



Pre-Board Examination 2022
Class-XII
Subject: Computer Science (083)

Max Mark: 70

Time : 3 Hours

General Instructions:

- All questions are compulsory
- Section A has 18 questions carrying 1 mark each.
- Section B has 07 very short Answer type questions carrying 02 marks each.
- Section C has 05 short Answer type questions carrying 03 marks each.
- Section D has 03 long Answer type questions carrying 05 marks each.
- Section –E has 02 questions carrying 04 marks each. One internal choice is given in Q35
- All programming questions are to be answered using Python language only.

SECTION-A	
1	State whether the statement is True or False? No matter the underlying data type, if values are equal returns true.
2	Every variable in Python holds an instance of an object. These Objects are of two types. (a) Mutable (b) immutable (c) both a and b (d) instance
3	T=1,2,3 (a) Tuple (b) List (c) variable (d) None of these
4	Evaluate the following expression Not 20>21 and 6>5 or 7>9 (a) True (b) False (c) 3 (d) None of these
5	Kimi wants to remove an element from empty stack. Which of the following term is related to this? (a) Empty Stack (b) Overflow (c) Underflow (d) Clear Stack
6	Which of the following will remove the primary key from MySQL table. (a) remove (b) alter (c) drop (d) update
7.	Find out the output a=10 def call(): global a b=20 a=a+b print(a) call() (a) 10 (b) 30 (c) error (d) 20
8.	What will be the output of the following Python code snippet? X=11 if X<=10: X+=10 if X<=20 : X+=10 if X<=30: X+=30 a.21 b. 31 c.61 d. None of these
9.	Which of the following statements are True

	<p>(a) When you open a file for reading, if the file does not exist, an error occurs</p> <p>(b) When you open a file for writing, if the file does not exist, a new file is created</p> <p>(c) When you open a file for writing, if the file exists, the existing file is overwritten with the new file</p> <p>(d) All of the mentioned</p>
10.	<p>Write a statement to send the file pointer position 10 bytes forward from current location of file , consider fp as file object.</p> <p>a) fp.seek(10) b) fp.seek(10,1) c) fp.tell(10) d) fp.seek(1,10)</p>
11	<p>The values being passed through a function call statements are called</p> <p>a) Actual parameter b) Formal parameter c) default parameter d) None of these</p>
12	<p>Select the correct option for output</p> <pre>X="abcdef" i='a' while i in X: print(i, end='') (a) Error (b) a (c) infinite loop (d) No output</pre>
13	<p>Which of the following is transmission medium for TV remotes?</p> <p>(a) Infrared (b) Coaxial cable (c) Bluetooth (d) Microwave</p>
14.	<p>Give output</p> <pre>def max_of_two(x, y): if x > y: return x else return y def max_of_three(x, y, z): return max_of_two(x, max_of_two(y, z)) print(max_of_three(3, 6, -5)) (a) 3 (b) 6 (c) -5 (d) error</pre>
15	<p>Which of the following devices will connect both source and destination computer.</p> <p>(a) HUB (b) SWITCH (c) MODEM (d) ROUTER</p>
16	<p>Which of the following is not correct about the switch</p> <p>(a) It is an intelligent HUB</p> <p>(b) It send signal only to the intended node</p> <p>(c) It cannot forward multiple packets at the same time</p> <p>(d) It help to connect multiple computers</p>
17	<p>(i) Assertion : All candidate keys can be used as a primary key</p> <p>(ii) Reasoning : We can use more than one candidate key as a primary key</p> <p>(A) Both (i) and (ii) are correct (B) Both (i) and (ii) are incorrect</p> <p>(C) (i) is correct but (ii) is incorrect (D) (i) is incorrect but (ii) is correct</p>
18	<p>What will be the output of the following statement given:</p> <pre>txt="cbse. sample paper 2022" print(txt.capitalize()) a) CBSE. sample paper 2022 b) CBSE. SAMPLE SAPER 2022 c) cbse. sample paper 2022 d) Cbse. Sample Paper 2022</pre>
SECTION-B	
19	<p>Give output of the following code</p> <ol style="list-style-type: none"> def func(a, b=5, c=10): print('a is', a, 'and b is', b, 'and c is', c) func(3, 7) func(25, c = 24) func(c = 50, a = 100)
20	<pre>x = [[1, 2, 3],[4, 5, 6],[7, 8, 9]]</pre>

	<pre> result = [] for items in x: for item in items: if item % 2 == 0: result.append(item) print(result) </pre>																																																								
21	<p>What do you mean by DNS? Give example OR Differentiate between circuit switching and packet switching</p>																																																								
22	<pre> Give output RS="" S="important" for i in S: RS=i+RS print(RS) </pre>																																																								
23	<p>Study the following program and select the possible output(s) and write maximum and minimum value assigned to the variable y</p> <pre> import random x=random.random() y=random.ranint(0,4) print(int(x),":",y+int(x)) </pre> <p>(i) 0:0 (ii) 1: 6 (iii) 2:4 (iv) 0:3</p>																																																								
24	<p>HARSH AGARWAL has created a table named 'Actor' which contains a field called Aname. Write MySQL queries for the followings:</p> <p>(i) To show all the names of the actors which contain the string 'ch' in it. (ii) To display all the names of the actors which contain exactly 5 characters and also the second characters is 'o' (such as Gopal or Mohan).</p>																																																								
25	<p>Write a function cust_data() to ask user to enter their names and age to store data in customer.dat file.</p>																																																								
SECTION-C																																																									
26	<p>Consider the following table 'Employee' created by AMAN DIKSHIT:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>No</th> <th>Name</th> <th>Salary</th> <th>Zone</th> <th>Age</th> <th>Grade</th> <th>Dept</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CHANDAN KATARUKA</td> <td>60000</td> <td>West</td> <td>28</td> <td>A</td> <td>10</td> </tr> <tr> <td>2</td> <td>BIKRAM MAHATO</td> <td>65000</td> <td>Central</td> <td>30</td> <td>A</td> <td>10</td> </tr> <tr> <td>3</td> <td>RIK SINGH</td> <td>62000</td> <td>West</td> <td>40</td> <td>NULL</td> <td>20</td> </tr> <tr> <td>4</td> <td>AYUSH PODDAR</td> <td>68000</td> <td>North</td> <td>38</td> <td>C</td> <td>30</td> </tr> <tr> <td>5</td> <td>SOUVIK SENAPATI</td> <td>62000</td> <td>East</td> <td>26</td> <td>NULL</td> <td>20</td> </tr> <tr> <td>6</td> <td>SATTYAM AGARWAL</td> <td>67000</td> <td>South</td> <td>28</td> <td>B</td> <td>10</td> </tr> <tr> <td>7</td> <td>SNEHASHISH NAIK</td> <td>66000</td> <td>North</td> <td>26</td> <td>A</td> <td>30</td> </tr> </tbody> </table> <p>Based on this table write SQL statements for the following queries:</p> <p>(i) To display the total salary for all the employees who are from west zone. (ii) To count no of employees without any grade. (iii) To display zone wise highest salary and lowest salary.</p>	No	Name	Salary	Zone	Age	Grade	Dept	1	CHANDAN KATARUKA	60000	West	28	A	10	2	BIKRAM MAHATO	65000	Central	30	A	10	3	RIK SINGH	62000	West	40	NULL	20	4	AYUSH PODDAR	68000	North	38	C	30	5	SOUVIK SENAPATI	62000	East	26	NULL	20	6	SATTYAM AGARWAL	67000	South	28	B	10	7	SNEHASHISH NAIK	66000	North	26	A	30
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27	<p>Write a function in python, Push(Stu) and MakePop(Stu) to add a new student and delete student from a List of Stu contain rollno, Sname and Class as list, considering them to act as push and pop operations of the Stack data structure</p>																																																								
28	<p>Write a user-defined function named Count() that will read the contents of text file named "Report.txt" and count the number of lines which starts with either „I“ or „M“. E.g. In the following paragraph, there are 2 lines starting with „I“ or „M“:</p>																																																								

*“India is the fastest growing economy.
 India is looking for more investments around the globe.
 The whole world is looking at India as a great market.
 Most of the Indians can foresee the heights that India is capable of reaching.”*

29 Identify the following devices :

- (i) I am a networking device used to connect multiple computers. I sends data to intended node only.
- (ii) If a node from one network wants to connect to another (foreign) network it will pass the data packet through me
- (iii) I am a wireless device which provide Wi- Fi access to smartphones and other devices.

30 Give output of the following program

```
def div5(n):
    if n%5==0:
        return n*5
    else:
        return n+5
def output(m=5):
    for i in range(0,m):
        print(div5(i),'@',end=" ")
    print('\n')
output(7)
output()
output(3)
```

SECTION-D

31 Write SQL statements for the q.no (i) to (iv) and output for (v) 1 X 5 =5

Table: Employees

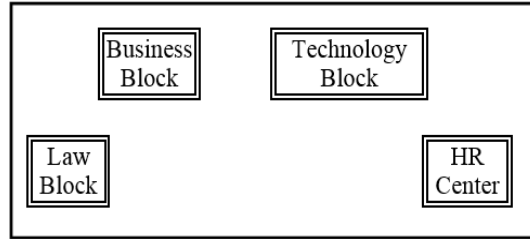
Empid	Firstname	Lastname	Address	City
010	Ravi	Kumar	Raj nagar	GZB
105	Harry	Waltor	Gandhi nagar	GZB
152	Sam	Tones	33 Elm St.	Paris
215	Sarah	Ackerman	440 U.S. 110	Upton
244	Manila	Sengupta	24Friends street	New Delhi
300	Robert	Samuel	9 Fifth Cross	Washington
335	Ritu	Tondon	Shastri Nagar	GZB
400	Rachel	Lee	121 Harrison St.	New York
441	Peter	Thompson	11 Red Road	Paris

Table: EmpSalary

Empid	Salary	Benefits	Designation
010	75000	15000	Manager
105	65000	15000	Manager
152	80000	25000	Director
215	75000	12500	Manager
244	50000	12000	Clerk
300	45000	10000	Clerk
335	40000	10000	Clerk
400	32000	7500	Salesman
441	28000	7500	salesman

	<p>Write the SQL commands for the following :</p> <ul style="list-style-type: none"> (i) To show firstname,lastname,address and city of all employees living in paris (ii) To display the content of Employees table in descending order of Firstname. (iii) To display the firstname,lastname and total salary of all managers from the tables Employee and empsalary , where total salary is calculated as salary+benefits. (iv) To display the maximum salary among managers and clerks from the table Empsalary. (v) To display the average salary of Clerk
32	<p>Ranjan Kumar of class 12 is reading data from a CSV file “innovators.csv” which will contain some data with headings [sno, name, contribution] He has written the following code. As a programmer, help him to successfully execute the given task.</p> <pre> import _____ //line 1 file=open(“innovators.csv”, _____) //line2 rec=csv._____(file) //line 3 for c in ____: //line 4 print(c) file._____ //line5 </pre> <p>Fill up the blanks. (each line carries 1 mark)</p> <p style="text-align: center;">OR</p> <p>Rohit, a student of class 12th, is learning CSV File Module in Python. During examination, he has been assigned an incomplete python code (shown below) to create a CSV File 'Student.csv' (content shown below). Help him in completing the code which creates the desired CSV File.</p> <p>CSV File</p> <pre> 1,AKSHAY,XII,A 2,ABHISHEK,XII,A 3,ARVIND,XII,A 4,RAVI,XII,A 5,ASHISH,XII,A </pre> <p>Incomplete Code</p> <pre> import _____ #Statement-1 fh = open(_____, _____, newline=") #Statement-2 stuwriter = csv._____ #Statement-3 data = [] header = ['ROLL_NO', 'NAME', 'CLASS', 'SECTION'] data.append(header) for i in range(5): roll_no = int(input("Enter Roll Number : ")) name = input("Enter Name : ") Class = input("Enter Class : ") s section = input("Enter Section : ") rec = [_____] #Statement-4 data.append(rec) stuwriter. _____ (data) #Statement-5 fh.close() </pre>

33 MyPace University is setting up its academic blocks at Naya Raipur and is planning to set up a network. The University has 3 academic blocks and one Human Resource



Center as shown in the diagram above :

Center to Center distances between various blocks/center is as follows:

- Law Block to Business Block : 40m
- Law block to technology block: 80m
- Law block to HR center block : 105m
- Business block to technology block: 30m
- Business Block to HR Center : 35m
- Technology block to HR center: 15m

Number of computers in each of the blocks/Center is as follows:

- Law Block 15
- Technology Block 40
- HR center 115
- Business Block 25

- a) Suggest the most suitable place (i.e., Block/Center) to install the server of this University with a suitable reason.
- b) Suggest an ideal layout for connecting these blocks/centers for a wired connectivity.
- c) 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.
- d) Suggest the placement of a Repeater in the network with justification.
- e) The university is planning to connect its admission office in Delhi, which is more than 1250km from university. Which type of network out of LAN, MAN, or WAN will be formed? Justify your answer.

SECTION-E

34 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 percentage is above 75. Also display number of students scoring above 75%

35 K.B. public school is managing student data in ‘student’ table in ‘school’ database. Write python ode that connects to database school and retrieve all the records and display total number of students.

```
import mysql.connector
con=mysql.connector.connect(_____) # write code to connect with mysql
database
cur=con._____ # write code to create a cursor
cur.execute(“Select * from student”)
records=_____ # write code to fetch records from cursor
```

```
count=_____ # write code to count total number of students record  
print("Total number of records :", count)  
con.close()
```

OR

Program to update the salaries of all employees who have salary less than 80000 in "office" database of MySQL. (table name : emp, password='ggss')
