

Series ISWK P1

083/1/1

Code No.

SET-1

Roll No.

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Candidates must write the Code on the title page of the answer-book.

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 4 case-based sub-parts. An examinee is to attempt any 4 out of the 5 subparts.
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 two 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.

COMPUTER SCIENCE

Time allowed: 3 hours

Maximum Marks:

70

Qn No.	Part A	Marks Allocated
	Section-I Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.	
1	Which of the following is not an assignment operator? i i. **= ii ii. /= iii iii. == iv iv. %=	1
2	Write the type of tokens from the following. i. Var1 ii. in	1
3	Name the python library module which is to be imported to invoke the following functions. i. cos()	1

	ii. randint()	
4	Observe the following python code carefully and rewrite it after removing all syntactical errors with each correction underlined. <pre> 30=max For N in range(0,max) IF n%3==0: print(N*3) ELSE: print(N+3) </pre>	1
5	Find the output of the following code: <pre> tup=(10,30,15,9) s=1 t=0 for i in range(s,4): t=t+tup[i] print(i,":",t) t=t+tup[0]*10 print(t) </pre>	1
6	Write the Full Form of LIFO.	1
7	Identify the odd one out in Python from the following. a) if b) else c) for d) elif	1
8	Expand: WiFi	1
9	What do you mean by NOT NULL constraint?	1
10	Write a statement in Python to create a dictionary PLAYER with “RONALDO”, “MESSI”, “PEPE” as keys and “PORTUGAL”, “ARGENTINA” and “FRANCE” as values.	1
11	What do you mean by transmission medium?	1
12	Given the tuple SalaryList = (5025,4985,3990,4150,3735,6390,1750) write the output of the following code: <pre> print(SalaryList[:3]) print(MarkList[1:6:2]) </pre>	1
13	Is NULL and 0 (zero) are same in SQL?	1
14	Find the invalid identifier(s) from the following a) Weight# b) ELSE c) for d) Cat1	1
15	What will be the output of the following code? Points= (12,5,10,8,7,3,15,2,20,2,5,12,10,8,7) print (max (Points) * min (Points))	1
16	Write any two aggregate functions used in SQL with examples.	1
17	Which of the following is a not a DDL command? a) INSERT b) DESC c) CREATE d) DROP	1
18	Define: Phishing	1
19	What is the difference between CHAR and VARCHAR?	1

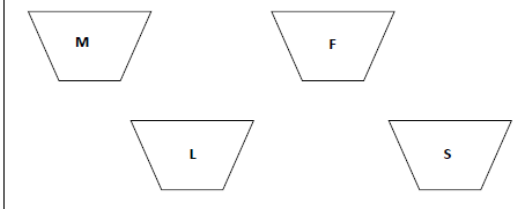
20	What will be the output of the following code? >>>math.sqrt(121) >>>math.fabs(-25)	1																																																
21	Expand: HTTP	1																																																
Section-II Both the Case study based questions are compulsory.																																																		
22	Consider the following table and answer the questions given below: Table : EMPLOYEE <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>ENO</th> <th>NAME</th> <th>DOJ</th> <th>DOB</th> <th>GENDER</th> <th>DCODE</th> </tr> </thead> <tbody> <tr> <td>1001</td> <td>George K</td> <td>2013-09-02</td> <td>1991-09-01</td> <td>MALE</td> <td>D01</td> </tr> <tr> <td>1002</td> <td>Ryma Sen</td> <td>2012-12-11</td> <td>1990-12-15</td> <td>FEMALE</td> <td>D03</td> </tr> <tr> <td>1003</td> <td>Mohitesh</td> <td>2013-02-03</td> <td>1987-09-04</td> <td>MALE</td> <td>D05</td> </tr> <tr> <td>1007</td> <td>Anil Jha</td> <td>2014-01-17</td> <td>1984-10-19</td> <td>MALE</td> <td>D04</td> </tr> <tr> <td>1004</td> <td>Manila Sahai</td> <td>2012-12-09</td> <td>1986-11-14</td> <td>FEMALE</td> <td>D01</td> </tr> <tr> <td>1005</td> <td>R SAHAY</td> <td>2013-11-18</td> <td>1987-03-31</td> <td>MALE</td> <td>D02</td> </tr> <tr> <td>1006</td> <td>Jaya Priya</td> <td>2014-06-09</td> <td>1985-06-23</td> <td>FEMALE</td> <td>D05</td> </tr> </tbody> </table>	ENO	NAME	DOJ	DOB	GENDER	DCODE	1001	George K	2013-09-02	1991-09-01	MALE	D01	1002	Ryma Sen	2012-12-11	1990-12-15	FEMALE	D03	1003	Mohitesh	2013-02-03	1987-09-04	MALE	D05	1007	Anil Jha	2014-01-17	1984-10-19	MALE	D04	1004	Manila Sahai	2012-12-09	1986-11-14	FEMALE	D01	1005	R SAHAY	2013-11-18	1987-03-31	MALE	D02	1006	Jaya Priya	2014-06-09	1985-06-23	FEMALE	D05	4
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	Identify the Primary keys from the above table																																																	
	What is the degree and cardinality of the above table?																																																	
	Insert a record in the above table for ENO : 1012, NAME : AKSHAY and DOB : 18/June/1988.																																																	
	Add a new column Salary with decimal data type of size (8,1)																																																	
	Find output: SELECT DCODE, COUNT(*) FROM EMPLOYEE GROUP BY DCODE HAVING COUNT(*) > 1																																																	
23	<pre>import _____ #Line1 F=open("cust.csv",_____newline="\n") #Line2 to open the file for writing record dt = writer(f) while True: sno= int(input("Enter Serial No:")) cust_name = input("Enter customer name:") city = input("Enter city:") amt = int(input("Enter amount:")) dt._____([sno, cust_name, city, amt]) #Line3 to write a row or record print("Record has been added.") print("Want to add more record?Type YES!!!") ch = input() ch = ch.upper() if ch=="YES": print("*****") else: break f._____ #Line4 to close the file record = list() with open('cust.csv', _____) as f: #Line5 to open file for read operation data = csv.reader(f) for row in data: record.append(row)</pre>	4																																																

	Fill in the blank in Line1	
	Fill in the blank in Line2	
	Fill in the blank in Line3	
	Fill in the blank in Line4	
	Fill in the blank in Line5	
	Part – B	
	Section – I	
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 minimum values that can be assigned to each of the variables Max and Min.</p> <pre>import random Data = [28,32,45,16,70,92,85] Min=random.randint(1,3) Max =random.randint(Min, 4) for I in range (Min, Max): print(Data[I],"% ")</pre> <p>(i) 32%45%16% (ii) 16%70%92%85% (iii) 28%32%45%16% (iv) 32%45%16%70%</p>	2
25	Explain about Degree and Cardinality in dbms,	2
26	Expand the following terms: a. SMTP b. TCP c. IP d. MAN	2
27	<p>Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code.</p> <pre>A = 20 while A <=500 if A%5==0: print A Else: print A*10</pre>	2
28	Explain about File virus and Macro virus	2
29	<p>What is the use of following methods: i) fetchone() ii) fetchall</p>	2
30	<p>Find and write the output of the following Python code:</p> <pre>def fun(s): k=len(s) m=" " for i in range(0,k): if(s[i].isupper()): m=m+s[i].lower() elif s[i].isalpha(): m=m+s[i].upper() else: m=m+'bb'</pre>	2

	print(m) fun('school2@com')																																																																															
31	Explain about positional arguments in Python functions.	2																																																																														
32	Evaluate the following expressions: a) $28 \% 5 * (25 - 10) + 12$ b) $-3 < 10$ and $10 > 40$ or not $6 < 8$	2																																																																														
33	Explain the concept of Unique Key constraint with example.	2																																																																														
Section – II																																																																																
34	<p>Write outputs for SQL queries (i) to (iii), which are based on the following tables, CUSTOMERS and PURCHASES:</p> <p>CUSTOMERS</p> <table border="1"> <thead> <tr> <th>CNO</th> <th>CNAME</th> <th>CITY</th> </tr> </thead> <tbody> <tr><td>C1</td><td>SANYAM</td><td>DELHI</td></tr> <tr><td>C2</td><td>SHRUTI</td><td>DELHI</td></tr> <tr><td>C3</td><td>MAHER</td><td>MUMBAI</td></tr> <tr><td>C4</td><td>SAKSHI</td><td>CHENNAI</td></tr> <tr><td>C5</td><td>RITESH</td><td>INDORE</td></tr> <tr><td>C6</td><td>RAHUL</td><td>DELHI</td></tr> <tr><td>C7</td><td>AMEER</td><td>CHENNAI</td></tr> <tr><td>C8</td><td>MINAKSHI</td><td>BANGALORE</td></tr> <tr><td>C9</td><td>ANSHUL</td><td>MUMBAI</td></tr> </tbody> </table> <p>PURCHASES</p> <table border="1"> <thead> <tr> <th>SNO</th> <th>QTY</th> <th>PUR_DATE</th> <th>CNO</th> </tr> </thead> <tbody> <tr><td>S1</td><td>15</td><td>2018-11-25</td><td>C2</td></tr> <tr><td>S2</td><td>10</td><td>2018-11-10</td><td>C1</td></tr> <tr><td>S3</td><td>12</td><td>2018-11-10</td><td>C4</td></tr> <tr><td>S4</td><td>7</td><td>1019-01-12</td><td>C7</td></tr> <tr><td>S5</td><td>11</td><td>2019-02-12</td><td>C2</td></tr> <tr><td>S6</td><td>10</td><td>2018-10-12</td><td>C6</td></tr> <tr><td>S7</td><td>5</td><td>2019-05-09</td><td>C8</td></tr> <tr><td>S8</td><td>20</td><td>2019-05-09</td><td>C3</td></tr> <tr><td>S9</td><td>8</td><td>2018-05-09</td><td>C9</td></tr> <tr><td>S10</td><td>15</td><td>2018-11-12</td><td>C5</td></tr> <tr><td>S11</td><td>6</td><td>2018-08-04</td><td>C7</td></tr> </tbody> </table> <p>i) SELECT COUNT(DISTINCT CITY) FROM CUSTOMERS; ii) SELECT MAX(PUR_DATE) FROM PURCHASES; iii) SELECT CNAME, QTY, PUR_DATE FROM CUSTOMERS, PURCHASES WHERE CUSTOMERS.CNO=PURCHASE.CNO AND QTY IN (10,20);</p>	CNO	CNAME	CITY	C1	SANYAM	DELHI	C2	SHRUTI	DELHI	C3	MAHER	MUMBAI	C4	SAKSHI	CHENNAI	C5	RITESH	INDORE	C6	RAHUL	DELHI	C7	AMEER	CHENNAI	C8	MINAKSHI	BANGALORE	C9	ANSHUL	MUMBAI	SNO	QTY	PUR_DATE	CNO	S1	15	2018-11-25	C2	S2	10	2018-11-10	C1	S3	12	2018-11-10	C4	S4	7	1019-01-12	C7	S5	11	2019-02-12	C2	S6	10	2018-10-12	C6	S7	5	2019-05-09	C8	S8	20	2019-05-09	C3	S9	8	2018-05-09	C9	S10	15	2018-11-12	C5	S11	6	2018-08-04	C7	3
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35	Write a function in Python PUSH(MyArray), where MyArray is a list of numbers. From this list push all the multiples of 10 into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.	3																																																																														
36	Write a method/function WECOUNT () in python to read contents from a text file POEM.TXT, to count and display the occurrence of the word ‘‘WE’’. (Case sensitive)	3																																																																														

37	Write a python method/function CountDIV10(List1) to find and display the count of all those numbers which are divisible by10 in the list List1 passes as a parameter.	3
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Section – III

38	<p>h) Sunrise Pvt Ltd has set up its new centre in Ahmadabad. It has four departments: Marketing, Finance, Legal and Sales as shown in the below diagram:</p>  <p>Distance between various buildings:</p> <table border="1" data-bbox="311 660 614 784"> <tr><td>M to F</td><td>80 m</td></tr> <tr><td>M to L</td><td>180 m</td></tr> <tr><td>M to S</td><td>100 m</td></tr> <tr><td>L to S</td><td>150 m</td></tr> <tr><td>F to L</td><td>100 m</td></tr> <tr><td>F to S</td><td>50 m</td></tr> </table> <p>Number of computers:</p> <table border="1" data-bbox="311 817 614 907"> <tr><td>M</td><td>20</td></tr> <tr><td>L</td><td>10</td></tr> <tr><td>F</td><td>8</td></tr> <tr><td>S</td><td>42</td></tr> </table> <p>i. Suggest the type of network and topology that can be established between the buildings. ii. Suggest the most suitable block to place the server with reason. iii. Suggest the placement of : i. Modem ii. Hub/Switch iv. The organization is planning to link its sales counters situated in various parts of the same city. Which type of network out of LAN, WAN, MAN can be considered? Justify. v. Draw a suitable cable layout for the above network setup.</p>	M to F	80 m	M to L	180 m	M to S	100 m	L to S	150 m	F to L	100 m	F to S	50 m	M	20	L	10	F	8	S	42	5
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39	<p>Write commands in SQL for (i) to (iv) and output for (v) and (vi).</p> <p style="text-align: center;">Table : Store</p> <table border="1" data-bbox="263 1339 1388 1612"> <thead> <tr> <th>StoreId</th> <th>Name</th> <th>Location</th> <th>City</th> <th>NoOfEmployees</th> <th>DateOpened</th> <th>SalesAmount</th> </tr> </thead> <tbody> <tr> <td>S101</td> <td>Planetfashion</td> <td>KarolBagh</td> <td>Delhi</td> <td>7</td> <td>2015-10-16</td> <td>300000</td> </tr> <tr> <td>S102</td> <td>Trends</td> <td>Nehru Nagar</td> <td>Mumbai</td> <td>11</td> <td>2015-08-09</td> <td>400000</td> </tr> <tr> <td>S103</td> <td>Vogue</td> <td>Vikas Vihar</td> <td>Delhi</td> <td>10</td> <td>2015-06-27</td> <td>200000</td> </tr> <tr> <td>S104</td> <td>Superfashion</td> <td>Defence Colony</td> <td>Delhi</td> <td>8</td> <td>2015-02-18</td> <td>450000</td> </tr> <tr> <td>S105</td> <td>Rage</td> <td>Bandra</td> <td>Mumbai</td> <td>5</td> <td>2015-09-22</td> <td>600000</td> </tr> </tbody> </table> <p>I. To display name, location, city, SalesAmount of stores in descending order of SalesAmount. II. To display names of stores along with SalesAmount of those stores that have „fashion“ anywhere in their store names. III. To display Stores names, Location and Date Opened of stores that were opened before 1st March, 2015. IV. To display total SalesAmount of each city along with city name. V. SELECT distinct city FROM store; VI. SELECT Name, length (name), left (name, 3) FROM Store where NoOfEmployees<3;</p>	StoreId	Name	Location	City	NoOfEmployees	DateOpened	SalesAmount	S101	Planetfashion	KarolBagh	Delhi	7	2015-10-16	300000	S102	Trends	Nehru Nagar	Mumbai	11	2015-08-09	400000	S103	Vogue	Vikas Vihar	Delhi	10	2015-06-27	200000	S104	Superfashion	Defence Colony	Delhi	8	2015-02-18	450000	S105	Rage	Bandra	Mumbai	5	2015-09-22	600000	5
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S105	Rage	Bandra	Mumbai	5	2015-09-22	600000																																						

40	A binary file "Employees.DAT" has structure (empcode, empname, empdept, salary). Write a function CountEmp(Dept) in Python which accepts the department as parameter, count and return number of employees who are working in the given department which are stored in the binary file "Employees.dat".	5
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All the Best

I.VERY SHORT ANSWER: - 15x1=15