



INDIAN SCHOOL AL WADI AL KABIR

Final Assessment 2023-24

SUB: Informatics Practices (065)

Date:22/02/2024

Time Allowed:3 hours

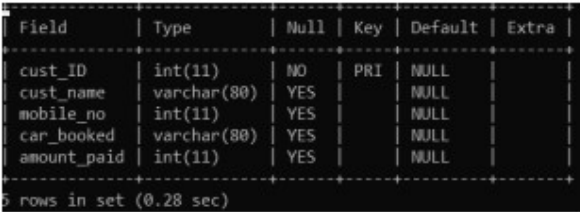
Class: XI

Maximum Marks: 70

General instructions:

- Please check that this question paper contains 35 questions.
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.
- Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.
- Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.
- Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.
- Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only

SECTION –A		
Q	Question	M
1	Which property of a relation is used to represent number of rows? a. Key b. Attribute c. Degree d. Cardinality	1
2	Identify the correct command which will produce the output given below: [0,-2,-4,-6,-8] a. list(range(-2,-8,-2)) b. list(range(0,-8,-2)) c. list(range(-2,-10,-2)) d. list(range(0,-10,-2))	1
3	Which of the following is true for variable names in Python? (A) underscore and ampersand are the only two special characters allowed (B) unlimited length (C) Possible to start with a number (D) none of the mentioned	1
4	A condition or check applicable on a relation while its creation: a) Constraint b) Keyword c) Clause d) None of the above	1
5	The _____ key word eliminates duplicate rows from the result of a SELECT statement a. NULL b. DISTINCT c. DESC d. UNIQUE	1

6	<p>Mr. Tejas is working on MySQL table named Student with the following table:</p>  <p>Which of the following command is used to get the above output:</p> <ol style="list-style-type: none"> Create Describe Show Alter 	1
7	<p>_____ is a system that allows a group of connected computers to maintain a single updated and secure ledger which is updated only after all the nodes in the network authenticate the transaction.</p> <ol style="list-style-type: none"> DBMS Client Server Block chain Grid Computing 	1
8	<p>Consider a table Student having two fields as mentioned below:</p> <p style="padding-left: 40px;">Name varchar(20) City char(20)</p> <p>If in a record, value stored in Name is 'Amogh' and City is 'Jharkhand', then Name and City will consume _____ and _____ characters space respectively.</p> <ol style="list-style-type: none"> 20,5 5,20 20,4 4,20 	1
9	<p>A=11 ___ 3 Which operator should be used to get the value of c as 2</p> <ol style="list-style-type: none"> / // % None of the mentioned 	1
10	<p>Which of the following command is used to remove the rows from a table?</p> <ol style="list-style-type: none"> Delete Drop Remove Truncate 	1
11	<p>_____ is a subsystem of Artificial Intelligence where computers have the ability to learn from data using statistical techniques without being explicitly programmed by a human being.</p> <ol style="list-style-type: none"> Machine Learning Natural Language Processing Virtual Reality Augmented Reality 	1
12	<p>Evaluate the expression: $12+(3**3\%4+3)-10/4$</p> <ol style="list-style-type: none"> 16.5 15.5 16 15 	1

13	<p>What will be the output of the following Python code?</p> <pre>a={1:"A",2:"B",3:"C"} b={2:"D",4:"E"} a.update(b) print(a)</pre> <p>a. {1: 'A', 2: 'B', 3: 'C', 2: 'D', 5: 'E'} b. {1: 'A', 2: 'D', 3: 'C', 4: 'E'} c. {1: 'A', 2: 'B', 3: 'C', 4: 'D', 5: 'E'} d. {2: 'D', 4: 'E'}</p>	1
14	<p>_____ involves fetching data from storage devices for its processing.</p> <p>a. Data Storage b. Data capturing c. Data Retrieval d. Data Deletion</p>	1
15	<p>Which unit is used to measure computer memory?</p> <p>a. Hertz b. Volt c. Byte d. Kilogram</p>	1
16	<p>_____ is an example/s of output device.</p> <p>a. Projector b. Head phone c. Printer d. All the above</p>	1
17	<p>Which SQL statement will not generate any error message?</p> <p>a. SELECT*FROM EMP WHERE NAME LIKE %A; b. SELECT*FROM EMP WHERE SAL BETWEEN 3000 TO 15000; c. SELECT*FROM EMP WHERE COMM IS NOT NULL; d. All of the above</p>	1
18	<p>Which of the following is not an example of System Software?</p> <p>a. Language Translator b. Utility Software c. Operating System d. Word Processor</p>	1
SECTION – B		
19	<p>Explain Primary Memory.</p>	2
20	<p>Predict the output based on the list, ITEM = [86, 35, 72, 18, 2013]</p> <p>a) print(len(ITEM)) b) print(ITEM * 2) c) print(1007 in ITEM) d) print(ITEM[2:])</p>	2
21	<p>Find errors in the following code fragment.(Rewrite the program underlining the correction)</p> <pre>x= int(input("Enter value of x:")) for in range [0,10]: if x=y: print(x + y) else: print(x-y)</pre>	2

22	Write a Python program to accept names of 5 Story books and their corresponding price, and adds it to a dictionary named Book. Input a Book name and display its corresponding price.	2																																										
23	<p>a. Find the output of the following code.</p> <pre>n=5 s=0 for i in range(0,n+1,2): s=s+i print("Sum=",s)</pre> <p>b. Find the output of the following code.</p> <pre>i=10 n=15 while(i<n): print(i*2,end="!") i+=1</pre>	2																																										
24	<p>i. Differentiate between Primary Key and Candidate Key.</p> <p>ii. What is the purpose of WHERE clause in MySQL.</p>	2																																										
25	<p>Write a MySQL command to create the table Candidate with the following constraint.</p> <table border="1"> <thead> <tr> <th>Column name</th> <th>Datatype(size)</th> <th>Constraint</th> </tr> </thead> <tbody> <tr> <td>Cd Id</td> <td></td> <td>Primary key</td> </tr> <tr> <td>Cd Name</td> <td></td> <td></td> </tr> <tr> <td>Cd_Contact</td> <td></td> <td>Unique</td> </tr> <tr> <td>Cd_Experience</td> <td></td> <td>Not Null</td> </tr> <tr> <td>Cd_Qualification</td> <td></td> <td></td> </tr> </tbody> </table>	Column name	Datatype(size)	Constraint	Cd Id		Primary key	Cd Name			Cd_Contact		Unique	Cd_Experience		Not Null	Cd_Qualification			2																								
Column name	Datatype(size)	Constraint																																										
Cd Id		Primary key																																										
Cd Name																																												
Cd_Contact		Unique																																										
Cd_Experience		Not Null																																										
Cd_Qualification																																												
SECTION C																																												
26	Explain Big Data and its characteristics.	3																																										
27	<p>Mr. Amok created a table RESULT in the database EXAM.</p> <p style="text-align: center;">Table : Result</p> <table border="1"> <thead> <tr> <th>No</th> <th>Name</th> <th>Stipend</th> <th>Subjet</th> <th>Average</th> <th>Division</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Sharon</td> <td>400</td> <td>English</td> <td>38</td> <td>THIRD</td> </tr> <tr> <td>2</td> <td>Amal</td> <td>680</td> <td>Mathematics</td> <td>72</td> <td>FIRST</td> </tr> <tr> <td>3</td> <td>Vedant</td> <td>500</td> <td>Accounts</td> <td>67</td> <td>FIRST</td> </tr> <tr> <td>4</td> <td>Shakeer</td> <td>200</td> <td>Informatics</td> <td>55</td> <td>SECOND</td> </tr> <tr> <td>5</td> <td>Anandha</td> <td>400</td> <td>History</td> <td>85</td> <td>FIRST</td> </tr> <tr> <td>6</td> <td>Upasna</td> <td>550</td> <td>Geography</td> <td>45</td> <td>THIRD</td> </tr> </tbody> </table> <p>i. Give assistance to Mr. Amok to insert the first row to the table 'RESULT'.</p> <p>ii. Mr. Amok seeks assistance in displaying the names of students containing the letter 'a' in it. Help Mr. Amok to filter out the names according to the given criteria.</p> <p>iii. Mr. Amok realized that he needed to add an additional column named 'Class' to the table. Give him guidance on how to accomplish this task.</p>	No	Name	Stipend	Subjet	Average	Division	1	Sharon	400	English	38	THIRD	2	Amal	680	Mathematics	72	FIRST	3	Vedant	500	Accounts	67	FIRST	4	Shakeer	200	Informatics	55	SECOND	5	Anandha	400	History	85	FIRST	6	Upasna	550	Geography	45	THIRD	3
No	Name	Stipend	Subjet	Average	Division																																							
1	Sharon	400	English	38	THIRD																																							
2	Amal	680	Mathematics	72	FIRST																																							
3	Vedant	500	Accounts	67	FIRST																																							
4	Shakeer	200	Informatics	55	SECOND																																							
5	Anandha	400	History	85	FIRST																																							
6	Upasna	550	Geography	45	THIRD																																							
28	What is software? Explain its types.																																											
29	<p>i. Ms. Anaika has created a database, a month ago, but he is not sure whether the database still exists or not. Write the command to help her.</p> <p>ii. Ms. Anaika encountered an error stating "No database selected" while attempting to create a table in the 'Alumni' database. Help her in selecting or opening the 'Alumni' database to proceed with her task of entering alumni details.</p>	3																																										

	iii. Ms. Anaika proceeded to create five tables within the 'Alumni' database. Subsequently, she determined that the table named 'Student' is unnecessary and help her in removing it from the 'Alumni' database.																																				
30	<p>i. Evaluate the expression. print(20-5%10>10 and 7+8<=15)</p> <p>ii. Differentiate between keyword and identifier.</p> <p>iii. Find the output. a,b,c=2,3,4 a,b,c=a*a,a*b,a*c print(a,b,c)</p>	3																																			
SECTION D																																					
31	<p>i. Write a python program to print multiplication table of a number by getting input from the user.</p> <p>ii. Write a python program to check whether the number entered by the user is a perfect number or not.</p>	4																																			
32	<p>Consider the table COURSE</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>C_ID</th> <th>C_Duration</th> <th>C_name</th> <th>C_Fees</th> </tr> </thead> <tbody> <tr> <td>C_01</td> <td>2</td> <td>Grid Computing</td> <td>20000</td> </tr> <tr> <td>C_02</td> <td>3</td> <td>System Design</td> <td>40000</td> </tr> <tr> <td>C_03</td> <td>2</td> <td>Artificial Intelligence</td> <td>50000</td> </tr> <tr> <td>C_04</td> <td>1</td> <td>Cyber Security</td> <td>40000</td> </tr> <tr> <td>C_05</td> <td>3</td> <td>Computer network</td> <td>45000</td> </tr> </tbody> </table> <p>i. What is the degree and cardinality of the table 'COURSE'?</p> <p>ii. Identify the most suitable column that can be declared as primary key.</p> <p>iii. Write a command to remove the column C_Duration from the table 'Course'.</p> <p>iv. Write a command to remove table 'Course' from the database.</p>	C_ID	C_Duration	C_name	C_Fees	C_01	2	Grid Computing	20000	C_02	3	System Design	40000	C_03	2	Artificial Intelligence	50000	C_04	1	Cyber Security	40000	C_05	3	Computer network	45000	4											
C_ID	C_Duration	C_name	C_Fees																																		
C_01	2	Grid Computing	20000																																		
C_02	3	System Design	40000																																		
C_03	2	Artificial Intelligence	50000																																		
C_04	1	Cyber Security	40000																																		
C_05	3	Computer network	45000																																		
SECTION E																																					
33	<p>Consider the table 'Faculty'.</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="5">FACULTY</th> </tr> <tr> <th>F_ID</th> <th>Fname</th> <th>Lname</th> <th>Hire_date</th> <th>Salary</th> </tr> </thead> <tbody> <tr> <td>102</td> <td>Amit</td> <td>Mishra</td> <td>12-10-1998</td> <td>12000</td> </tr> <tr> <td>103</td> <td>Nitin</td> <td>Vyas</td> <td>24-12-1994</td> <td>8000</td> </tr> <tr> <td>104</td> <td>Rakshit</td> <td>Soni</td> <td>18-5-2001</td> <td>14000</td> </tr> <tr> <td>105</td> <td>Rashmi</td> <td>Malhotra</td> <td>11-9-2004</td> <td>11000</td> </tr> <tr> <td>106</td> <td>Sulekha</td> <td>Srivastava</td> <td>5-6-2006</td> <td>10000</td> </tr> </tbody> </table> <p>i. Write SQL query to insert the first row of data to the table.</p> <p>ii. Write a MySQL query to delete the records having salary not more than 10000.</p> <p>iii. Write a MySQL query to display the details of those faculties who have joined before 11-11-2000 in the ascending order of their salaries.</p> <p>Write the output of the following MySQL commands.</p> <p>i. Select Fname, Lname from faculty where F-ID =102 or F_ID=105;</p> <p>ii. Select * from Faculty where L_name like '%ra';</p>	FACULTY					F_ID	Fname	Lname	Hire_date	Salary	102	Amit	Mishra	12-10-1998	12000	103	Nitin	Vyas	24-12-1994	8000	104	Rakshit	Soni	18-5-2001	14000	105	Rashmi	Malhotra	11-9-2004	11000	106	Sulekha	Srivastava	5-6-2006	10000	5
FACULTY																																					
F_ID	Fname	Lname	Hire_date	Salary																																	
102	Amit	Mishra	12-10-1998	12000																																	
103	Nitin	Vyas	24-12-1994	8000																																	
104	Rakshit	Soni	18-5-2001	14000																																	
105	Rashmi	Malhotra	11-9-2004	11000																																	
106	Sulekha	Srivastava	5-6-2006	10000																																	
34	i. State the difference between remove() and pop() in list.	5																																			

	<p>ii. Write a program to input the amount from the user and calculate the commission.</p> <table border="0"> <tr> <td><u>Amount</u></td> <td><u>Commission</u></td> </tr> <tr> <td>>20000</td> <td>15 % of bill</td> </tr> <tr> <td>15000 - 20000</td> <td>10 % of “</td> </tr> <tr> <td>10000- 14999.9</td> <td>5 % of “</td> </tr> <tr> <td><10000</td> <td>0</td> </tr> </table>	<u>Amount</u>	<u>Commission</u>	>20000	15 % of bill	15000 - 20000	10 % of “	10000- 14999.9	5 % of “	<10000	0																
<u>Amount</u>	<u>Commission</u>																										
>20000	15 % of bill																										
15000 - 20000	10 % of “																										
10000- 14999.9	5 % of “																										
<10000	0																										
35	<p>Consider the table ‘Teacher_Details’ given below and write suitable SQL queries of the following:</p> <p style="text-align: center;">Table: Teacher_Details</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>T_ID</th> <th>T_Name</th> <th>T_DOJ</th> <th>T_Subject</th> <th>Num_of_Periods</th> </tr> </thead> <tbody> <tr> <td>1001</td> <td>Bharti</td> <td>2018-10-15</td> <td>Hindi</td> <td>27</td> </tr> <tr> <td>1002</td> <td>Pratima</td> <td>NULL</td> <td>NULL</td> <td>32</td> </tr> <tr> <td>1003</td> <td>Savitri</td> <td>2012-11-13</td> <td>Hindi</td> <td>29</td> </tr> <tr> <td>1004</td> <td>Aashna</td> <td>2020-02-24</td> <td>English</td> <td>28</td> </tr> </tbody> </table> <p>i) Display the T_Name and Num_of_Periods by increasing the number of periods each by 1.</p> <p>ii) Display T_Name of all those teachers whose date of joining is after 1st Jan 2019.</p> <p>iii) Display T_ID and T_Name of all those teachers whose number of periods are in the range of 25 to 30. (both values included)</p> <p>iv) Display the details of all those teachers who have not assigned any subject.</p> <p>v) Display the details of all those teachers whose subject is either Hindi or Science</p>	T_ID	T_Name	T_DOJ	T_Subject	Num_of_Periods	1001	Bharti	2018-10-15	Hindi	27	1002	Pratima	NULL	NULL	32	1003	Savitri	2012-11-13	Hindi	29	1004	Aashna	2020-02-24	English	28	5
T_ID	T_Name	T_DOJ	T_Subject	Num_of_Periods																							
1001	Bharti	2018-10-15	Hindi	27																							
1002	Pratima	NULL	NULL	32																							
1003	Savitri	2012-11-13	Hindi	29																							
1004	Aashna	2020-02-24	English	28																							

All the Best