



KDMA INTERNATIONAL

SUBJECT: COMPUTER SCIENCE (083)

Class: XII Session 2019-20

Pre-Prelims

Total Pages: 4

Date:11/12/19

Time Allowed: 3 hours

Maximum Marks: 70

General Instructions:

- All questions are compulsory.
- Question paper is divided into 4 sections A, B, C and D.

SECTION-A		
Q1.	Answer the following questions	
a)	Write the type of tokens from the following: (i) <code>for</code> (ii) <code>{ }</code>	1
b)	Name the Python Library modules which need to be imported to invoke the following functions: (i) <code>load ()</code> (ii) <code>Uniform ()</code>	1
c)	Out of the following, find the identifiers, which cannot be used for naming Variable or Functions in a Python program: <code>_Cost</code> , <code>Price*Qty</code> , <code>switch</code> , <code>Address one</code> , <code>Delete</code> , <code>Number12</code>	1
d)	Rewrite the following for loop into while loop: <code>for a in range(25,500,25):</code> <code> print a</code>	2
e)	Find and write the output of the following python code: <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' print(m) fun('school2@com')</pre>	2
f)	Find and write the output of the following python code: <pre>def Change(P ,Q=30): P=P+Q Q=P-Q print(P,"#",Q) return (P) R=150 S=100 R=Change(R,S) print(R,"#",S) S=Change(S)</pre>	3

	<p>g) Observe the following program and answer the question that follows:</p> <pre>import random x = 3 N = random.randint (1, x) for i in range (N): print(i, "#", i + 1)</pre> <p>a. What is the minimum and maximum number of times the loop will execute? b. Find out, which line of output(s) out of (i) to (iv) will not be expected from the program? i. 0#1 ii. 1#2 iii. 2#3 iv. 3#4</p>	3
Q2		
	a) Declare a variable of dictionary with some data.	1
	b) Write a Recursive function in python BinarySearch(Arr,I,R,X) to search the given element X to be searched from the List Arr having R elements, where I represents lower bound and R represents the upper bound.	2
	c) Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure.	4
	d) Write a function to sort a list through insertion sorting.	2
	e) What do you understand by local and global scope of variables? How can you access a global variable inside the function, if function has a variable with same name.	2
	f) Write a method/function DISPLAYWORDS() in python to read lines from a text file STORY.TXT , and display those words, which are less than 4 characters.	2
	<p>g) Draw the output of following code.</p> <pre>import matplotlib.pyplot as pl over=[1,2,3,4,5] run=[13,5,7,16,4] pl.xlabel("Overs") pl.ylabel("Runs") pl.bar(over,run,color='red') pl.show()</pre>	2
	h) How to calculate time complexity of any algorithm or program?	2
	SECTION-B	
Q3.	a) Name one server side scripting language and one client side scripting language.	1
	b) Which protocol is used in creating a connection with a remote machine?	1
	c) Identify the Domain name and URL from the following : http://www.income.in/home.aboutus.html	1
	d) Expand the following : GPRS , IMAP, CDMA, ASP	2
	e) What is the difference between packet & message switching?	2
	f) What is difference between Ring and Bus topology	2
	g) What are the 3 ways of protecting intellectual property?	2
	h) Hindustan Connecting World Association” is planning to start their offices in four major cities in India to provide regional IT infrastructure support in the field of	4

Education & Culture. The company has planned to set up their head office in New Delhi in three locations and have named their New Delhi offices as “Sales Office”, “Head Office” and “Tech Office”. The company’s regional offices are located at “Coimbatore”, “Kolkata” and “Ahmedabad”.

A rough layout of the same is as follows:

Approximate distances between these offices as per network survey team is as follows:

Place From	Place To	Distance
Head Office	Sales Office	10 KM
Head Office	Tech Office	70 Meter
Head Office	Kolkata Office	1291 KM
Head Office	Ahmedabad Office	790 KM
Head Office	Coimbatore Office	1952 KM

In continuation of the above, the company experts have planned to install the following number of computers in each of their offices:

Head Office	100
Sales Office	20
Tech Office	50
Kolkata Office	50
Ahmedabad Office	50
Coimbatore Office	50

(i) Suggest network type (out of LAN, MAN, WAN) for connecting each of the following set of their offices:

- Head Office and Tech Office
- Head Office and Coimbatore Office

(ii) Which device will you suggest to be procured by the company for connecting all the

computers within each of their offices out of the following devices?

- Modem
- Telephone
- Switch/ Hub

(iii) Which of the following communication media, will you suggest to be procured by the company for connecting their local offices in New Delhi for very effective and fast communication?

- Ethernet Cable
- Optical Fiber
- Telephone Cable

(iv) Suggest a cable/ wiring layout for connecting the company’s local offices located in New Delhi.

Section C

Q4.

a)	Write the output of the following SQL queries : (i) SELECT MID('BoardExamination',2,4); (ii) SELECT ROUND(67.246,2);	2
b)	Differentiate between Django GET and POST method.	2
c)	What is foreign key? Write SQL command to declare it as an example.	2

	<p>d) i.) Create a table with the name 'Order' with the following description.</p> <table border="1" data-bbox="384 136 887 338"> <thead> <tr> <th>Column Name</th> <th>Constraint</th> </tr> </thead> <tbody> <tr> <td>OrderId</td> <td>Primary Key</td> </tr> <tr> <td>OrderDate</td> <td>Not Null</td> </tr> <tr> <td>OrderAmount</td> <td></td> </tr> <tr> <td>StoreId</td> <td></td> </tr> </tbody> </table> <p>II.) Write a SQL command to add a new column 'Amount' in above table. III.) Write SQL command rename the column name from StoreID to Store_ID.</p>	Column Name	Constraint	OrderId	Primary Key	OrderDate	Not Null	OrderAmount		StoreId		3																																
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	<p>e) 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="288 546 1458 882"> <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	6
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Section - D																																												
Q5.	a) What is private browsing? Why is it considered a better way of browsing the internet?	1																																										
	b) What is meant by the term Cyber Forensics?	1																																										
	c) What do you understand by the term Plagiarism?	1																																										
	d) Name the different types of intellectual property.	1																																										
	e) Define the following: (a) Digital footprint (b) Cookies	2																																										
	f) Differentiate between Proprietary Licence and Open Source Licence.	2																																										
	g) What are the gender and disability issues while teaching/using computers?	2																																										