

**Kendriya Vidyalaya Sangathan, Chennai Region**  
**Tambaram Cluster**  
**Pre Board Examination 2020-21**  
**Class: XII**  
**Computer Science (083)**

Maximum Marks: 70

Time Allowed: 3 hours

**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 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 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

Q.No.	<b>PART A</b>	Marks
	<b>Section-I</b> <b>Attempt any 15 questions from question no 1 to 21.</b>	
1	Find odd one out from the following. (a) *    (b) /    (c) &    (d) //	1
2	If s = "Courage to continue" what will be the output of print(s.split())	1
3	If l = [2,3,5, <u>7,6</u> ,7,4]	1

	Write a slicing operation to display the underlined section of list.	
4	Identify the mutable data types? (a) List (b) Tuple (c) Dictionary (d) String	1
5	If d = {1:"First",2:"Second",3:"Third"} Write a command to display [1,2,3]	1
6	A non-key attribute, whose values are derived from primary key of some other table. (a) Alternate Key (b) Foreign Key (c) Primary Key (d) Candidate Key	1
7	Name any two wireless mobile communication protocols.	1
8	RJ 45 connector can be used to connect (a) Twisted Pair Cable      (b) Optical Fiber (c) Coaxial Cable              (d) Radio communication	1
9	Why https is considered more secured?	1
10	State true or false. (a) XML has pre-defined tags. (b) HTML is a case-sensitive language.	1
11	Find the output of X = 50 def funct(X): X = 2 funct (X) print("X is now:"X)	1
12	State (True / False) (a) 'Having' clause gives condition on rows. (b) count(columnname) and count(*) would always give same result.	1
13	A table has 5 attributes and 7 tuples. What is its degree and cardinality?	1
14	Riju wanted to find the date of birth of the youngest student from a table. Suggest a n aggregate function in SQL to find the youngest student.	1
15	Name the attack that encrypts the files and demands money for decryption of the file.	1
16	Consider the following statement. Dict = { "Teena":18,"Riya":12, "Aliya":22}	1



	<pre> fh=_____ # Line 2 swriter = _____(fh) #Line 3 ans='y' i=1 while ans=='y':     print("Record",i)     sport=input("Sport name")     prizes=int(input("Enter prizes won"))     _____ # Line 4     i=i+1     ans=input("Want to enter records") fh._____ #Line 5 </pre> <p>a) Name the module to be imported in Line 1.</p> <p>b) Fill in line 2 to open the CSV file.</p> <p>c) Write the correct statement to write the data into file in line 3.</p> <p>d) Write the statement to write the records given as input from user in line 4.</p> <p>e) Write a statement to close the file.</p>	
<b>Part – B</b>		
<b>Section-I</b>		
24	<p>Evaluate the following expressions</p> <p>(a) 0 and 8 and 7 or 5</p> <p>(b) <math>6 * 5 + 3 ** 2 // 4 - 8</math></p>	2
25	<p>Differentiate between HTML and XML</p> <p style="text-align: center;">OR</p> <p>Explain the relationship between web browser and web server.</p>	2
26	Differentiate between 3G and 4G Mobile technologies.	2
27	<p>How variable number of parameter can be given to a Python function?</p> <p style="text-align: center;">OR</p> <p>Differentiate between actual parameter(s) and a formal parameter(s)</p>	2

28	<p>Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.</p> <pre> Def Display(str):     m=""     for i in range(0,len(str)):         if(str[i].isupper()):             m=m+"*"         elif islower.str[i]:             m=m+"%"         else:             if i%2=0:                 m=m+str[i-1]             else:                 m=m+#         print(m) Display('Fun@Python3.0') </pre>	2
29	<p>What are the possible outcome(s) executed from the following code? Also specify the maximum and minimum values of the variable NUM.</p> <pre> import random NAV=["LEFT","FRONT","RIGHT","BACK"] NUM=random.randint(1,3) NAVG="" for C in (NUM,1,-1):     NAVG=NAVG+NAV[C] print(NAVG) </pre> <p>i) BACKRIGHT                      ii) BACKRIGHTFRONT  iii) BACK                              iv) LEFTFRONTRIGHT</p>	2
30	<p>Which command in SQL is used for updating the size of data type of a existing table? What are the precautions that need to be taken while updating datatype in an existing table?</p>	2
31	<p>Write the command to connect Python with mysql through 'localhost' port,'root' username, 'password' as password and database to be used is 'customer'. Also create a cursor object for this connection.</p>	2
32	<p>How is equi-join different from natural-join? Give example.</p>	2

33	<p>Find the output of the following Python program.</p> <pre>def f3(a,b):     global x,y     x=a+b     a,y=a+x,a*x     print(a,b,x,y) f3(5,10) print(f3(b=x,a=y))</pre>	2
<b>Section-II</b>		
34	<p>Given a nested list of tuples test=[(1,2),(3,4,15,5,15),(7,8,12,15)]. Write a function that displays the means of individual elements of list and then display the mean of these computed means. Output should be like the one given below.</p> <pre>Mean element1:1.5 Mean element2: 8.2 Mean element3: 10.5 Mean of means: 6.73</pre>	3
35	<p>Write a function in Python that copies a text file “source.txt” into “target.txt” barring the lines starting with a digit.</p> <p style="text-align: center;">OR</p> <p>Write a function in Python to count the number of lines in a text file “HOMEWORK.TXT” which starts with the alphabet ‘M’ or ‘m’.</p>	3
36	<p>Write the outputs of the SQL queries (i) to (iii) based on the relations PERSONAL and</p> <p>DETAILS.</p>	3

**RELATION: PERSONAL**

INO	PNAME	ADDRESS
501	RIDDHI	CHENNAI
502	RITHVIK	BANGALORE
503	IRFAAN	CHENNAI
504	SIDDHESH	DELHI
505	KUNAL	HYDERABAD

**RELATION: DETAILS**

DNO	INO	AMOUNT	TYPE	DOT
D001	501	2500	Withdraw	2017-12-21
D002	503	3000	Deposit	2017-06-01
D003	502	2000	Withdraw	2017-05-12
D004	503	1000	Deposit	2017-10-22
D005	502	12000	Deposit	2017-11-06

(i) SELECT AVG(AMOUNT) FROM PERSONAL,DETAILS WHERE PERSONAL.INO = DETAILS.INO AND CITY = "CHENNAI";

(ii) SELECT COUNT(\*) FROM DETAILS GROUP BY TYPE;

(iii) SELECT CITY,DOT FROM PERSONAL,DETAILS WHERE PERSONAL.INO = DETAILS.INO AND NAME LIKE '%R%';

37 Write a function in Python PUSH(A), where A is a list of numbers. From this list push all even numbers into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.

OR

Write a function in Python Popstack (names), where **names** is a stack implemented by a list of names. The function returns the name deleted from the stack.

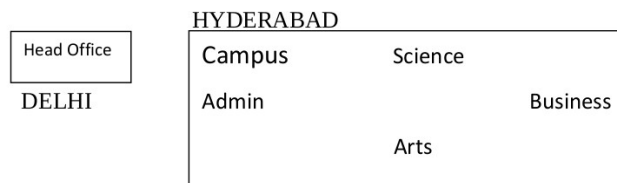
3

**Section-II**

38 Xcelencia Edu Services Ltd. is an educational organisation. It is planning to set

5

up its campus in Hyderabad with its head office at Delhi. The Hyderabad campus has 4 main buildings-ADMIN, SCIENCE, BUSINESS and ARTS. You as a network expert has to suggest the best network related solutions for their problems raised in questions (i) to (v) keeping in mind the distances between the buildings and other given parameters.



The shortest distances between the buildings is

ADMIN to SCIENCE	65 m
ADMIN to BUSINESS	100 m
ADMIN to ARTS	60 m
SCIENCE to BUSINESS	75 m
SCIENCE to ARTS	60 m
BUSINESS to ARTS	50 m
DELHI Head Office to HYDERABAD Campus	1600 km

The number of computer at each location are

ADMIN	100
SCIENCE	85
BUSINESS	40
ARTS	12
DELHI Head Office	20

(i) Draw a cable layout of the campus for connecting all the locations. Write the criteria you have opted to make the layout.

(ii) Suggest the most suitable place to host the server in the Hyderabad campus.



(iii) Suggest one guided and one unguided transmission media that can be used to connect various locations in Hyderabad campus.

(iv) Suggest the placement of Repeater in the network with justification.

(v) Which of the following protocol will you suggest to establish the online face-face communication between the people in the Admin Office of Hyderabad campus and Delhi Head Office?

(a) IRC (b) SMTP (c) POP3 (d) HTTP

39 Write the SQL commands for the following questions (i) to (v) based on the relations Car and Customer given below:

5

**Car**

Ccode	Cname	Make	Colour	Capacity	Charges
201	Triber	Renault	Yellow	7	1000
203	Altroz	Tata	Black	5	1500
208	Innova	Toyota	Silver	8	3000
209	Harrier	Tata	White	6	2000
212	Duster	Renault	Red	6	2500
217	Ertiga	Suzuki	Grey	7	2300

**Customer**

Custcode	Custname	Ccode
101	Gopinath	201
102	Ashok	203
103	Harshini	201
104	Vishnu	212

(i) To display the Names and Charges of all the Silver coloured cars.

(ii) To display the non duplicate car codes in the customer table.

(iii) To display the Minimum and Maximum car charges.

(iv) To give a discount of 10% in the car charges for existing customers (who are in the customer table).

	(v) To display Name and Make of cars whose charges is in the range 2000 to 3000 (both inclusive).	
40	<p>A binary file “vehicle.dat” has structure [RegNo, Type, Make, Year].</p> <ol style="list-style-type: none"> <li>Write a user defined function AddVahan() to input data for a vehicle and add to “vehicle.dat” file.</li> <li>Write a function CountVahan( ) in Python which count and return the number of vehicles of the each Type.</li> </ol> <p style="text-align: center;">OR</p> <p>A binary file “STUDENT.DAT” has structure (admission_number, Name, Percentage). Write a function countrec() in Python that would read contents of the file “STUDENT.DAT” and display the details of those students whose name has “Kumar” in it.</p>	5