MID-TERM EXAMINATION

Question Paper 2024-25

NCERT BASED SYLLABUS

FOR CBSE AND STATE BOARD
FOLLOWING NCERT

Mid Term Exam Question Paper 2024-25

SET - A

Name : .....

Roll No. : .....

Date : 19.09.2024

Class : XII

MIDTERM EXAMINATION 2024

SUBJECT : COMPUTER SCIENCE (083)

Time : 3 Hrs.

M.M. : 70

General Instructions:

- Please check this question paper contains 35questions.
- The paper is divided into 4 Sections –A, B,C, D and E.
- Section A, consists of 18 questions (1to18). Each question carries 1 Mark.
- Section B, consists of 7 questions (19to25). Each question carries 2 Marks.
- Section C, consists of 5 questions (26to30). Each question carries 3 Marks.
- Section D, consists of 2 questions (31to32). Each question carries 4 Marks.
- Section E, consists of 3 questions (33to35). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.

	SECTION – A **(1 mark to be awarded for every correct answer)**	
1.	State **True** or **False** – "Variable declaration is implicit in Python."	(1)
2.	Which of the following is an invalid data type in Python? (A) Set (B) None (C) Integer (D) Real	(1)
3.	Given the following dictionaries dict_exam={"Exam":"AISSCE",Year":2023} dict_result={"Total":500,"Pass_Marks":165} Which statement will merge the contents of both dictionaries? (A) dict_exam.update(dict_result) (B) dict_exam+dict_result (C) dict_exam.add(dict_result) (D) dict_exam.merge(dict_result)	(1)
4.	Consider the given expression: **Not True** and **False** or **True** Which of the following will be correct output if the given expression is evaluated? (A) True (B) False (C) NONE (D) NULL	(1)
5.	Select the correct output of the code: a = "Year 2022 at All the best" a=a.split('2') b=a[0]+"."+a[1]+"."+a[3] print(b) (A) Year.0.atAllthebest (B) Year0.atAllthebest (C) Year.022.atAllthebest (D) Year.0.atallthebest	(1)
6.	Which of the following will delete key-value pair for key="Red" from a dictionary D1? (A) deleteD1("Red") (B) delD1["Red"] (C) del.D1["Red"] (D) D1.del["Red"]	(1)
7.	Fill in the blank: _____Command is used to remove primary key from a table in SQL. (A) update (B) remove (C) alter (D) drop	(1)
8.	State whether the following statement is **True** or **False** : An exception may be raised even if the program is syntactically correct.	(1)

9.	Which of the following statement(s) would give an error after executing the Following code?
	S="Welcome to class XII" #Statement1
	S="Thank you" #Statement2
	S[0]='@' #Statement3
	S=S+"Thank you" #Statement4
	print(S) #Statement5
	(A) Statement3 (B) Statement4 (C) Statement5 (D) Statement 4 and 5
		(1)

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10.	Fill in the blank: _____is a non-key attribute, whose values are derived from the primary key of some other table. (A) Primary Key (B) Foreign Key (C) Candidate Key (D)Alternate Key	(1)
11.	The correct syntax of seek()is: (A) file_object.seek(offset[,reference_point]) (B) seek(offset[,reference_point]) (C) seek(offset,file_object) (D) seek.file_object(offset)	(1)
12.	Fill in the blank: The SELECT statement when combined with …… clause, returns records without repetition. (A) DESCRIBE (B) UNIQUE (C) DISTINCT (D) NULL	(1)

13.	What possible outputs(s) will be obtained when the following code is executed?
	`import random`
	`myNumber=random.randint(0,3)`
	`COLOR=["YELLOW","WHITE","BLACK","RED"]`
	`for I in range(1,myNumber):`
	`  print(COLOR[I],end="*")`
	`print()`
	(A)
	RED*
	WHITE*
	BLACK*
	(B) WHITE*
	BLACK*
	(C)
	WHITE*WHITE*
	BLACK*BLACK*
	(D)
	YELLOW*
	WHITE*WHITE*
	BLACK*BLACK*BLACK*
		(1)

14.	What will the following expression be evaluated to in Python? print(15.0/4+(8+3.0)) (A) 14.75 (B) 14.0 (C) 15 (D) 15.5	(1)

15.	Consider the code given below:
	`b=100`
	`def test(a):`
	`  _____  # missing statement`
	`  b=b+a`
	`  print(a,b)`
	`test(10)`
	`print(b)`
	Which of the following statements should be given in the blank for #Missing Statement, if the output produced is 110?
	(A) global a (B) global b=100 (C) global b (D) global a=100
		(1)

16.	To establish a connection between Python and SQL database, connect()is used. Which of the following arguments may not necessarily be given while calling connect()? (A) Host (B) database (C) user (D) password	(1)

Q17 and 18 are ASSERTION AND REASONING 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

17.	**Assertion (A) :** If the arguments in a function call statement match the number and order of arguments as defined in the function definition, such arguments are called positional arguments. **Reasoning(R) :** During a function call, the argument list first contains default argument(s) followed by positional argument(s).	(1)

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18.	**Assertion(A) :** CSV(Comma Separated Values) is a file format for data storage Which looks like a text file. **Reason(R) :** The information is organized with one record on each line and each field is separated by comma.	(1)
	SECTION B	

19.	Rao has written a code to input a number and check whether it is prime or not. His code is having errors. Rewrite the correct code and underline the corrections made.
	def prime():
	n=int(input("Enter number to check::")
	for i in range(2,n//2):
	if n%i=0:
	print("Number is not prime \n")
	break
	else:
	print("Number is prime\n')
		(2)

20.	Write a function countNow(PLACES) in Python, that takes the dictionary, PLACES as an argument and displays the names (in uppercase) of the places whose names are longer than 5 characters. For example, Consider the following dictionary PLACES={1:"Delhi",2:"London",3:"Paris",4:"NewYork",5:"Doha"} The output should be: LONDON NEWYORK **OR** Write a function, lenWords(STRING),that takes a string as an argument and returns a tuple containing length of each word of a string. For example, if the string is "Come let us have some fun", the Tuple will have (4,3,2,4,4,3)	(2)
21. (a)	Given is a Python string declaration: myexam="@@CBSEExamination2022@@" Write the output of: print(myexam[::-2])	(1)
	(b) Write the output of the code given below: my_dict={"name":"Aman","age":26} my_dict['age']=27 my_dict['address'] = "Delhi" print(my_dict.items())	(1)
22.	Explain the use of 'Foreign Key' in a Relational Database Management System. Give example to support your answer.	(2)

23.	PredicttheoutputofthePythoncodegivenbelow:
	def Diff(N1,N2):
	if N1>N2:
	return N1-N2
	else:
	return N2-N1
	
	NUM=[10,23,14,54,32]
	for CNT in range (4,0,-1):
	A=NUM[CNT]
	B=NUM[CNT-1]
	print(Diff(A,B),'#',end='')
	OR
	Predict the output of the Python code given below:
	tuple1=(11,22,33,44,55,66)
	list1=list(tuple1)
	new_list=[]
	for i in list1:
	if i%2==0:
	new_list.append(i)
	new_tuple=tuple(new_list)
	print(new_tuple)
		(2)

24.	Differentiate between COUNT() and COUNT(*) functions in SQL with Appropriate example.	(2)

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25. Find the output of the following: (2)

```
a = [1, 2, 3]
try:
    print ("Second element =", a[1])
    print ("Fourth element =", a[3])
except:
    print ("An error occurred")
```

SECTION – C

26. Consider the following tables:– Bank_Account and Branch: (1+2)

Table:Bank_Account

ACode	Name	Type
A01	Amrita	Savings
A02	Parthodas	Current
A03	Miraben	Current

Table:Branch

ACode	City
A01	Delhi
A02	Mumbai
A01	Nagpur

What will be the output of the following statement?
SELECT* FROM Bank_Account NATURAL JOIN Branch;

(a) Write the output of the queries(i) to (iv) based on the table, TECH_COURSE given below:

Table:TECH_COURSE

CID	CNAME	FEES	STARTDATE	TID
C201	Animation and VFX	12000	2022-07-02	101
C202	CADD	15000	2021-11-15	NULL
C203	DCA	10000	2020-10-01	102
C204	DDTP	9000	2021-09-15	104
C205	Mobile Application Development	18000	2022-11-01	101
C206	Digital Marketing	16000	2022-07-25	103

(i) SELECT DISTINCT TID FROM TECH_COURSE;
(ii) SELECT TID,COUNT(*),MIN(FEES)FROM TECH_COURSE GROUP BY TID HAVING COUNT(TID)>1;
(iii) SELECT CNAME FROM TECH_COURSE WHERE FEES>15000 ORDERBY CNAME;
(iv) SELECT AVG(FEES) FROM TECH_COURSE WHERE FEES BETWEEN 15000 AND 17000;

27. Write the output on execution of the following Python code: (3)

```
S="Racecar Car Radar"
L=S.split()
for W in L:
    x=W.upper()
    if x==x[::-1]:
        for I in x:
            print(I,end="*")
    else:
        for I in W:
            print(I,end="#")
    print()
```

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28. Write a method COUNTLINES()in Python to read lines from text file 'TESTFILE.TXT' and display the lines which are not starting with any vowel. (3)

Example:

If the file content is as follows:

An apple a day keeps the doctor away. We all pray for everyone's safety.
A marked difference will come in our country.

The COUNTLINES()function should display the output as: The number of lines not starting with any vowel 1

OR

Write a function ETCount() in Python, which should read each character of a text file "TESTFILE.TXT" and then count and display the count of occurrence of alphabets E and T individually(including small cases e and t too).

Example:

If the file content is as follows:

Today is a pleasant day. It might rain today.
It is mentioned on weather sites

The ETCount( ) function should display the output as:
The number of E or e: 6
The number of T or t:9

29. Consider the table CLUB given below and write the SQL queries that follow. (3)

CID	CNAME	AGE	GENDER	SPORTS	PAY	DOAPP
5246	AMRITA	35	FEMALE	CHESS	900	2006-03-27
4687	SHYAM	37	MALE	CRICKET	1300	2004-04-15
1245	MEENA	23	FEMALE	VOLLEY BALL	1000	2007-06-18
1622	AMRIT	28	MALE	KARATE	1000	2007-09-05
1256	AMINA	36	FEMALE	CHESS	1100	2003-08-15
1720	MANJU	33	FEMALE	KARATE	1250	2004-04-10
2321	VIRAT	35	MALE	CRICKET	1050	2005-04-30

(i) Add the constraints, primary key to column CID in the existing table CLUB.
(ii) To change the SPORTS to FOOTBALL of the CLUB whose CID is 1720.
(iii) To delete the table CLUB from MySQL database along with its data.

30. Write a user defined function named Longlines() which reads the contents of a test file named 'LINES.TXT' and displays those lines from the file which have at least 10 words in it (3)

OR

Write a function count_D words() in python to count the words ending with a digit in a text file "Details.txt".

SECTION – D

31. Write SQL command for (a) to (d) on the basis of tables INTERIORS and NEWONES. (4)

Table: INTERIORS

NO	ITEMNAME	TYPE	DATEOFSTOCK	PRICE
1	Red rose	Double bed	23/02/02	32000
2	Soft touch	Baby cot	20/01/02	9000
3	Jerry's home	Baby cot	19/02/02	8500
4	Rough wood	Office Table	01/01/02	20000
5	Comfort zone	Double bed	12/01/02	15000
6	Jerry look	Baby cot	24/02/02	7000
7	Lion king	Office Table	20/02/02	16000
8	Royal tiger	Sofa	22/02/02	30000
9	Park sitting	Sofa	13/12/01	9000
10	Dine Paradise	Dining Table	19/02/02	11000

Table: NEWONES

NO	ITEMNAME	TYPE	DATEOFSTOCKS	PRICE	DISCOUNT
11	White wood	Double bed	23/03/03	20000	20
12	James 007	Sofa	20/02/03	15000	15
13	Tom look	Baby cot	21/02/13	7000	10

(a) To show all information about the sofas from the INTERIORS table.
(b) To list the ITEMNAME which are priced at more than 10,000 from the INTERIORS table.
(c) To list ITEMNAME and TYPE of those items, in which DATEOFSTOCK is before 22/01/02 from the INTERIORS table in the descending order of ITEMNAME.
(d)To display ITEMNAME and DATEOFSTOCK of those items, in which the discount Percentage is more than 15 from INTERIORS table.

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32.	Vedansh is a Python programmer working in a school. For the Annual Sports Event, he has created a csv file named Result.csv, to store the results of students in different sports events. The structure of Result.csv is : [St_Id, St_Name, Game_Name, Result] Where St_Id is Student ID (integer) ST_name is Student Name (string) Game_Name is name of game in which student is participating(string) Result is result of the game whose value can be either 'Won', 'Lost' or 'Tie' For efficiently maintaining data of the event, Vedansh wants to write the following user defined functions: Accept() – to accept a record from the user and add it to the file Result.csv. The column headings should also be added on top of the csv file. wonCount() – to count the number of students who have won any event. As a Python expert, help him complete the task.	(4)

	SECTION – E	
33 (a)	What is the difference between 'wb' and 'ab' in context of binary file?	(5)
(b)	Write a function update() to update the record in the binary file "employee.dat", which consist of employee number, employee name and salary. The updation should be one on the basis of employee number entered by the user.	
(c)	Write a function delrecord() to delete the record from the binary file "employee.dat". The record should be deleted on the basis of employee number.	
	OR	
(a)	What is the difference between text file and binary file.	
(b)	Write a function Addrec() to add records in a A binary file "salary.DAT" has structure [employee id, employee name, salary].	
(c)	Write a function countrec() in Python that would read contents of the file "salary.DAT" and display the details of those employee whose salary is above 20000.	
34 (a)	Define the term Domain with respect to RDBMS. Give one example to support your answer.	(2)
(b)	Kabir wants to write a program in Python to insert the following record in the table named Student in MYSQL database, SCHOOL: • rno(Roll number)- integer • name(Name) - string • DOB (Date of birth) – Date • Fee – float Note the following to establish connectivity between Python and MySQL: • Username - root • Password - tiger • Host - localhost The values of fields rno, name, DOB and fee has to be accepted from the user. Help Kabir to write the program in Python.	(3)
	OR	
(a)	Give one difference between alternate key and candidate key.	
(b)	Sartaj has created a table named Student in MYSQL database, SCHOOL: • rno(Roll number)- integer • name(Name) - string • DOB (Date of birth) – Date • Fee – float Note the following to establish connectivity between Python and MySQL: • Username - root • Password - tiger Host – localhost Sartaj, now wants to display the records of students whose fee is more than 5000. Help Sartaj to write the program in Python.	

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35 (a)	Predict the output of the following code:
	`def callon(b=20,a=10):`
	`  b=b+a`
	`  a=b-a`
	`  print(b,"#",a)`
	`  return b`
	`x=100`
	`y=200`
	`x=callon(x,y)`
	`print(x,"@",y)`
	`y=callon(y)`
	`print(x,"@",y)`
		(2)

(b)	(i) Ms. Veda created a table named Sports in MySQL database containing columns Game_id, P_Age and G_name. After creating the table, she realized that the attribute , category has to be added. Help her to write a command to add Category column. Thereafter, write the command to insert the following record in the table: Game_id:G42 P_Age: Above 18 G_name: Chess Category: Senior	(2)
	(ii) Write the SQL commands to perform the following tasks: (a) View the list of tables in the database, Exam. (b) View the structure of the table, Term1.	(1)

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