

**COMPUTER SCIENCE (083)**

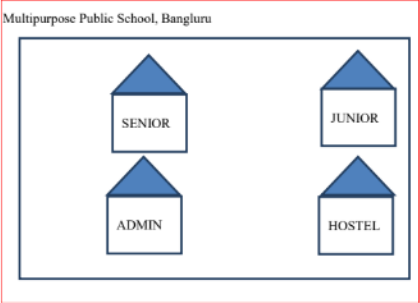
**SAMPLE PAPER 2**

**(2019-20)**

**(F.M:70)**

<u>Q.No.</u>	<u>Questions</u>	<u>Marks</u>
	<b><u>SECTION A</u></b>	
1		
(a)	Which of the following is the truncation division operator? (i) / (ii) % (iii) // (iv)	1
(b)	Write the type of tokens:- (i) def (ii) complex	1
(c)	Write code (Python Library Module) to access value of pi to calculate area of a circle. Use the module after renaming it.	1
(d)	Create a dictionary (using comprehension) with each item being a pair of a number and its square.	2
(e)	Write the output of the following Python code: L1=[55, 99, 33, 88, 66] Start=1 S=0 for C in range(Start, 3): S=S+L1[C] print(C,":", S) S=S+L1[0] * 10 print(S)	2
(f)	What will be the output of the following Python code: def Change(A, B=30): A=A+B B=A-B print(A, "#", B) return(A)  x=150 y=100 x=Change(x,y) print(x, "#", y) y=Change(y)	3
(g)	Consider the following code:  import random x=random.random() y=random.randint(0,4) print(int(x), ":", y+int(x))  find the suggested output options (i) to (iv). Also, write the maximum and minimum value that can be assigned to the variable y.	2

	(i) 0:0 (ii) 1:6 (iii) 2:4 (iv) 0:3	
2		
(a)	Suppose list1 is [4, 33, 46, 14,25]. What is list1[-1]?	1
(b)	What will be the output of the following Python code:- <pre>&gt;&gt;&gt;t=(1,2) &gt;&gt;&gt;2 * t</pre> (i) (1,2,1,2) (ii) [1,2,1,2] (iii) (1,1,2,2) (iv) [1,1,2,2]	1
(c)	What will be the output of the following Python code:- <pre>d={"john":40, "peter":45} print(d["john"])</pre> (i) 40 (ii) 45 (iii) "john" (iv) "peter"	1
(d)	What is the list comprehension equivalent for: {x:x is a natural number less than 50, x is even}	1
(e)	Find and write the output of the following Python code:- <pre>word="Hello Python" print(word.find('py',1)) print(word.find('o',5,11))</pre>	1
(f)	How are docstrings different from comments?	2
(g)	Write code to create a pie for sequence con=[23.4,17.8,25.6,34.2,40] for Zones=['East', 'West', 'North', 'South', 'Central'] <ul style="list-style-type: none"> <li>Show South Zone's value exploded</li> <li>Show % contribution for each zone.</li> </ul> <p style="text-align: center;">Or</p> Give output using a rough drawing(Angles in pie chart may be approximate) of following code: <pre>import matplotlib.pyplot as plt qdata=[100,200,250,150] lb=['Q1SALE','Q2SALE','Q3SALE','Q4SALE'] plt.pie(qdata, labels=lb,explode=[0.1,0,0,0.2] ) plt.title('Z SQUARE') plt.show()</pre>	2
(h)	Write code to print just the last line of a text file 'Story.txt'. Also display the total number of lines.  <p style="text-align: center;">OR</p> Write code to write a list content to a file.	2
(i)	Write a recursive function that computes the sum of numbers 1.....n i.e. 1+2+3+....+n where n is an input from user.  <p style="text-align: center;">OR</p>	3

	Write a function for Binary Search in a list/array using recursion.	
(j)	Write a function in Python, PUSHSTUD(Arr) and POPSTUD(Arr) for performing insertion and deletion operations in a STACK. Accept items from user in a tuple containing (sid, sname, marks)  OR Write a function in python, QADD(Package) and QDEL(Package) to add a new Package and delete a Package from a List of Package Price (List of Floats), considering them to act as insert and remove operations of the Queue data structure.	4
3		
(a)	_____ is the service that makes our website available to be viewed by others on the Internet.	1
(b)	_____ is the domain name of <a href="http://www.income.in/home.aboutus.html">http://www.income.in/home.aboutus.html</a> .	1
(c)	A _____ establishes connection between two networks and it can handle network with different protocols.	1
(d)	_____ is a network utility program used to obtain information about internet servers.	1
(e)	Give the full forms of the following:- (i) GSM (ii) GPRS (iii) SMTP (iv) IMAP	2
(f)	Write two differences between a Private and Public cloud?	2
(g)	Identify the type of cybercrime for the following situations: <ul style="list-style-type: none"> <li>• A person clicked on a malicious URL and all his login credentials were stolen.</li> <li>• Unauthorized control of a person's computer was gained by exploiting the working of the internet and the Windows operating system</li> <li>• A person was offered a reward of 1 crore and asked to deposit 1 lac as tax before receiving the sum. After paying no reward was given.</li> </ul>	3
(h)	Multipurpose Public School, Bengaluru is setting up the network between its different wings of school campus. There are 4 wings named as:- SENIOR(S), JUNIOR(J), ADMIN(A) and HOSTEL(H)  	

Distance between various wings are given below:

WingAtoWingS	100m
WingAtoWingJ	200m
WingAtoWingH	400m
WingStoWingJ	300m
WingStoWingH	100m
WingJtoWingH	450m

Number of Computers installed at various wings are as follows:

Wings	NumberofComputers
WingA	20
WingS	150
WingJ	50
WingH	25

- (i) Suggest the best wired medium and draw the cable layout to efficiently connect various wings of Multipurpose Public School, Bengaluru.
- (ii) Name the most suitable wing where the servers should be installed. Justify your answer.
- (iii) Suggest a device/software and its placement that would provide data security for the entire network of the school.
- (iv) Suggest a device and a protocol that shall be needed to provide wireless internet access to all smartphone/laptop users in the campus of Multipurpose Public School, Bengaluru.

## SECTION B

4.

(a)	What is NULL value in MySql?	1
(b)	What is the purpose of a Foreign Key?	1
(c)	What is the use of Group By command?	1
(d)	Which keyword eliminates redundant data from a query result?	1
(e)	Differentiate between Primary Key and Candidate Key? Or Differentiate between Char and Varchar data type?	2
(f)	Write the use of GET and POST http requests in Django?	2
(h)	Write the output for SQL queries (i) to (iii), and commands for (iv) to (vii) which are based on the table STUDENT given below:	

**Watches**

Watchid	Watch_Name	Price	Type	Qty_Store
W001	HighTime	10000	Unisex	100
W002	LifeTime	15000	Ladies	150
W003	Wave	20000	Gents	200
W004	HighFashion	7000	Unisex	250
W005	GoldenTime	25000	Gents	100

**Sale**

Watchid	Qty_Sold	Quarter
W001	10	1
W003	5	1
W002	20	2
W003	10	2
W001	15	3
W002	20	3
W005	10	4
W003	15	4

- (i) Select max(price), min(qty\_store) from watches;
- (ii) Select quarter, sum(qty\_sold) from sale group by quarter;
- (iii) Select watch\_name, qty\_store, sum(qty\_sold), qty\_storesum(qty\_sold) "Stock" from watches w, sales where w. watched=swatches group by s. watched;
- (iv) To display all the details of those watches whose name ends with 'Time'
- (v) To display watch's name and price of those watches which have price range in between 5000-15000.
- (vi) To display total quantity in store of Unisex type watches
- (vii) To display watch name and their quantity sold in first quarter.

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**SECTION C**

5

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|-----|---|---|
| (a) | _____ Certificate establishes legal and valid ownership about an intellectual property. | 1 |
| (b) | What are proper methods and steps for the disposal of used electronic items?            | 1 |
| (c) | List the Societal issues induced by technology?   | 2 |
| (d) | Differentiate between the two types of Plagiarism?                                      | 2 |
| (e) | List the common ways for how one's identity can be stolen?                              | 2 |
| (f) | Write two ways to handle gender issues while teaching/using computers?                  | 2 |

