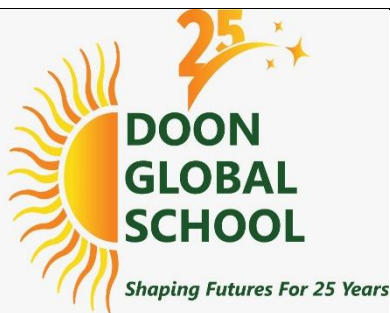




DOON GLOBAL SCHOOL
PREBOARD EXAMINATION -1(2024-25)
SET-B
CLASS - XII
SUBJECT- Computer Science (083)

TIME – 3Hrs

M. 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 No.	Section-A (21 x 1 = 21 Marks)	Marks
1.	State True or False: In Python, loops can also have else clause.	(1)
2.	Identify the output of the following code: print(5+3**2/2) a)32 b)8.0 c)9.5 d)32.5	(1)
3.	Assume that the position of the file pointer is at the beginning of 3 rd line in a text file. Which of the following option can be used to read all the remaining lines? a) myfile.read(n-3) b)myfile.read(n) c)myfile.readline d)myfile.readlines()	(1)
4.	What is the output of the expression? num=123 f=0 s=0 while (num>3): rem=num%100 if (rem%2!=0) f+=rem else: s+=rem num/=100 print(f-s) a)22 b)23 c)32 d)error	(1)
5.	_____ is used to save the changes permanently in db.	(1)
6.	What will be the output? obj1=(10,20,30,40,50,60,70,80,90) print(obj1[3:7:2]) a)(40,50,60,70,80) b)(40,50,60,70) c)(40,50,60) d)(40,60)	(1)
7.	State True or False: Default parameters can't be skipped in function call.	(1)
8.	In a stack, deletion takes place at _____ end. a) front b) top c) rear d) any	(1)
9.	Which of the following statement is not correct in reference to MySQL?	(1)

	a)It is an Open Source b)It is Case Sensitive c)It is an RDBMS d)It is deal for both small and large applications	
10.	Which statement is used to change the file position to an offset value from start? a)fp.seek(offset,0) b)fp.seek(offset,1) c)fp.seek(offset,2) d)None of the above	(1)
11.	How many except statements can a try-except block have? a) zero b) one c) more than one d) more than zero	(1)
12.	What will be the output of the following Python code? try: if '1' != 1: raise "someError" else: print("someError has not occurred") except "someError": print ("someError has occurred") a) someError has occurred b) someError has not occurred c) invalid code d) none of the mentioned	(1)
13.	What will be the output of the following Python code? a=(23, 56, 12, 62, 23) b=slice(0,2) print(a[b]) a) Invalid syntax for slicing b) [23, 12] c) (23, 56) d) (23, 56, 12)	(1)
14.	The default delimiter for a CSV file is a	(1)
15.	In MySQL "Like" operator uses two wild characters with where clause. Identify them from the following: a)** and % b)_(underscore) and % c)? and & d)_(underscore) and ?	(1)
16.	Write the following steps in sequence: 1)open database 2)create database 3)create table 4)open Mysql a)4<1<2<3 b)4<3<2<1 c)4<2<1<3 d)4<2<3<1	(1)
17.	Which topology requires a multipoint connection? a) Ring b) Bus c) Star d) Mesh	(1)
18.	Which of the following is not a feature of networking? a) Resource sharing b) Uninterrupted Power Supply (UPS) c) Reduced cost d) Reliability	(1)
19.	HTTP client requests by establishing a _____ connection to a particular port on the server. a) user datagram protocol b) transmission control protocol c) border gateway protocol d) domain host control protocol	(1)
	Q20 and Q21 are Assertion(A) and Reason(R) based questions. Mark the correct choice as: Both A and R are true and R is the correct explanation for A Both A and R are true and R is not the correct explanation for A A is True but R is False A is False but R is True	
20.	Assertion (A): A binary file in python is used to store collection objects like lists and dictionaries that can be later retrieved in their original form using the pickle module. Reasoning (R): Binary files are just like normal text files and can be read using a text editor like notepad. (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	(1)
21.	Assertion. A database is centrally stored data and a DBMS is a system to manage the database. Reason. DBMS is a database management system, which is a software managing the databases. (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	(1)

	Section-B (7 x 2=14 Marks)	
22.	Write definition of a function that takes input of a sentence and display the list of words that end with a lowercase vowel and list of words that end with a lowercase consonant.	(2)
23.	What is Foreign Key? Write a query how you can define it in table ?	(2)
24.	Find the output of the given code: <pre>def split_tuple(tup, n): avg = len(tup) // n split_result = [tup[i:i+avg] for i in range(0, len(tup), avg)] return tuple(split_result) tup = (1, 2, 3, 4, 5, 6) n = 2 result = split_tuple(tup, n) print(result)</pre> OR Find the output of the given code: <pre>def element(tup): freq_dict = {} for element in tup: freq_dict[element] = freq_dict.get(element, 0) + 1 return freq_dict tup = (1, 2, 2, 3, 2, 4, 2) frequency = element(tup) print(frequency)</pre>	(2)
25.	Considered the following code : <pre>string = input("Enter a string :") count = 3 while True : if string[0] == 'a' : string = string[2:] elif string[-1] == 'b' : string = string[:-2] else : count+=1 break print(string) print(count)</pre> what will be output produced if the input is (i) aabbcc (ii)aaccbb	(2)
26.	Observe the following Python code very carefully and rewrite it after removing all syntactical errors with each correction underlined. <pre>DEF Update(x==10): x+=15 print(('x=' x) 20=x Update() print('x=',x)</pre>	
27.	(I)a)Define Update command of SQL with example. OR b)Write any two characteristics of SQL . (II)a) Differentiate between count() and count(*) functions in SQL . OR b) Write difference between Natural Join and Cross Join .	(2)
28.	Write the name of the most suitable wireless communication channels for each of the following situations. (i) Communication between two offices in two different countries. (ii) To transfer the data from one mobile phone to another. OR Given below two addresses (i) 59.177.134.72 (ii) http://www.ccc.nic.in/welcome.htm Identify which one of the above is an IP address and which one is a URL?	(2)

	Section-C (3 x 3 = 9 Marks)																													
29.	a) A file 'answer.txt' contains text. Write a program to remove all the lines that contain the character 'a' in this file and write other lines into another file. OR b) Write a program to read a text file and display the count of lowercase and uppercase letter in the file.	(3)																												
30.	a) Write a program to implement a stack for these book details(bookno, book name). That is now each item node of the stack contains two types of information- a book no and its name. Just implement Push and display operations. OR b) A list contains following record of a customer: [Customer_name, Phone_number, City] Write the following user defined functions to perform given operations on the stack named status: Push_element() - To Push an object containing name and Phone number of customers who live in Goa to the stack Pop_element() - To Pop the objects from the stack and display them. Also, display "Stack Empty" when there are no elements in the stack.	(3)																												
31.	Predict the output of the following code: <pre>fruit={} f1=['Apple', 'banana', 'apple', 'banana'] for index in f1: if index in fruit: fruit[index]=1 else: fruit[index]=1 print(fruit) print(len(fruit))</pre> OR <pre>s="United Nations" for i in range(len(s)): if i%2==0: print(s[i],end= ' ') elif s[i]>='a' and s[i]<='z': print('*', end= ' ') elif s[i]>='A' and s[i] <='Z': print(s[i:],end= ' ')</pre>	(3)																												
	Section-D (4 x 4 = 16 Marks)																													
32.	Consider the following table named "Product", showing details of products being sold in a grocery shop. <table><tr><td>PCode</td><td>PName</td><td>UPrice</td><td>Manufacturer</td></tr><tr><td>P01</td><td>Washing Powder</td><td>120</td><td>Surf</td></tr><tr><td>P02</td><td>Toothpaste</td><td>54</td><td>Colgate</td></tr><tr><td>P03</td><td>Soap</td><td>25</td><td>Lux</td></tr><tr><td>P04</td><td>Toothpaste</td><td>65</td><td>Pepsodent</td></tr><tr><td>P05</td><td>Soap</td><td>38</td><td>Dove</td></tr><tr><td>P06</td><td>Shampoo</td><td>245</td><td>Dove</td></tr></table> Write SQL queries for the following: (a) List the Product Code, Product name and price in descending order of their product name. (b) Add a new column Discount to the table Product. (c) Calculate the value of the discount in the table Product as 10 per cent of the UPrice for all those products where the UPrice is more than 100, otherwise the discount will be 0. (d) Display the total number of products manufactured by each manufacturer. OR Write the output(s) for the following (a) SELECT PName, avg(UPrice) FROM Product GROUP BY Pname; (b) SELECT DISTINCT Manufacturer FROM Product; (c) SELECT COUNT (DISTINCT PName) FROM Product; (d) SELECT PName, MAX(UPrice), MIN(UPrice) FROM Product GROUP BY PName;	PCode	PName	UPrice	Manufacturer	P01	Washing Powder	120	Surf	P02	Toothpaste	54	Colgate	P03	Soap	25	Lux	P04	Toothpaste	65	Pepsodent	P05	Soap	38	Dove	P06	Shampoo	245	Dove	(4)
PCode	PName	UPrice	Manufacturer																											
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P04	Toothpaste	65	Pepsodent																											
P05	Soap	38	Dove																											
P06	Shampoo	245	Dove																											

33.	Write a program to read the details of Sports performance(sport, competitos, prize_won) of your school and store into the csv file "Sports.csv" delimited with a tab character.	(4)																																																
34.	Considered the table ACCOUNT and TRANSACT, write the queries for the given questions: TABLE : ACCOUNT <table><tr><td>ANO</td><td>ANAME</td><td>ADDRESS</td></tr><tr><td>101</td><td>Nirja Singh</td><td>Bangalore</td></tr><tr><td>102</td><td>Rohan Gupta</td><td>Chennai</td></tr><tr><td>103</td><td>Ali Reza</td><td>Hyderabad</td></tr><tr><td>104</td><td>Rishabh Jain</td><td>Chennai</td></tr><tr><td>105</td><td>Simran Kaur</td><td>Chandigarh</td></tr></table> TABLE: TRANSACT <table><tr><td>TRNO</td><td>ANO</td><td>AMOUNT</td><td>TYPE</td><td>DOT</td></tr><tr><td>T001</td><td>101</td><td>2500</td><td>Withdraw</td><td>2017-12-21</td></tr><tr><td>T002</td><td>103</td><td>3000</td><td>Deposit</td><td>2017-06-01</td></tr><tr><td>T003</td><td>102</td><td>2000</td><td>Withdraw</td><td>2017-05-12</td></tr><tr><td>T004</td><td>103</td><td>1000</td><td>Deposit</td><td>2017-10-22</td></tr><tr><td>T005</td><td>102</td><td>12000</td><td>Deposit</td><td>2017-11-06</td></tr></table> i) To display details of all transactions of TYPE withdraw from TRANSACT table. ii) To display ANO and AMOUNT of all Deposits and Withdraw done in the month of 'May' 2017 from table 'TRANSACT'. iii) To display ANAME from ACCOUNT table who belonging to address Chennai and Chandigarh. iv) (a)To display ANO,ANAME, AMOUNT and DOT of those persons from ACCOUNT and TRANSACT table who have done transaction less than or equal to 3000. OR (b) To display the Cartesian Product of these two tables.	ANO	ANAME	ADDRESS	101	Nirja Singh	Bangalore	102	Rohan Gupta	Chennai	103	Ali Reza	Hyderabad	104	Rishabh Jain	Chennai	105	Simran Kaur	Chandigarh	TRNO	ANO	AMOUNT	TYPE	DOT	T001	101	2500	Withdraw	2017-12-21	T002	103	3000	Deposit	2017-06-01	T003	102	2000	Withdraw	2017-05-12	T004	103	1000	Deposit	2017-10-22	T005	102	12000	Deposit	2017-11-06	(4)
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T005	102	12000	Deposit	2017-11-06																																														
35.	What is the use of fetchone() method ? Write a program to fetch single record from record. Note the following to establish connectivity between Python and MYSQL: • Username is root • Password is tiger • The table exists in a MYSQL database named student. • Database:PythonDB	(4)																																																
SECTION E (2 X 5 = 10 Marks)																																																		
36.	Write a program to increase the salary by rupees 2000/- of the employee having empno as 1251 in the file 'empl.dat'.	(5)																																																
37.	University of Correspondence in Allahabad is setting up a network between its different wings. There are 4 wings named Science (S), Journalism (J), Arts (A) and Home Science (H). Distance between various wings: <table><tr><td>Wing A to Wing S</td><td>100 m</td></tr><tr><td>Wing A to Wing J</td><td>200 m</td></tr><tr><td>Wing A to Wing H</td><td>400 m</td></tr><tr><td>Wing S to Wing J</td><td>300 m</td></tr><tr><td>Wing S to Wing H</td><td>100 m</td></tr><tr><td>Wing J to Wing H</td><td>450 m</td></tr></table>	Wing A to Wing S	100 m	Wing A to Wing J	200 m	Wing A to Wing H	400 m	Wing S to Wing J	300 m	Wing S to Wing H	100 m	Wing J to Wing H	450 m	(5)																																				
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Number of Computers:

Wing A	150
Wing S	10
Wing J	5
Wing H	50

- (a) Suggest the most suitable topology for networking the computers of all wings.
- (b) Name the wing where the Server is to be installed. Justify your answer.
- (c) Suggest the placement of Hub/Switch in the network.
- (d) Mention how economic technology will provide Internet accessibility to all wings.
- (e) Write names of any two popular Open Source Software which are used as Operating Systems.

OR

Mention any one security issues over a network.