



# AMERICAN MONTESSORI PUBLIC SCHOOL

Pre- Board Examination-I (2020-2021)

Class- XII

Subject- Computer Science

Time Allowed: 3 Hours

Maximum Marks: 70

Set-A

## General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part N have choices.
3. Part-A has 2 sections:
  - a. Section-1 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 3 sections:
  - a. Section-I is short answer questions of 2 marks each in which two questions 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 answered using Python Language only.

Q.No	PART -A	Marks Allocated
	<b>SECTION-I</b> <b>Select the most appropriate option out of the options for each question. Attempt any 15 questions from question no 1 to 21.</b>	
1	Which value type does input() return? (a) Boolean (b) String (c) Int (d)Float	1
2	What will be the value of the expression? 14 + 13 % 15 (a) 14 (b) 27 (c) 12 (d) 0	1
3	Following set of commands is executed in shell, what will be the output? >>>str = "corona virus" >>>str [4 : 8] (a) ona (b) na v (c) coro (d) ona v	1
4	What is the use of load function?	1
5	A tuple is declared as T1 = (5,15,20,35) What will be the output of print(sum(T1))	1

6	A list is given as Age=[10, 20,30,40,50,60] What will be displayed as Age[:2] + Age[2:]	1												
7	In SQL, what is the use of distinct keyword?	1												
8	Identify the invalid variable names from the following: Roll No, 10marks, _sum, name	1												
9	Name the protocol which is helpful in transferring the files.	1												
10	Expand the term ISP.	1												
11	What will be the value of the expression? 37 // 5 (a) 7.4            (b) 7            (c) 7.0            (d) 7.40	1												
12	What do you mean by a primary key?	1												
13	Identify the valid declaration of test: test=['Python' ,10, 'Good', 25.45] (a) Tuple            (b) Dictionary            (c) List            (d) String	1												
14	In SQL, Which command is used to see the list of databases?	1												
15	Write a statement to declare a dictionary whose keys are 'Apple', 'Mango', 'Banana' and values are 100, 250, 60	1												
16	Siya want to connect her office with the another office of the same building. Suggest her a suitable way to connect (in terms of transmission media)	1												
17	The device that can operate in place of a hub is a _____	1												
18	Which of the following is the fastest media of data transfer? (a) Co-axial Cable            (b) Untwisted Wire            (c) Telephone Lines            (d) Fibre Optic	1												
19	INSERT INTO command is a DML command. (True/False)	1												
20	Rearrange the following terms in increasing order of data transfer rates. gbps,Gbps, Kbps, kbps, bps	1												
21	Which clause is used with "aggregate functions"? (a) GROUP BY            (b) SELECT            (c) WHERE            (d) Both a and b	1												
<p><b>SECTION-II</b></p> <p><b>Both the case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carry 1 mark.</b></p>														
22	<p>A company, Sunrise Ltd. Is considering to manage the records of their employees using SQL to store the data. As a database administrator, Harish has decided that:</p> <p>Name of the database: Employee</p> <p>Name of the table : Empl</p> <p>The attributes of Empl are as follows:</p> <p>Empld    - Numeric</p> <p>Empname    - character of size 20</p> <p>Salary - Numeric</p> <p>Date_of_Joining    - Date</p> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Empld</th> <th>Empname</th> <th>Salary</th> <th>Date_of_Joining</th> </tr> </thead> <tbody> <tr> <td>1001</td> <td>Mr. Khanna</td> <td>50000</td> <td>23-10-2018</td> </tr> <tr> <td>1002</td> <td>Mr. Roy</td> <td>35000</td> <td>22-04-2017</td> </tr> </tbody> </table>	Empld	Empname	Salary	Date_of_Joining	1001	Mr. Khanna	50000	23-10-2018	1002	Mr. Roy	35000	22-04-2017	
Empld	Empname	Salary	Date_of_Joining											
1001	Mr. Khanna	50000	23-10-2018											
1002	Mr. Roy	35000	22-04-2017											

1004	Ms. Sehgal	25000	23-08-2016
1008	Mr. Pahwa	30000	15-10-2019
1006	Ms. Sharma	20000	14-12-2019
1005	Mr. Bhalla	25000	12-09-2020

- (a) Identify the attribute best suitable to be declared as a primary key. 1
- (b) Write the degree and cardinality of the table Empl. 1
- (c) Harish want to delete all the records of the table Empl. Structure of the table should not be removed. Write the query for the same. 1
- (d) Write a query to increase the salary of all the employees by 5000. 1
- (e) Harish wants to see the structure of the table 'Empl'. Help him to do the same. 1

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Radhika is writing a program to create a CSV file "books.csv" which will contain the book name and author name. She wants to display the details of all the books.

- (a) Name the module she should import in the program. 1
- (b) In which mode, she should open the file to read all the data. 1
- (c) Name the in-built function which is used to read the data from csv file. 1
- (d) Write a function to close the csv file. 1
- (e) If Radhika wants to add a new record in the csv file, write the statement to help her in opening the file. 1

**PART-B**

**Section-I**

24 Evaluate the following expressions:  
 (a)  $47 // 5 + 10 ** 2 - 25 + 12$   
 (b)  $34 > 56$  or  $90 > 60$  and not  $21 > 10$  2

25 Differentiate between hacker and cracker. 2  
**OR**  
 Differentiate between hub and switch.

26 Expand the following terms: 2  
 a. HTTP    b. ISP    c. ARPANET    d. TCP/IP

27 Differentiate between local and global variable with suitable example. 2  
**OR**  
 Differentiate between mutable and immutable data types with suitable example.

28 Rewrite the following code in Python after removing all syntax error(s). underline each correction done in the code. 2  
 Num=50  
 while Num >= 10:  
     if NUM =30:  
         BREAK  
     Elif Num >30:  
         print(Num)  
     else:  
         print(Num //10)



more

**OR**

Write a function count() in Python, which should count number of 'This' in a given text file 'Sample.txt'.

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Write the outputs of the SQL queries (i) to (iii) based on the following table 'CABHUB':

VCODE	VNAME	MAKE	COLOR	CAPACITY	CHARGES
100	INNOVA	TOYOTA	WHITE	7	15
102	SX4	SUZUKI	BLUE	4	14
104	C CLASS	MERCEDES	RED	4	35
105	A-STAR	SUZUKI	WHITE	3	14
108	INDIGO	TATA	SILVER	3	12

- (a) To display the names of all the white colored vehicles.
- (b) To display name of vehicle, make and capacity of vehicles in ascending order of their seating capacity.
- (c) To display the highest charges at which a vehicle can be hired from CABHUB.

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Write a function in Python PUSH() to insert an element in the stack. After inserting the element display the stack.

**OR**

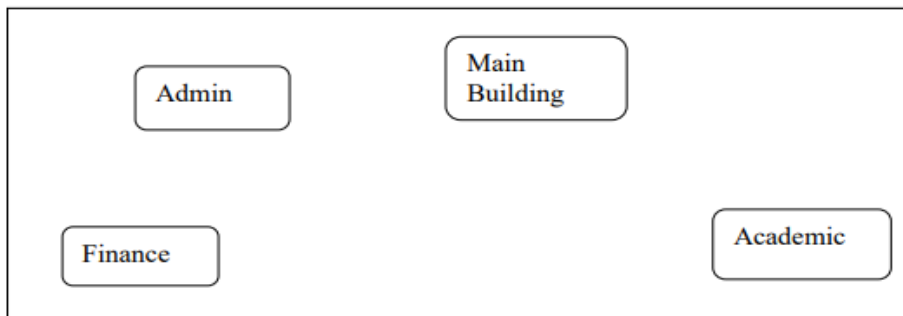
Write a function in Python POP() to remove the element from the stack and also display the deleted value.

3

**SECTION-III**

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Sanskar University of Himachal Pradesh is setting up a secured network for its campus at Himachal Pradesh for operating their day-to-day office & web based activities. They are planning to have network connectivity between four buildings. Answer the question (i) to (v) after going through the building positions in the campus & other details which are given below:



The distances between various buildings of university are given as:-

Building 1	Building 2	Distance(in mtrs.)
Main	Admin	50
Main	Finance	100
Main	Academic	70
Admin	Finance	50
Finance	Academic	70
Admin	Academic	60

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**Number of computers:-**

Building	No. of Computers
Main	150
Admin	75
Finance	50
Academic	60

As a network expert, you are required to give best possible solutions for the given queries of the university administration: -

- Suggest cable layout for the connections between the various buildings,
- Suggest the most suitable building to house the server of the network of the university,
- Suggest the placement of following devices with justification:
  - Switch/Hub
  - Repeater
- Suggest the technology out of the following for setting-up very fast Internet connectivity among buildings of the university
  - Optical Fiber
  - Coaxial cable
  - Ethernet Cable
- The University is planning to connect its admission office in Haryana, which is more than 1000 KM from University. Which type of Network out of LAN, MAN or WAN will be formed? Justify your answer.

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**Consider the following tables STORE and SUPPLIERS and answer the following parts of the questions:**

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**Table: Store**

ITEMNO	ITEM	SCODE	QTY	RATE	LASTBUY
2005	Sharpener Classic	23	60	8	31-6-2009
2003	Ball Pen 0.25	22	50	25	1/2/2010
2002	Gel pen premium	21	150	12	24-02-2010
2006	Gel Pen Classic	21	250	20	11/3/2009
2001	Eraser Small	22	220	6	19-1-2009
2004	Eraser Big	22	110	8	2/12/2009
2009	Ball Pen 0.5	21	180	18	3/11/2009

**Table: Suppliers**

SCODE	SNAME
21	Premium Stationers
23	Soft Plastics
22	Tetra Supply

- To display details of all the items in the Store table in ascending order of LastBuy.
- To display itemno ItemName of those items from Store Table whose rate is more than 15 rupees.
- To display the details of those items whose Suppliers code(Scode) is 22 or Quantity in Store(Qty) is more than 110 from the table Store.
- To display minimum rate of Items for each Supplier individually as per Scode from the table Store.
- To increase the Rate of all the items by Rs. 10

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- (a) Create a binary file “employee” that stores the records of employees and display them one by one.
- (b) Display the records of all those employees who are getting salaries between 30000 and 50000.

**OR**

Write a python program to insert/append a new record in a binary file – “student.dat”. The record can have Rollno, Name and Fees.

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