



# Indian School Al Wadi Al Kabir

## Assessment 1

### COMPUTER SCIENCE (Code: 083)

Class : XII

Date : 22/09/2022

Time: 3 Hours

Max. Marks : 70

#### General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
  - a. Section – I is short answer questions, to be answered in one word or one line.
  - b. Section – II has two case studies questions. Each case study has 5 case-based sub-parts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
  - a. Section-I is short answer questions of 2 marks each in which one question have internal options.
  - b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
  - c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only.

Qn No.	Part A	Marks Allocated
	<b>Section-I</b> <b>Find the most appropriate for each question. Attempt any 15 questions from question no 1 to 21.</b>	
1	Write a command to import csv module in your code and open a file "Customer.csv" in read mode.	1
2	Which function in SQL returns the total number of rows including duplicates and NULL values ?	1
3	Which of the following operator cannot be used with string data type? a. + b. in c. * d. /	1
4	Mr. Manu wants to see the list of tables available under a database Travels. Help him to write the MySQL command(s) for this task.	1
5	If the following code is executed, what will be the output ? Topic="SolarMarketingMedia"	1

	<pre>print(Topic[5:10]) print(Topic[-5:])</pre>	
6	<p>Raghav is trying to write a tuple tup1 = (1,2,3,4,5) on a binary file test.dat. Consider the following code written by him and fill in the blank.</p> <pre>import pickle tup1 = (1,2,3,4,5) myfile = open("test.dat",'wb') pickle._____ #Statement 1 myfile.close()</pre>	1
7	<p>Identify the valid relational operator in Python from the following.</p> <p>a) *=      b) %=      c) &gt;=      d) =&lt;</p>	1
8	<p>Which of the following is a function/method of the pickle module?</p> <p>(a) reader()  (b) writer()  (c) load ()  (d) read()</p>	1
9	<p>Which table constraints will not allow a null value (values can be duplicate) to be entered under a data column in a table?</p>	1
10	<p>Write a statement in Python to declare a dictionary COURSEDICT whose keys are "ORACLE", "JAVA", "PYTHON", "JSERVER" and values are 350, 230, 275 and 550 respectively.</p>	1
11	<p>In SQL, name the clause that is used to display the values under a data column without duplicate values.</p>	1
12	<p>Given the tuple MarkList = (82, 56, 75, 98, 45, 90, 85, 25, 70, 56) write the output of the following code:</p> <pre>print(MarkList[5:]) print(MarkList[-2:-5:-1])</pre>	1
13	<p>What will be the output for the following python code?</p> <pre>D={"Amit" : 90, "Reshma" : 96, "Sukhbir" : 92, "John": 95} print("John" in D , 90 in D, sep = "#")</pre>	1
14	<p>Find all valid identifiers from the following</p> <p>a. false  b. 12hh  c. YOUR_name  d. BackSpace</p>	1
15	<p>What will be the output of the following code?</p> <pre>Amount = (32, 30, 18, 45, 25, 12, 30, 25, 25, 18) print (max (Amount) - min (Amount)) print (Amount.count(25) + Amount.index (18))</pre>	1

16	Which of the following function header is correct? a. def cal_si(p=100, r, t=2) b. def cal_si(p=100, r=8, t) c. def cal_si(p, r=8, t) d. def cal_si(p, r=8, t=2)	1
17	Which of the following is a DML command? a) CREATE    b) DESC    c) UPDATE    d) ALTER	1
18	Find the output of the following Python statements. b = 1 for a in range(1, 10, 2): b += a + 2 print(b)	1
19	In SQL, what is the use of LIKE clause? Also give a note on Wild card characters used with LIKE clause.	1
20	What will be the output of the following code? >>>math.floor(75.85) >>>math.ceil(47.25)	1
21	Suppose the content of a file notes.txt is: “The way to get started is to quit talking and begin doing”  What will be the output of the following python code? F=open(“notes.txt”) F.seek(29) S=F.read() print(S)	1
<b>Section-II</b> <b>Both the Case study-based questions are compulsory.</b>		

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4

**Attempt any 4 sub parts. Each question carries 1 mark**

Satyam College of Engineering, a leading educational institution maintain the details of workshops which they organized using SQL to store the data. As a database programmer, Mr. Navin has decided that :

- Name of the database - COLLEGEDB
- Name of the table - CONFERENCE
- The attributes of CONFERENCE are as follows:

ConID – character of size 8

Title – character of size 30

EventDate - Date

Participants - numeric

Table

CONID	TITLE	EVENTDATE	PARTICIPANTS
SAT251	ARTIFICIAL INTEGLLGENCE	16/03/2020	155
SAT252	NEURAL NETWORKS	17/03/2020	125
SAT253	GRAPHICS AND ANIMATION	24/03/2020	75
SAT254	VISUAL MEDIA	28/03/2020	282
SAT255	SOFTWARE ENGINEERING	02/04/2020	90
SAT256	DATA ANALYTICS	04/04/2020	240
SAT257	COMPILER DESIGN	05/04/2020	160

a. Mr. NAVIN want to remove the table CONFERENCE from the database COLLEGEDB permanently. Write the query to do the same.

b. When Mr. NAVIN try to enter a value more than 300 under PARTICIPANTS column for a new record, he could not do it. What is the reason for this? State the constraint used for that column.

c. Write a command to change the Conference Title as “NETWORK SECURITY” for the ConferenceID “SAT255”.

d. Insert the following data into the attributes CONID, TITLE and PARTICIPANTS respectively in the given table CONFERENCE.  
CONID = “SAT258”, TITLE = “ADVANCED JAVA” and PARTICIPANTS = 215.

e. What will be the degree and cardinality of the table CONFERENCE if we remove two rows and add 2 columns?

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4

**Attempt any 4 sub parts. Each question carries 1 mark**

Ms. Sumitra of class 12 is writing a program to create a CSV file “Items.csv” which will contain Item Code, Item Name and Item Price for some items in a store. She has written the following code. As a programmer, help her to successfully execute the given task.

Note: Initially Items.csv is an empty file.

```
import _____ # Line 1
def AddItems(ItemCode, ItemName, ItemPrice): # to write / add data into the CSV
                                                file
    F1=open('Items.csv', 'a')
    FileWriter = csv.writer(F1)
```

	<pre> FileWriter._____ [ItemCode, ItemName, ItemPrice]) #Line 2 F1._____ #Line 3 #csv file reading code def DisplayItems(): # to read data from CSV file     F2 = open("Items.csv", _____) # Line 4     FileReader = csv.reader(F2)     for row in FileReader:         print (row[0], row[1], row[2])     F2.close() AddItems(1405, "Kellogg Frosted Mini Wheats",350) AddItems(1827, "Barilla Pasta", 425) AddItems(2309, "Olive Oil",210) DisplayItems() #Line 5 </pre>	
	i. Name the module she should import in Line 1.	
	ii. Fill in the blank in Line 2 to write a row into csv file.	
	iii. Fill in the blank in Line 3 to close the file.	
	iv. Fill in the blank in Line 4 to open the file in read mode.	
	v. Write the output she will obtain while executing Line 5.	
	<b>Part – B</b>	
	<b>Section – I</b>	
24	<p>What possible output(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to the variables Lower and Upper.</p> <pre> import random D = [28,32,45,16,70,92,85] Lower=random.randint(2,4) Upper=random.randint(Lower, 5) for I in range (Lower, Upper):     print(D[I],end = "&amp;") </pre> <p>(i) 32&amp;45&amp;16&amp;70&amp;92      (ii) 32&amp;45&amp;16&amp;70&amp;  (iii) 45&amp;16&amp;70&amp;92&amp;      (iv) 45&amp;16&amp;70&amp;</p>	2
25	Write the difference between WHERE and HAVING in SQL? Explain with examples.	2
26	Find the output of the following Python statements. <pre> lst1 = [20, 25, 40, 35, 50] lst1.insert( 2, 4) lst1.insert( 21, 30) print (lst1[-5]) </pre>	2
27	Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. <pre> 175 = Number WHILE Number&lt;=500:     if Number=&gt;300: </pre>	2

	<pre> print Number Number=Number+50 else print Number*2 Number=Number+25 </pre>	
28	<p>What will be the output of the following code?</p> <pre> x = 5 def myfunc():     x = 0     x+=2     print(x, end=' ')  print(x, end=' ') myfunc() print(x, end=' ') </pre>	2
29	<p>Find and write the output of the following python code :</p> <pre> def Changer(P,Q=20):     P=P//Q     Q=P%Q     print (P,"#",Q)     return P  A=500 B=10 A=Changer(A,B) print (A,"\$",B) B=Changer(B) print (A,"\$",B) A=Changer(A) print (A,"\$",B) </pre>	2
30	<p>Find and write the output of the following Python code:</p> <pre> Msg1="WeLcOME" Msg2="GUeSTs" Msg3="" for I in range(0, len(Msg2)+1):     if Msg1[I]&gt;="A" and Msg1[I]&lt;="M":         Msg3=Msg3+Msg1[I]     elif Msg1[I]&gt;="N" and Msg1[I]&lt;="Z":         Msg3=Msg3+Msg2[I]     else:         Msg3=Msg3+"*" print(Msg3) </pre>	2
31	<p>Explain about the Function with Keyword or Named Arguments with the help of a suitable code with function definition.</p> <p style="text-align: center;"><b>OR</b></p>	2

	Explain about the Function with Variable Length Arguments with the help of a suitable code with function definition.																																					
32	Evaluate the following expressions: a) $16 - (4 + 2) * 5 + 2 ** 3 * 4$ b) $40 < 30$ or $32 > 20$ and not $5 < 15$	2																																				
33	Suppose content of 'Myfile.txt' is Twinkle twinkle little star How I wonder what you are Up above the world so high Like a diamond in the sky  What will be the output of the following code?  <pre>file = open("Myfile.txt") line_count = 0 d=file.readline() data = file.readline() s=data.split() for l in s:     if l[0] == 'w':         line_count += 1 print(line_count) myfile.close()</pre>	2																																				
<b>Section – II</b>																																						
34	Write output of the following SQL queries based on the table:  <p style="text-align: center;"><b>VACCINATION_DATA</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>VID</th> <th>Name</th> <th>Age</th> <th>Dose1</th> <th>Dose2</th> <th>City</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Jenny</td> <td>27</td> <td>2021-12-25</td> <td>2022-01-31</td> <td>Delhi</td> </tr> <tr> <td>102</td> <td>Harjot</td> <td>55</td> <td>2021-07-14</td> <td>2021-10-14</td> <td>Mumbai</td> </tr> <tr> <td>103</td> <td>Srikanth</td> <td>43</td> <td>2021-04-18</td> <td>2021-07-20</td> <td>Delhi</td> </tr> <tr> <td>104</td> <td>Gazala</td> <td>75</td> <td>2021-07-31</td> <td>NULL</td> <td>Kolkata</td> </tr> <tr> <td>105</td> <td>Shiksha</td> <td>32</td> <td>2022-01-01</td> <td>NULL</td> <td>Mumbai</td> </tr> </tbody> </table> a. SELECT NAME,AGE FROM VACCINATION_DATA WHERE DOSE2 IS NOT NULL AND AGE >40; b. SELECT CITY , COUNT(*) FROM VACCINATION_DATA GROUP BY CITY; c. SELECT DISTINCT CITY FROM VACCINATION_DATA; d. SELECT MAX(DOSE1) , MIN(DOSE2) FROM VACCINATION_DATA; e. SELECT NAME, AGE FROM VACCINATION_DATA ORDER BY NAME;	VID	Name	Age	Dose1	Dose2	City	101	Jenny	27	2021-12-25	2022-01-31	Delhi	102	Harjot	55	2021-07-14	2021-10-14	Mumbai	103	Srikanth	43	2021-04-18	2021-07-20	Delhi	104	Gazala	75	2021-07-31	NULL	Kolkata	105	Shiksha	32	2022-01-01	NULL	Mumbai	3
VID	Name	Age	Dose1	Dose2	City																																	
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105	Shiksha	32	2022-01-01	NULL	Mumbai																																	

	f. SELECT NAME, CITY FROM VACCINATION_DATA WHERE DOSE1<"2021-07-30";	
35	<p>Write a function in Python PUSH(MyArray), where MyArray is a list of numbers. From this list push all the multiples of 4 into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.</p> <p style="text-align: center;">OR</p> <p>Write the definition of a user defined function pushNV(N) which accepts a list of strings in the parameters N and pushes all strings which have no vowels present in it, into a list named NoVowel. Display the stack if it has at least one element, otherwise display appropriate error message.</p>	3
36	<p>Write a python method/function Count3and7(N) to find and display the count of all those numbers which are between 1 and N, which are either divisible by 3 or by 7. For example : If the value of N is 15 The sum should be displayed as 7 (as 3,6,7,9,12,14,15 in between 1 to 15 are either divisible by 3 or 7)</p>	3
37	<p>Write a method/function ISTOUPCOUNT () in python to read contents from a text file WRITER.TXT, to count and display the occurrence of the word "IS" or "TO" or "UP". For example : If the content of the file is IT IS UP TO US TO TAKE CARE OF OUR SURROUNDING. IT IS NOT POSSIBLE ONLY FOR THE GOVERNMENT TO TAKE RESPONSIBILITY The method/function should display <b>Count of IS, TO and UP is 6</b></p> <p style="text-align: center;">OR</p> <p>Write a function CountVowels() in Python, which should read each character of a text file STORY.TXT, should count and display the occurrence of vowels (A or E or I or O or U - including small cases too). Example: Education is not the learning of facts, but the training of the mind to think The CountVowels() function should display the output as: <b>Total Count = 23</b></p>	3
	<b>Section – III</b>	
38	TABLE : CLUB	5



id	coachname	age	sports	date	pay	sex
1	Kukreja	35	Karate	1996-03-27	1000	M
2	Ravina	34	Karate	1998-01-20	1200	F
3	Karan	34	Squash	1998-02-19	2000	M
4	Tarun	33	Basketball	1998-01-01	1500	M
5	Zubin	36	Swimming	1998-01-12	750	M
6	Ketaki	36	Swimming	1998-02-24	800	F
7	Ankita	39	Squash	1998-02-20	2200	F
8	Zareen	37	Karate	1998-02-22	1100	F
9	Kush	41	Swimming	1998-01-13	900	M
10	Shaliya	37	Basketball	1998-02-19	1700	M

Write SQL queries for (i) to (v) based on the table 'CLUB' given above.

- i. To display records from club in alphabetical order of coach name.
- ii. To display coach name, date and sports whose pay is in the range 1000 and 2000.
- iii. To display sports and total number of coaches who have pay more than 1500 sports wise.
- iv. To show the increase pay of all coaches by 100 whose sports is "swimming".
- v. To display the different sports available in the table without duplication.

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i. Write a function Copyword() to copy all words ending with 'e' from a text file ARTICLE.TXT to NOTES.TXT.

ii. A binary file "Hotel.dat" has structure (roomid, customername, roomtype, roomcharges). Write a function totalcharge(rtype) in Python which accepts the room type as parameter, and return the total charge of customers who are staying in the given roomtype which are stored in the binary file "Hotel.dat".

5

40

A binary file "Travels.dat" has structure [BookingNo, CustomerName, Source, Destination, Amount].

i. Write a user defined function Create() to input data for a record and add to Travels.dat .

ii. Write a function CountCity(DestCity) in Python which accepts the destination city as parameter, count and return number of travelers who are travelling to the given City which are stored in the binary file "Travels.dat".

**OR**

A binary file "EMPLOYEE.DAT" has structure (empcode, empname, salary). Write a function CountEmp() in Python that would read contents of the file "EMPLOYEE.DAT" and display the details of those employees whose salary is below Rs. 15,000. Also display average salary of employees whose salary is below Rs. 15,000.

5

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