

KENDRIYA VIDYALAYA SANGATHAN, RAIPUR REGION
FIRST PREBOARD EXAM, SESSION: 2020-21
Class: XII
Subject: Computer Science (083)

Maximum Marks:70

Time Allowed: 3hours

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 2sections:
 - 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

Q.NO	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.	Marks Allotted
1	Which of the following is valid relational operator in Python: ? (i)// (ii)? (iii)< (iv)and	1
2	Given the lists L=[1,3,6,82,5,7,11,92] , write the output of print(L[2:5])	1
3	Which module is used for working with CSV files in Python?	1
4	Identify the valid declaration of L: L = [1, 23, 'hi', 6] (i)list (ii)dictionary (iii)array (iv)tuple	1
5	Suppose list L is declared as L = [0.5 * i for i in range (0,4)], list L is a) [0,1,2,3] b) [0,1,2,3,4] c) [0.0,0.5,1.0,1.5] d) [0.0,0.5,1.0,1.5,2.0]	1
6	Write a statement in Python to declare a dictionary whose keys are 'Jan', 'Feb', 'Mar' and values are 31, 28 and 31 respectively.	1
7	A list is declared as L=[(2,5,6,9,8)] What will be the value of print(L[0])?	1
8	A function definition in python begins with which keyword?	1
9	Name the protocol that is used for the transfer of hypertext content over the web.	1
10	In a Multi-National company Mr. A steals Mr. B's intellectual work and representing it as A's own work without citing the source of information, which kind of act this activity be termed as?	1
11	In SQL, name of the keyword used to display unique values of an attribute.	1
12	In SQL, what is the use of ORDER BY clause ?	1

13	Write the function used in SQL to display current date.	1
14	Which of the following is a DML command? a) CREATE b)ALTER c) INSERT d) DROP	1
15	Give at least two names for Guided and Unguided Transmission Media in networking.	1
16	What will be the output when the following code is executed >>> str1 = "helloworld" >>> str1[: -1] a. 'dlrowolleh' b. 'hello' c. 'world' d. 'helloworl'	1
17	If the following code is executed, what will be the output of the following code? name="Kendriya Vidyalaya Class 12" print(name[9:15])	1
18	In SQL, write the command / query to display the structure of table 'emp' stored in a database.	1
19	Write the expanded form of Wi-Fi and GSM.	1
20	Which of the following type of column constraints will allow the entry of unique and not null values in the column? a) Unique b) Distinct c) Primary Key d) NULL	1
21	Rearrange the following terms in increasing order of data transfer rates. Gbps, Mbps, Tbps, Kbps, bps	1

Section-II

Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark

22	<p>A Medical store "Lifeline" is planning to maintain their inventory using SQL to store the data. A database administer has decided that:</p> <ul style="list-style-type: none"> • Name of the database -medstore • Name of the table –MEDICINE • The column of MEDICINE table are as follows: <ul style="list-style-type: none"> • ino - integer • iname – character of size 15 • mcode - integer • qty – integer <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>ino</th> <th>iname</th> <th>mcode</th> <th>qty</th> </tr> </thead> <tbody> <tr> <td>1001</td> <td>Surgical Mask</td> <td>22</td> <td>60</td> </tr> <tr> <td>1002</td> <td>Sanitizer</td> <td>22</td> <td>50</td> </tr> <tr> <td>1003</td> <td>Paracetamol</td> <td>21</td> <td>150</td> </tr> <tr> <td>1005</td> <td>Fast Relief gel</td> <td>23</td> <td>250</td> </tr> <tr> <td>1006</td> <td>Dettol</td> <td>22</td> <td>220</td> </tr> <tr> <td>2004</td> <td>Cough syrup</td> <td>24</td> <td>110</td> </tr> <tr> <td>2009</td> <td>Hand gloves</td> <td>22</td> <td>180</td> </tr> </tbody> </table>	ino	iname	mcode	qty	1001	Surgical Mask	22	60	1002	Sanitizer	22	50	1003	Paracetamol	21	150	1005	Fast Relief gel	23	250	1006	Dettol	22	220	2004	Cough syrup	24	110	2009	Hand gloves	22	180	
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	(a) Identify the attribute best suitable to be declared as a primary key,	1
	(b) If Administrator adds two more attributes in the table MEDICINE then what will be the degree and cardinality of the table MEDICINE.	1
	(c) Administrator wants to update the content of the row whose ino is 1003 as , iname = "Paracetamol Tablet " mcode = 25 and qty = 100	1
	(d) Administrator wants to remove the table MEDICINE from the database medstore . Which command will he use from the following: a) DELETE FROM store; b) DROP TABLE MEDICINE; c) DROP DATABASE medstore; d) DELETE MEDICINE FROM medstore;	1
	(e) Now Administrator wants to display only unique code of the table MEDICINE . Write the query to display the same	1
23	<p>Ranjan Kumar of class 12 is writing a program to create a CSV file "user.csv" which will contain user name and password for some entries. He has written the following code. As a programmer, help him to successfully execute the given task.</p> <pre> import_____ # Line 1 def addCsvFile(UserName,PassWord): # to write / add data into the CSV file f=open('user.csv','____') # Line2 newFileWriter = csv.writer(f) newFileWriter.writerow([UserName,PassWord]) f.close() #csv file reading code def readCsvFile(): # to read data from CSV file with open(' user.csv','r') as newFile: newFileReader = csv.__(newFile) # Line 3 for row in newFileReader: print (row[0], row[1]) newFile._____ # Line4 addCsvFile("Arjun","123@45) addCsvFile("Arunima","aru@ma") addCsvFile("Frieda","myname@FRD") readCsvFile() # Line5 </pre>	
	a) Name the module he should import in Line 1	1
	b) In which mode, Ranjan should open the file to add data into the file	1
	c) Fill in the blank in Line 3 to read the data from a csv file.	1
	d) Fill in the blank in Line 4 to close the file.	1
	e) Write the output he will obtain while executing Line 5	1

Part B		
Section-I		
24	Evaluate the following expressions: a) $6 * 3 + 4 ** 2 // 5 - 8$ b) $10 > 5$ and $7 > 12$ or not $18 > 3$	2
25	Differentiate between Virus and Trojan Horse in context of networking and data communication threats. OR Differentiate between Web hosting and web browser. Write any two popular web browsers.	2
26	Expand the following terms: a. SMTP b. XML c. MAN d. FTP	2
27	Differentiate between actual parameter(s) and a formal parameter(s) with a suitable example for each. OR Write the difference between Global Variable and Local Variable	2
28	Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. <pre> DEF execmain(): x = int(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
29	What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? <pre> import random X= random.random() Y= random.randint(0,4) print(int(),":",Y+int(X)) </pre> (i) 0:5 (ii) 0:3 (iii) 0:0 (iv) 2:5	2
30	Define Candidate Key and Alternate Key with suitable examples from a table containing some meaningful data.	2
31	Differentiate between <i>fetchone()</i> and <i>fetchall()</i> methods with suitable examples for each.	2
32	Write the full forms of TCL and DDL. Write any two commands of DDL in SQL.	2

33	<p>Find and write the output of the following Python code:</p> <pre> def mainu(): Moves=[11, 22, 33, 44] Queen=Moves Moves[2]+=22 L=len(Moves) for i in range (L): print("Now@", Queen[L-i-1], "#", Moves [i]) mainu()</pre>	2
Section- II		
34	<p>Write a function copylist(lst1,lst2) in Python, which accepts two list Lst1 and Lst2 of numbers and copies the common numbers into third list.</p> <p>Sample Input Data of the list</p> <pre> lst1 = [10,20,30,40,12,11] lst2 = [10,30,40,13,15,76]</pre> <p>Output [10,30,40]</p>	3
35	<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”.</p> <p>For example : If the content of the file is-</p> <p>IT IS UP TO US TO TAKE CARE OF OUR SURROUNDING. IT IS NOT POSSIBLE ONLY FOR THE GOVERNMENT TO TAKE RESPONSIBILITY</p> <p>The method/function should display Count of IS TO and UP is 6</p> <p style="text-align: center;">OR</p> <p>Write a function AMCount() in Python, which should read each character of a text file STORY.TXT, should count and display the occurrence of alphabets A and M (including small cases a and m too).</p> <p>Example:</p> <p>If the file content is as follows:</p> <p style="text-align: center;">Updated information As simplified by official websites.</p> <p>The AMCount() function should display the output as:</p> <p>A or a:4</p>	3

Table Name : Stationery				
S_ID	StationeryName	Company	Price	StockDate
DP01	Dot Pen	ABC	10	2011-05-31
PL02	Pencil	XYZ	6	2010-01-01
ER05	Eraser	XYZ	7	2010-02-14
PL01	Pencil	CAM	5	2009-01-09
GP02	Gel Pen	ABC	15	2009-03-19

Table Name: Consumer			
C_ID	ConsumerName	Address	P_ID
01	Good Learner	Delhi	PL01
06	Write Well	Mumbai	GP02
12	Topper	Delhi	DP01
15	Write & Draw	Delhi	PL02
16	Motivation	Bengaluru	PL01

- i. SELECT count(DISTINCT Address) FROM Consumer;
- ii. SELECT Max(StockDate),Min(StockDate) FROM Stationery;
- iii. SELECT Stationery.StationeryName,Stationery.Company, Consumer.ConsumerName, Consumer.Address FROM Stationery, Consumer WHERE Stationery.S_ID = Consumer.P_ID AND Consumer.Address ="Delhi";

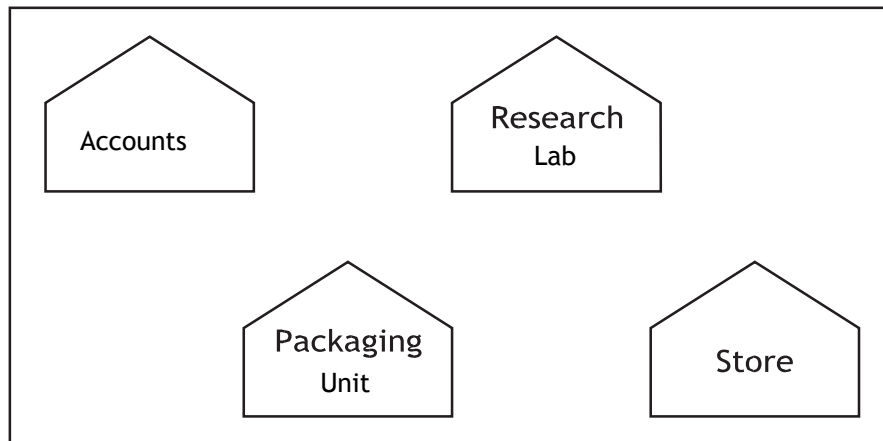
37	<p>Write a function in Python PushBook(Book) to add a new book entry as book_no and book_title in the list of Books , considering it to act as push operations of the Stack data structure.</p> <p style="text-align: center;">OR</p> <p>Write a function in Python PopBook(Book), where Book is a stack implemented by a list of books. The function returns the value deleted from the stack.</p>	3
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Section- III

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Riana Medicos Centre has set up its new centre in Dubai. It has four buildings as shown in the diagram given below:

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Accounts to Research Lab	55 m	Building	No. of Computer
Accounts to Store	150 m	Accounts	25
Store to Packaging Unit	160 m	Research Lab	100
Packaging Unit to Research Lab	60 m	Store	15
Accounts to Packaging Unit	125 m	Packaging Unit	60
Store to Research Lab	180 m		

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

- i. Suggest the type of network established between the buildings.
- ii. Suggest the most suitable place (*i.e.*, building) to house the server of this organization.
- iii. Suggest the placement of the Repeater in the network with justification.
- iv. Which device will you suggest to be placed/installed in each of these blocks /centers to efficiently connect all the computers within these blocks/centers.
- v. Suggest a system (hardware/software) to prevent unauthorized access to or from the network.

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Write SQL commands for the following queries (i) to (v) based on the relations Vehicle and Travel given below.

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Table :Travel					
NO	NAME	TDATE	KM	CODE	NOP
101	Janish Kin	2015-11-13	200	101	32
103	Vedika Sahai	2016-04-21	100	103	45
105	Tarun Ram	2016-03-23	350	102	42
102	John Fen	2016-02-13	90	102	40
107	Ahmed Khan	2015-01-10	75	104	2
104	Raveena	2016-05-28	80	105	4

	<p>Table : Vehicle</p> <table border="1"> <thead> <tr> <th>CODE</th> <th>VTYPE</th> <th>PERKM</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>VOLVO BUS</td> <td>160</td> </tr> <tr> <td>102</td> <td>AC DELUXE BUS</td> <td>150</td> </tr> <tr> <td>103</td> <td>ORDINARY BUS</td> <td>90</td> </tr> <tr> <td>105</td> <td>SUV</td> <td>40</td> </tr> <tr> <td>104</td> <td>CAR</td> <td>20</td> </tr> </tbody> </table> <ol style="list-style-type: none"> To display NO, NAME, TDATE from the table Travel in descending order of NO. To display the NAME of all the travelers from the table Travel who are travelling by vehicle with code 101 or 102. To display the NO and NAME of those travelers from the table Travel who travelled between '2015-12-31' and '2016-04-01'. To display the CODE,NAME,VTYPE from both the tables with distance travelled (km) less than 90 Km. To display the NAME of those traveler whose name starts with the alphabet 'R'. 	CODE	VTYPE	PERKM	101	VOLVO BUS	160	102	AC DELUXE BUS	150	103	ORDINARY BUS	90	105	SUV	40	104	CAR	20	
CODE	VTYPE	PERKM																		
101	VOLVO BUS	160																		
102	AC DELUXE BUS	150																		
103	ORDINARY BUS	90																		
105	SUV	40																		
104	CAR	20																		
40	<p>A binary file "student.dat" has structure [rollno, name, marks].</p> <ol style="list-style-type: none"> Write a user defined function insertRec() to input data for a student and add to student.dat. Write a function searchRollNo(<i>r</i>) in Python which accepts the student's rollno as parameter and searches the record in the file "student.dat" and shows the details of student i.e. rollno, name and marks (if found) otherwise shows the message as 'No record found'. <p style="text-align: center;">OR</p> <p>Write a function filter(oldfile, newfile) that copies all the lines of a text file "source.txt" onto "target.txt" except those lines which starts with "@" sign.</p>	5																		