SAMPLE PAPER-4

CLASS :XII

SUBJECT: COMPUTER SCIENCE (83)

Time Allowed :03 Hours **Maximum Marks : 70**

General Instructions

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In the case of MCQ, the text of the correct answer should also be written.

Q No	Question	Marks
	SECTION A	
1	State True or False: “In a Python loops can also have else clause”	1

2	What is the output of the following code?
	Text = 'Happy hour12-3'
	L= " "
	for i in range(len(Text)):
	if Text[i].isupper():
	L=L+Text[i].lower()
	
	elif Text[i].islower():
	L=L+Text[i].upper()
	
	elif Text[i].isdigit():
	L=L+(Text[i]*2)
	else:
	L=L+'#'
	print(L)
	(A)hAPPY#HOUR1122#33
	(B)Happy#hOUR12#3
	(C)hAPPY#HOUR112233
	(D)Happy Hour11 22 33 #	

3	Consider the given expression: 17%5==2 and 4%2>0 or 15//2==7.5 Which of the following will be correct output if the given expression is evaluated? (a)True (b) False (c)None (d)Null	1
4	Select the correct output of the code: s = "Question paper 2022-23"	1

	s= s.split('2') print(s) a. ['Question paper ', '0', '', '-', '3'] b. ('Question paper ', '0', '', '-', '3') c. ['Question paper ', '0', '2', '', '-', '3'] d. ('Question paper ', '0', '2', '', '-', '3')	
5	What will be the output of following code if a = “abcde” a [1:1] == a [1:2] type (a[1:1]) == type (a[1:2])	1
6	Select the correct output of the code: a = "foobar" a = a.partition("o") print(a) (a) ["fo","","bar"] (b) ["f","oo","bar"] (c) ["f","o","bar"] (d) ("f","o","obar")	1
7	State whether the following statement is True or False: An exception may be raised even if the program is syntactically correct.	1

8	Identify the output of the following python code: 1
	D={1:"one",2:"two", 3:"three"}
	L=[]
	for k,v in D.items():
	if 'o' in v:
	L.append(k)
	print(L)
	
	(a) [1,2] (b) [1,3] (c)[2,3] (d)[3,1]
		1

9	Which of the following is not a tuple in python? (a) (10,20) (b) (10,) (c) (10) (d) All are tuples.	1
10	Which of the following is the correct usage for tell() of a file object,…….? 1 a) It places the file pointer at the desired offset in a file. b) It returns the byte position of the file pointer as an integer. c) It returns the entire content of the file. d) It tells the details about the file.	1
11	What will be the output of the following Python code snippet? d1 = {"john":40, "peter":45} d2 = {"john":466, "peter":45} d1 > d2 a. True b. False c. Error d. None	1
12	Consider the code given below: b=5 def myfun(a): _____# missing statement. b=b*a myfun(14) print(b)	1

	Which of the following statements should be given in the blank for # Missing statement, if the output produced is 70? a. global a b. global b=70 c. global b d. global a=70	
13	Which of the following commands is not a DDL command? 1 (a) DROP (b) DELETE (c) CREATE (d) ALTER	1
14	Which of the following keywords will you use in the following query to display the unique values of the column dept_name? SELECT ---------- dept_name FROM Company; (a)All (b) key (c) Distinct (d) Name	1
15	What is the maximum width of numeric value in data type int of MySQL. a. 10 digits b. 11 digits c. 9 digits d. 12 digits	1
16	SUM(), AVG() and COUNT() are examples of _____functions. 1 a) single row functions b) aggregate functions c) math function d) date function	1
17	_____is a standard mail protocol used to receive emails from a remote server to a local email client. (a) SMTP (b) POP (c) HTTP (d) FTP	1
18	Pawan wants to transfer files and photos from laptop to his mobile. He uses Bluetooth Technology to connect two devices. Which type of network will be formed in this case. a. PAN b. LAN c. MAN d. WAN	1
19	Fill in the blank: In case of__switching, message is send in stored and forward manner from sender to receiver.	1
	Q20 and 21 are ASSERTION AND REASONING based questions. Mark the correct choice as (a) Both A and R are true and R is the correct explanation for A (b) Both A and R are true and R is not the correct explanation for A (c) A is True but R is False (d) A is false but R is True	
20	**Assertion (A):** The default argument values in Python functions can be mutable types like lists and dictionaries. **Reason (R):** Mutable default arguments retain their state across function calls, which can lead to unexpected behaviour.	1
21	**Assertion (A):** The HAVING clause in MySQL is used to filter records after the GROUP BY operation. **Reason (R):** The WHERE clause filters records before grouping, while HAVING allows for conditions on aggregated data.	1
	SECTION B	
22	Write difference between mutable and immutable property, Explain it with its example.	2

23	Predict the output of the Python code given below:
	T = (9,18,27,36,45,54)
	L=list(T)
	L1 = [ ]
	for i in L:
	  if i%6==0:
	  L1.append(i)
	T1 = tuple(L1)
	print(T1)
		2

24	Write the Python statement for each of the following tasks using BUILT-IN functions/methods only: (i) To insert an element 400 at the fourth position, in the list L1. (ii) To check whether a string named, message ends with a full stop/ period or not. OR A list named employeesalary stores salary of employees. Write the Python command to import the required module and (using built-in function) to display the most common salary value from the given list.	2
25	What possible outputs are expected to be displayed on the screen at the time of execution of the program from the following code? import random temp=[10,20,30,40,50,60] c=random.randint(0,4) for i in range(0, c): print(temp[i],"#") a) 10#20# b) 10#20#30#40#50# c) 10#20#30# d) 50#60#	2
26	Explain the following with help of example. 1. Primary Key 2. Candidate key	2
27	Ms. Rajni has just created a table named "Customer" containing columns Cname, Department and Salary. After creating the table, she realized that she has forgotten to add a primary key column in the table. Help her in writing an SQL command to add a primary key column Custid of integer type to the table Customer. Thereafter, write the command to insert the following record in the table: Custid- 555 Cname- Nandini Department: Management Salary- 45600	2
	OR Manish is working in a database named CCA, in which he has created a table named "DANCE" containing columns danceID, Dancename, no_of_participants, and category. After creating the table, he realized that the attribute, category has to be deleted from the table and a new attribute TypeCCA of data type string has to be added. This attribute TypeCCA cannot be left blank. Help Manish to write commands to complete both the tasks.	
28	(i) Expand the following terms: XML, SMTP (ii) Give the difference between XML and HTML. OR (i) Define the term baud with respect to networks. (ii) How is http different from https?	1+1=2

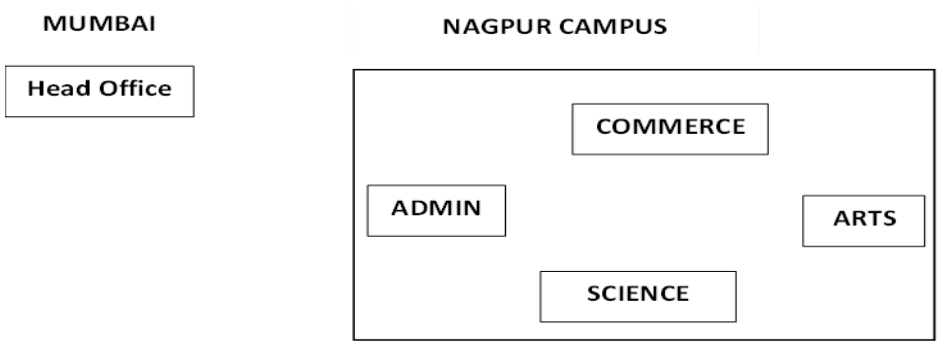
<table>
<tr><td></td><td>SECTION C</td><td></td></tr>
<tr><td>29</td><td>Write a user – defined function countH() in Python that displays the number of lines starting with ‘H’ in the file ‘Para.txt”. Example , if the file contains:
Whose woods these are I think I know.
His house is in the village though;
He will not see me stopping here
To watch his woods fill up with snow.
Output: The line count should be 2.
OR
Write a function countmy() in Python to read the text file “DATA.TXT” and count the number of times “my” occurs in the file. For example , if the file “DATA.TXT” contains –
“This is my website. I have displayed my preference in the CHOICE section.” The countmy( ) function should display the output as:
“my occurs 2 times”</td><td>3</td></tr>
<tr><td>30</td><td>Aalam has created a list, L containing marks of 10 students. Write a program, with separate user defined function to perform the following operation:
3

PUSH()- Traverse the content of the List, L and push all the odd marks into the stack,S.

POP()- Pop and display the content of the stack.

Example: If the content of the list is as follows:
L=[87, 98, 65, 21, 54, 78, 59, 64, 32, 49]
Then the output of the code should be: 49 59 21 65 87</td><td>3</td></tr>
<tr><td>31</td><td>Consider the table ACTIVITY given below:
<table><tr><th>ACODE</th><th>ACTIVITYNAME</th><th>PARTICIPANTS NUM</th><th>PRIZEMONEY</th><th>SCHEDULEDTE</th></tr><tr><td>1001</td><td>Relay Name</td><td>16</td><td>10000</td><td>2004-01-23</td></tr><tr><td>1002</td><td>High Jump</td><td>10</td><td>12000</td><td>2003-12-12</td></tr><tr><td>1003</td><td>Shot Put</td><td>12</td><td>8000</td><td>2004-02-14</td></tr><tr><td>1005</td><td>Long Jump</td><td>12</td><td>9000</td><td>2004-01-01</td></tr><tr><td>1008</td><td>Discuss Throw</td><td>10</td><td>15000</td><td>2004-03-19</td></tr></table>Based on the given table, write SQL queries for the following:
(i) Display the details of all activities in which prize money is more than 9000 (including 9000)
(ii) Increase the prize money by 5% of those activities whose schedule date is after 1st of March 2023.
(iii) Delete the record of activity where participants are less than 12.</td><td>3</td></tr>
<tr><td></td><td><u>SECTION D</u></td><td></td></tr>
<tr><td>32</td><td>You have learnt how to use math module in Class XI. Write a code where you use the wrong number of arguments for a method (say sqrt() or pow()). Use the exception handling process to catch the ValueError exception.</td><td>4</td></tr>
<tr><td>33</td><td>Write a python program to create a csv file dvd.csv and write 10 records in it Dvdid, dvd name, qty, price. Display those dvd details whose dvd price is more than 25.</td><td>4</td></tr>
</table>

34	Consider the following tables and answer the questions a and b: Table: Garment (GCode, GNam e, Rate, Qty, CCode) G101, Saree, 1250, 100, C03 G102, Lehang a, 2000, 100, C02 G103, Plazzo, 750, 105, C02 G104, Suit, 2000, 250, C01 G105, Patiala, 1850, 105, C01 Table: Cloth (CCode, CName) C01, Polyester C02, Cotton C03, Silk C04, Cotton- Polyester Write SQL queries for the following: i. Display unique quantities of garments. ii. Display sum of quantities for each CCODE whose numbers of records are more than 1. iii. Display GNAME, CNAME, RATE whose quantity is more than 100. iv. Display average rate of garment whose rate ranges from 1000 to 2000 (both values included)	1*4=4
35	Kishan wants to write a program in Python to insert the following record in the table named Flight in MYSQL database KV: ● Flno (Flight number)-varchar ● Source (source)- varchar ● Destination (Destination)-varchar ● Fare (fare)-integer Note the following to establish connectivity between Python and MySQL: ● User name-root ● Password – KVS@123 ● Host-localhost The values of fields Flno,Source,Destination and Fare has to be accepted from the user. Help Kishan to write the program in Python. OR Suman has created a table named Game in MYSQL database Sports: ● GID (Game ID)-integer ● Gname(Game name)-varchar ● No_of_Participants (number of participants)- integer Note the following to establish connectivity between Python and MySQL: ● Username: root ● Password: KVS@123 ● Host: localhost Suman, now wants to display the records of students whose number of participants are more than 10, Help Suman to write the program in Python.	4
	SECTION-E	
36	Write a program in Python that defines and calls the following functions: Insert() – To accept details of clock from the user and stores it in a csv file 'watch.csv'. Each record of clock contains following fields – ClockID,	5

	ClockName, YearofManf, Price. Function takes details of all clocks and stores them in file in one go. Delete() – To accept a ClockID and removes the record with given ClockID from the file 'watch.csv'. If ClockID not found then it should show a relevant message. Before removing the record it should print the record getting removed.	
37	Superior Education Society is an educational Organization. It is planning to setup its Campus at Nagpur with its head office at Mumbai. The Nagpur Campus has 4 main buildings – ADMIN, COMMERCE, ARTS and SCIENCE. You as a network expert have to suggest the best network related solutions for their problems raised in a to e, keeping in mind the distances between the buildings and other given parameters:  Shortest distances between various buildings: ADMIN to COMMERCE - 55 m ADMIN to ARTS - 90 m ADMIN to SCIENCE - 50 m COMERCE to ARTS - 55 m COMMERCE to SCIENCE - 50 ARTS to SCIENCE - 45 m MUMBAI Head Office to NAGPUR Campus – 850 KM Number of Computers installed at various buildings are as follows: ADMIN – 110 COMMERCE – 75 ARTS – 40 SCIENCE – 12 MUMBAI Head Office – 20 a. Suggest the most appropriate location of the server inside the Nagpur Campus to get the best connectivity for maximum number of computers. Justify your answer. b. Suggest and draw the cable layout to efficiently connect various buildings within the Nagpur campus for connecting the computers. c. Which of the following will you suggest to establish the online face-to-face communication between the people in the ADMIN office of Nagpur Campus and Mumbai Head office? i. Cable TV ii. E-mail iii. Video Conferencing iv. Text Chat d. Suggest the placement of following devices with appropriate reasons: i. Switch/Hub ii. Repeater e. Suggest the device/software to be installed in Nagpur Campus to take care of data security and unauthorized access. OR Which network type is formed between Nagpur office to Mumbai head office.	1*5=5