

KENDRIYA VIDYALAYA SANGATHAN, RAIPUR REGION
COMPUTER SCIENCE – NEW (083)
PRE BOARD-II EXAMINATION (2019-20)
CLASS- XII

Max. Marks: 70

Time: 3 hrs

General Instructions:

- All questions are compulsory. Programming language Python
- Question paper is divided into 4 sections A, B, C and D.
 - Section A : Unit-1
 - Section B : Unit-2
 - Section C: Unit-3
 - Section D: Unit-4

SECTION-A

Q. 1	(a)	Which of the following is valid output of the 7//3 i) 2 ii) 2.0 iii) 2.1 iv) 2.3	1
	(b)	Identify the correct identifier from the following test finally act as global	1
	(c)	Name any two methods from python library module string	1
	(d)	Rewrite the following code in python after removing all syntax error(s). underline each correction done in the code. <pre> DEF execmain(): x = input("Enter a number:") if (abs(x)= x): print"You entered a positive number" else: x=-1 print"Number made positive:"x execmain() </pre>	2
	(e)	Find and write the output pf the following code <pre> def ChangeList(): L =[], L1 =[], L2 =[] for i in range(1,10): L.append(i) for i in range(10,1,-2): L1.append(i) for i in range(len(L1)): L2.append(L1[i]+L[i]) L2.append(len(L)-len(L1)) print(L2) ChangeList() </pre>	2
	(f)	Find and write the output of the following python code: <pre> L1 = [100,900,300,400,500] START = 1 SUM = 0 for C in range(START,4): SUM = SUM + L1[C] print(C, ":", SUM) SUM = SUM + L1[0]*10 </pre>	3

		<code>print(SUM)</code>	
	(g)	Study the following program and select the possible output(s) from the options (i) to (iv) following it. Also, write the maximum and the minimum values that can be assigned to the variable Y <pre>import random X= random.random() Y= random.randint(0,4) print(int(X),":",Y+int(X))</pre> (i) 0:0 (ii) 1:6 (iii) 2:4 (iv) 0:3	2
Q.2	(a)	What are mutable data object? Declare a mutable variable	1
	(b)	Find and write the output of the following python code: <pre>thisdict = { "brand": "Ford", "model": "Mustang", "year": 1964 } thisdict["color"] = "red" print(len(thisdict))</pre>	1
	(c)	Write the name of any four python's built in string manipulation methods	1
	(d)	Find and write the output of the following python code: <pre>colors = ["violet", "indigo", "blue", "green", "yellow", "orange", "red"] del colors[4] colors.remove("blue") colors.pop(3) print(colors)</pre>	1
	(e)	Identify the local and global variable <pre>a =15 b =10 defadd(): c =a +b print(c) add()</pre>	1
	(f)	Write the factors which are responsible for making a program efficient	2
	(g)	Complete the following code to draw a sine wave for a given range of values <pre>import matplotlib.pyplot as p import numpy as np xvals=np.arange(-2, 1, 0.01) yvals=np.sin(xvals)</pre>	2

		_____ #statement to plot the sine wave _____ #statement to display the sine wave on screen OR Write a python program to create a pie chart for sequence pop=[25.7,22.8,28,35,40] for AREAs ['NORTH','SOUTH','EAST','WEST','CENTRAL'] Show NORTH area 's value exploded. Show % population of each area.	
	(h)	Write a program to count and display the no of lines starting with 'T' present in a text file "lines.txt". OR Write a function HeSheCount() in python to read the contents of a text file " Paragraph .txt , to count and display the occurrence of the word "He" or "She"	2
	(i)	Write a recursive function BinarySearch(List1, key, lb, ub) to search the given element key in List1 where lb is the lower bound and ub is the upper bound. OR Write a recursive function Fibonacci (limit) to generate the series up to a number passed as limit	3
	(j)	Write functions to push and pop elements of a stack of item also check to stack is is empty or not. OR Write Qin(client) and Qout(client) functions in Python to add new client and delete a client from a list of client names , considering them to act as insert and delete operations of the Queue data structure.	4
SECTION-B			
Q. 3	(a)	Arrange in ascending order by the capacity of transmitting communication Fiber Optic Cable, coaxial Cable, Twisted pair Cable, Ethernet Cable	1
	(b)	is a network of physical object embedded with electronics software, sensors and network connectivity.	1
	(c)	is a device that connect dissimilar network use different protocol	1
	(d)	is a generic term used in internet	1
	(e)	Give the full form of the following (i) RFID (ii) MAC (iii) POP (iv) NFC	2
	(f)	Write the purpose of the following network tools (i) Ping (ii) nslookup	2

	(g)	Explain the following address of network (i) Web address (ii) IP address (iii) MAC address	3
	(h)	Riana Medicos Centre has set up its new centre in Dubai. It has four buildings as shown in the diagram given below:	4

Distances between various buildings are as follows:

Accounts to Research Lab	55 m
Accounts to Store	150 m
Store to Packaging Unit	160 m
Packaging Unit to Research Lab	60 m
Accounts to Packaging Unit	125 m
Store to Research Lab	180 m

Building	No. of Computer
Accounts	25
Research Lab	100
Store	15
Packaging Unit	60

As a network expert, provide the best possible answer for the following queries:

Suggest the type of network established between the buildings.

Suggest the most suitable place (*i.e.*, building) to house the server of this organization.

(iii) Suggest the placement of the following devices with justification:

(a) Repeater (b) Hub/Switch

Suggest a system (hardware/software) to prevent unauthorized access to or from the network.

SECTION – C

Q . 4	(a)	Which clause is used to places conditions on groups	1
	(b)	Choose the correct constraint which is used to enforce to satisfy certain condition Primary Key, Foreign Key, Default, Check, Unique	1
	(c)	A row of a relation is generally referred as a	1
	(d)	Write any four group function (aggregate functions)	1
	(e)	Differentiate between UPDATE and ALTER Command Or	2

		Differentiate between DELETE and DROP Command																																											
	(f)	Write the command to create Project and App in Django based Web application	2																																										
	(g)	Write a output for SQL queries (i) to (iii), which are based on the table TRANSACTION given below <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>101</td><td>12000</td><td>Deposit</td><td>2017-11-06</td></tr></table> (i) SELECT ANO, COUNT(*), MIN(AMOUNT) FROM TRANSACTION GROUP BY ANO HAVING COUNT(*)> 1 (ii) SELECT COUNT(*), SUM(AMOUNT) FROM TRANSACTION WHERE DOT <= '2017-06-01'; (iii) SELECT TYPE, AVG(AMOUNT) FROM TRANSACTION GROUP BY TYPE	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	101	12000	Deposit	2017-11-06	3												
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	(h)	Table COACHING is shown below. Write commands in SQL for (i) to (iv) <table><tr><td>ID</td><td>NAME</td><td>AGE</td><td>CITY</td><td>FEE</td><td>PHONE</td></tr><tr><td>P1</td><td>SAMEER</td><td>34</td><td>DELHI</td><td>45000</td><td>9811076656</td></tr><tr><td>P2</td><td>ARYAN</td><td>35</td><td>MUMBAI</td><td>54000</td><td>9911343989</td></tr><tr><td>P4</td><td>RAM</td><td>34</td><td>CHENNAI</td><td>45000</td><td>9810593578</td></tr><tr><td>P6</td><td>PREMLATA</td><td>36</td><td>BHOPAL</td><td>60000</td><td>9910139987</td></tr><tr><td>P7</td><td>SHIKHA</td><td>36</td><td>INDORE</td><td>34000</td><td>9912139456</td></tr><tr><td>P8</td><td>RADHA</td><td>33</td><td>DELHI</td><td>23000</td><td>8110668888</td></tr></table> (i) Write a query to display name in descending order whose age is more than 23. (ii) Write a query to find the average fee grouped by age from Coaching Table (iii) Write query to display name and city whose fee is between 30000 and 40000 and lives in mumbai (iv) Write a query to increase the fee by 10% of student who lives in city DELHI	ID	NAME	AGE	CITY	FEE	PHONE	P1	SAMEER	34	DELHI	45000	9811076656	P2	ARYAN	35	MUMBAI	54000	9911343989	P4	RAM	34	CHENNAI	45000	9810593578	P6	PREMLATA	36	BHOPAL	60000	9910139987	P7	SHIKHA	36	INDORE	34000	9912139456	P8	RADHA	33	DELHI	23000	8110668888	4
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SECTION-D																																													
Q. 5	(a)	is an electronic discovery technique used to determine and reveal technical criminal evidence	1																																										
	(b)	 is a fraudulent attempt to obtain sensitive information such as usernames, passwords, and credit card details	1																																										
	(c)	Explain the gender and disability issues while using computers in the classroom	2																																										
	(d)	How can we recycle e-waste safely?	2																																										

	(e)	Name and define purpose of any two generally used open source software.	2
	(f)	What are Intellectual Property Rights (IPR)?	2

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