python with a suitable example.	2
23.	What possible outputs(s) will be obtained when the following code is executed? What is the possible minimum and maximum value x can take? import random List = ['CTC', 'BBSR', 'KDML', 'PURI'] for y in range (4): x = random.randint (1,3) print (List[x], end = '#') Options are: a) KDML#PURI#BBSR#CTC# b) KDML#KDML#PURI#PURI# c) BBSR#KDML#BBSR#KDML# d) All of these 3 options are possible	2
24.	Write a suitable Python statement for each of the following tasks using built-in functions/methods only: a) To delete an element Mumbai:50 from Dictionary D. b) To display words in a string S in the form of a list **OR** a)To insert an element 100 at the Second position, in the list L 1 b) To sort the elements of list L1 in ascending order.	2
25.	A. Write a function remove_element() in Python that accepts a list L and a number n. If the number n exists in the list, it should be removed. If it does not exist, print a message saying "Element not found". OR B. Write a Python function add_contact() that accepts a dictionary phone_book, a name, and a phone number. The function should add the name and phone number to the dictionary. If the name already exists, print "Contact already exists" instead of updating it.	2
26.	Predict the output of the Python code given below : emp = {"Arv": (85000,90000),"Ria": (78000,88000),"Jay": (72000,80000),"Tia":	2

	(80000,70000)}
	selected = [ ]
	for name in emp:
	  salary = emp[name]
	  average = (salary[0] + salary[1]) / 2
	  if average > 80000:
	  selected.append(name)
	print(selected)	

27.	Give difference between DROP and DELETE command in SQL OR Name the aggregate functions which work only with numeric data, and those that work with any type of data.	2
28.	Differentiate between Star Topology and Bus Topology. Write two points of difference. OR (i) Expand the following terms: POP3 , URL (ii) Give one difference between XML and HTML.	2
	SECTION C	
29.	A) Write a Python function that displays all the words containing @gmail from a text file "Story.txt". OR B) Write a Python function that finds and displays all the words having 5 characters from a text file "Story.txt".	3
30.	You have a stack named Books that contains records of books. Each book record is represented as a list containing book_title, author_name, and publication_year. Write the following user-defined functions in Python to perform the specified operations on the stack Books: (I) push_book(Books, new_book): This function takes the stack BooksStack and a new book record new_book as arguments and pushes the new book record onto the stack. (II) pop_book(Books): This function pops the topmost book record from the stack and returns it. If the stack is already empty, the function should display "Underflow".	3

31.	A. Predict the output of the following Python code:
	s1="SQP-25"
	s2=""
	i=0
	while i<len(s1):
	  if s1[i]>='0' and s1[i]<='9':
	  Num=int(s1[i])
	  Num-=1
	  s2=s2+str(Num)
	  elif s1[i]>='A' and s1[i]<='Z':
	  s2=s2+s1[i+1]
	  else:
	  s2=s2+'^'
	  i+=1
	print(s2)
		3

OR

B. Predict the output of the following Python code:

```
wildlife_sanctuary = ["Kaziranga", "Ranthambhore", "Jim Corbett", "Sundarbans",
"Periyar", "Gir", "Bandipur"]
output = [ ]
for sanctuary in wildlife_sanctuary:
    if sanctuary[-1] in 'aeiou':
        output.append(sanctuary[0].upper())
print(output)
```

SECTION D

32. Consider the following table named Vehicle and state the query or state the output Table:- Vehicle — 4

VID	LicensePlate	VType	Owner	Cost	Contact	State
1	MH12AB1234	Car	Raj Kumar	65	9876543210	Maharastra
2	DL3CDE5678	Truck	Arjith Singh	125	8765432109	New Delhi
3	KA04FG9012	Motor cycle	Prem Sharma		9123456789	Karnataka
4	TN07GH3456	SUV	Shyad Usman	65	9987654321	Tamil Nadu
5	KA01AB1234	Car	Devid jhon	65	9876543210	Karnataka
6	TN02CD5678	Truck	Anjali Iyer	125	8765432109	Tamil Nadu
7	AP03EF9012	Motor cycle	Priya Reddy		9123456789	Andhra Pradesh

(A)

(i) To display number of different vehicle type from the table vehicle

(ii) To display number of records entered vehicle type wise whose minimum cost is above 80

(iii)To set the cost as 45 for those vehicles whose cost is not mentioned

(iv) To remove all motor cycle from vehicle

OR

(B)

(i) SELECT VTYPE,AVG(COST) FROM VEHICLE GROUP BY VTYPE;

(ii) SELECT OWNER ,VTYPE,CONTACT FROM VEHICLE WHERE OWNER LIKE "P%";

(iii)SELECT COUNT(*) FROM VEHICLE WHERE COST IS NULL;

(iv) SELECT MAX(COST) FROM VEHICLE;

33. A CSV file "Movie.csv" contains data of movie details. Each record of the file contains the following data: — 4

1.Movie id

2.Movie name

3.Genere

4.Language

5.Released date

For example, a sample record of the file may be:

["tt0050083",' '12 Angry Men is','Thriller'.'Hindi','12/04/1957']

Write the following functions to perform the specified operations on this file

(i) Read all the data from the file in the form of the list and display all those records for which language is in Hindi.

(ii) Count the number of records in the file.

34. Consider the following tables and answer the questions a and b: 4

Table: Garment

GCode	GName	Rate	Qty	CCode
G101	Saree	1250	100	C03
G102	Lehanga	2000	100	C02
G103	Plazzo	750	105	C02
G104	Suit	2000	200	C01
G105	Patiala	1850	105	C01

Table: Cloth

CCode	CName
C01	Polyester
C02	Cotton
C03	Silk
C04	CottonPolyester

Write SQL queries for the following:

i. Display unique quantities of garments.

ii. Display sum of quantities for each CCODE whose numbers of records are more than 1.

iii. Display GNAME, CNAME, RATE whose garments name starts with S.

iv. Display average rate of garment whose rate ranges from 1200 to 2000 (both values included)

35. A table named `EMPLOYEES` is created in a database named `COMPANY`. The table contains multiple columns whose details are as shown below: 4

- `EmpID` (Employee ID) - integer
- `EmpName` (Employee Name) - string
- `Salary` (Employee Salary) - float
- `Department` (Employee Department) - string

Note the following to establish connectivity between Python and MySQL:

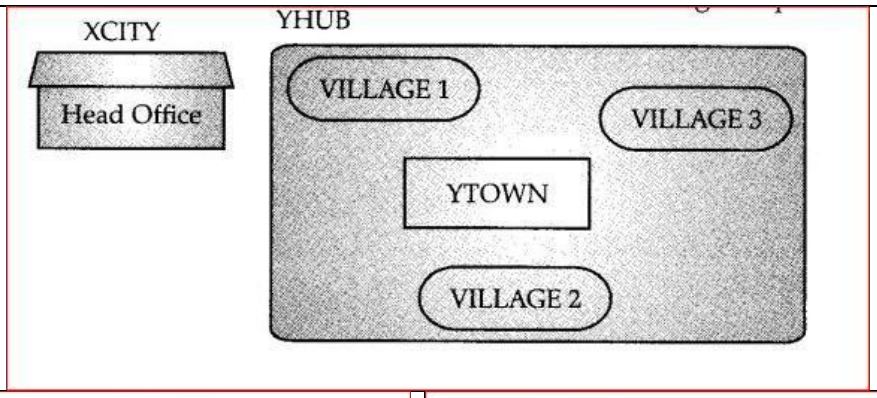
- Username: root
- Password: school123
- Host: localhost

Write the following Python function to perform the specified operation: ChecknDisplay():

To input details of an employee and store it in the table EMPLOYEES. The function should then retrieve and display all records display details of all such employees from the table EMPLOYEES whose salary is more than 50000.

SECTION E

36. Intelligent Hub India is a knowledge community aimed to uplift the standard of skills and knowledge in the society. It is planning to setup its training centers in multiple towns and villages of India with its head offices in the nearest cities. They have created a model of their network with a city, a town and 3 villages as given. As a network consultant, you have to suggest the best network related solution for their issues/problems raised in (a) to (e) keeping in mind the distance between various locations and given parameters. 5



Shortest distance between various locations:

VILLAGE 1 To YTOWN	2 KM
VILLAGE 2 To YTOWN	1.2 KM
VILLAGE 3 To YTOWN	3 KM
VILLAGE 1 To VILLAGE 2	3.5 KM
VILLAGE 1 To VILLAGE 3	4.5 KM
VILLAGE 2 To VILLAGE 3	3.5 KM
CITY Head office to YHUB	30 KM

Number of computers iinstalled at various locations are as follows:

YTOWN	100
VILLAGE 1	10
VILLAGE 2	15
VILLAGE 3	15
CITY OFFICE	5

a) Suggest the most appropriate location of the SERVER in the YHUB (out of the 4 locations), to getthe best and effective connectivity. Justify your answer.

b) Suggest the best wired medium and draw the cable layout (location to location) to efficientlyconnect various locations within the YHUB.

c) Which hardware device will you suggest to connect all the computers within each location ofYHUB?

d) Which server/protocol will be most helpful to conduct live interaction of Experts from Head officeand people at YHUB locations?

Suggest a device/software and its placement that would provide data security for the entire networkof the YHUB.

37. Shivam Sen is a programmer in school , He needs to manage the records of various students. For this he wants the following information of each student to be stored:
i. Mention any two difference between binary and csv files ?
ii. AddStudents() is a function to input the data of a students and append it in the file STUDENT.DAT containing student information – roll number, name and marks (out of 100) of each student.
iii. GetStudents() is a function Write a function to read the data from the file to display the name and percentage of those students who have a percentage greater than 75. In case there is no student having percentage > 75, the function displays an appropriate message. 5