DIRECTORATE OF GOVERNMENT EXAMINATIONS, CHENNAI – 600006

HIGHER SECONDARY SECOND YEAR EXAMINATION – MARCH-2020

COMPUTER SCIENCE MARKING SCHEME – ENGLISH MEDIUM

(NEW SYLLABUS)

TOTAL MARKS –70

PART – I

MARKS – 15

Answer All the Questions

Q.NO.	OPTION	ANSWER
1	A	Pure Functions
2	D	Tuple
3	B	Private members
4	D	Time and space
5	D	Integrated Development Learning Environment
6	C	2 4 6 8
7	B	14
8		(error -mere attempt)
9	C	:
10	A	.
11	B	σ
12	A	DROP
13	D	Flat File
14	B	Boost
15	D	Database

PART – II

Answer any six questions. Question no.24 is compulsory. 6×2=12

16	Pair is a compound data type that holds two other pieces of data. **(or)** Bundling two values together into one can be consider as a pair. **(or)** Pair is a compound structure which is made up of list or Tuple. **Any One Example**	1 1
17	Namespaces are containers for mapping names of variables to objects.	2
18	An algorithm is a finite set of instructions to accomplish a particular task. **(or)** It is a step by step procedure for solving a given problem.	2
19	**range()** generates a list of values starting from start till stop – 1. **(or)** for loop uses the range() function in the sequence to specify the initial, final and increment values. **Syntax:** **range(start, stop, [step])**	1 1
20	DML,DDL,DCL,TCL,DQL	2
21	**Expansion of :** (i) SWIG - Simplified Wrapper Interface Generator (ii) MinGW - Minimalist GNU for Windows	 1 1
22	**INTEGER PRIMARY KEY** If a column of a table is declared as an INTEGER PRIMARY KEY that column will be automatically auto-incremented. **(or)** Whenever a null is used for this column the null will be automatically converted into an integer which will be one larger than the highest value so far used in that column	 2

23	**Types of data visualization : (Any Four)** • Charts • Tables • Graphs • Maps • Infographics • Dashboards	2
24	**Output :** a. COMPUTER SCIENCECOMPUTER SCIENCE b. COMPUTE	1 1

PART –III

Answer any six questions. Question No.33 is compulsory. 6×3=18

25

Pure function	Impure function	
The return value of the pure functions solely depends on its arguments passed.	The return value of the impure functions does not solely depend on its arguments passed.	1
They do not have side effects.	They have side effects.	1
They do not modify the arguments which are passed to them.	They may modify the arguments which are passed to them.	1

26	Asymptotic notations are languages that uses meaningful statements about time and space complexity. 1. **Big o** 2. **Big Ω** 3. **Big Θ**	2 1
27	Ternary operator is also known as conditional operator. It evaluate something based on a condition being true or false. **Any Suitable Example...**	2 1

28	(i) Recursive function is called by some external code. (ii) If the base condition is met then the program gives meaningful output and exits. (iii) Otherwise, function does some required processing and then calls itself to continue recursion.	1 1 1
29	[1, 3, 9, 27, 81]	3
30	**Commit :** save any transaction permanently. **Rollback :** restore the database to last commit state **Save point :** temporarily save a transaction	1 1 1
31	The main difference between the reader() and DictReader() is reader() works with list / tuple while DictReader() works dictionary.	3
32	**fetchone()** — The fetchone() method returns the next row of a query result set or none in case there is no row left **fetchmany()** — The fetchmany() method returns the next number of rows (n) of the result set.	3
33	Welcome to Python Programming / Error Program	3

PART - IV		
Answer the All Questions		5×5=25
34 (a)	**Linear Search algorithm:** Linear search also called sequential search is a sequential method for finding a particular value in a list. **Pseudo code** (i) Traverse the array using for loop (ii) In every iteration, compare the target search key value with the current value of the list. • If the values match, display the current index and value of the array • If the values do not match, move on to the next array element. (iii) If no match is found, display the search element not found. **Any Suitable Example.**	2 2 1

	(or)	
(b)	**Input() function** In Python,input() function is used to accept data as input at run time. **Syntax :** Variable = input("prompt string") **Any Suitable Example :** **Print() function** In python,the print() function is used to display result on the screen. **Syntax** print("String1",variable,"String 2",variable,"String 3",....) **Any Suitable Example :**	1½ 1 1½ 1

35 (a) i	**Using while loop**
	i=100
	while(i<=999):
	print(i)
	i=i+2
	(or)
	Using for loop
	for i in range(100, 1000,2):
	print(i)
		
		2½

ii	**Output** 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5	2½
	(or)	
(b)	<table><tr><th>Function</th><th>Description</th></tr><tr><td>id()</td><td>Return the "identity" of the object</td></tr><tr><td>chr()</td><td>Returns the Unicode character for the given ASCII value</td></tr><tr><td>round()</td><td>Returns the nearest integer to its input</td></tr><tr><td>type()</td><td>returns the type of object for the given single object</td></tr><tr><td>pow()</td><td>returns the computation of (a**b)</td></tr></table>	5

36 (a)	I. Welcome to Python II. Python III. Pto IV. Wotyn V. nytoW	1 1 1 1 1
	(or)	
(b)	**Constructor:** constructor is the special function that is automatically executed when an object of a class is created. In python, there is a special function called "init", which act as a constructor.it must begin and end with double underscore. **General form:** def __init__(self,[args...]): <statements> **Any Suitable Example :** **Destructor :** it is also a special method gets executed automatically when an object exit from the scope. It is just opposite to constructor. In python, __del__() method is used as destructor. **Any Suitable Example :**	2 1 2
37 (a)	Set operations Give Explanation with example i. Union ii. intersection iii. difference iv. symmetric difference	5
	(or)	
(b)	**Differentiate DBMS and RDBMS**	

Basic of comaprison	DBMS	RDBMS
Expansion	Database management system	Relational database management system
Data storage	Navigational model	Relational model
Data redundancy	Exhibit	Not present
Normalization	Not performed	Performed

5

	Data access	Consumes more time	Faster	
	Keys and indexes	Does not use	Keys are used	
	Transaction management	Inefficient, error prone and insecure	Efficient and secure	
	Distributed database	Not supported	Supported	
	Example	Dbase, foxpro	SQL server,Oracle,mysql,MariaDB, SQLite	
38 (a)	CREATE TABLE employee(emp_id integer, emp_name char(20), gender char(1), age integer, salary integer, PRIMARYKEY(emp_id,emp_name));			5
	(or)			
(b)	**Features of Python over C++** • Python uses Automatic Garbage Collection whereas C++ does not. • C++ is a statically typed language,while Python is a dynamically typed language. • Pyhton runs through an interpreter,while C++ is pre-compiled. • Python code tends to be 5 to 10 times shorter than that written in C++. • In python, there is no need to declare types explicitly where as it should be done in c++. • In python, a function may accept an argument of any type,and return multiple values without any kind of declaration beforehand. Whereas in c++ return statements can return only one value.			5