

INTERNATIONAL INDIAN SCHOOL - JEDDAH

ANNUAL - EXAMINATION – 2019

Grade : XI

Subject : Informatics Practices

Max Marks : 70

Time : 3 Hours

Total Pages : 04

Instructions :

- (i) All questions are compulsory.
- (ii) Marks for each questions mentioned against it.
- (iii) Answer the question after carefully reading the text.

Programming and Computational Thinking (PCT-I)

- 1. 1 Mega Byte =Bytes 1
- 2. Which of the following are Hardware and Software. 1
 - a. Capacitor b. Internet Explorer c. Hard disk d.Unix
- 3. Which of the following Operating system is not used in the Mobile Phones. 1
Unix, Windows, android, Solaris
- 4. Compare Computer and Calculator in your words. 2
- 5. Expand the following term 2
 - a. DVD
 - b. CD
 - c. EPROM
 - d. DRAM
- 6. Python is a **Free and Open Source Language**. What do you understand by this feature. 1
- 7. Name any Four primitive data types in python. 2
- 8. What is comments ? How can you create a multiline comments in Python ? 2
- 9. What will be the output of the following code ? 2
 - a.

```
>>> x = 10
>>> type(x)
```
 - b.

```
print((5<10) and (10<5))
```
- 10. Write following arithmetic expression using operators in python: 1
$$x = a^3(b^2 + c^2)$$
- 11. Write a pseudo code to print the sum of two numbers. 2
- 12. Draw a flowchart to find the maximum numbers in between two numbers. 2
- 13. Write a Python command to delete an item "Address" from the given dictionary 'student' ? 1

```
>>>student = {"Name": "Surbhi", "Roll No": "11", "Address": "Sec-7 New Delhi"}
```

14. Write a program to print the following pattern 2
- ```
*
* *


```

15. Write a Python Program to obtain three numbers from user and print in ascending order. 4

OR

Write a python program to find specific element in a List using Linear Search.

16. Write a python program to accept First Name and Last Name from user and compare both names and print the bigger name. (\*eg. FName = "Ravi" Lname = "Agrwal" Result = "Last Name is bigger") 4

OR

Write a python program to accept a string from user and count vowels, alphabets, spaces and digits.

**Data Handling : (DH – I)**

1. If a List 'L' contains the following elements : 2

L = ['a','e','i','o','u']

Write a Python program to create a Series from using the above list.

OR

A dictionary 'D' contains the following data :

D = {'P':16, 'Q':17, 'R':18, 'S':19}

Write a Python program to create a Series from using the above dictionary.

2. Explain the usage of head() and tail() function in series. 2

3. A dictionary called 'StdX' which contains the following data :

| Name       | TMarks | City      |
|------------|--------|-----------|
| Amit Kumar | 450    | New Delhi |
| Asha Goel  | 426    | Bengaluru |
| Kavita     | 476    | Chennai   |
| Riya       | 446    | Jaipur    |
| Piyush     | 464    | Mumbai    |

Based on the above data, answer the following questions.(Assume that pandas has been imported as **pd**)

- (a) Write a Python statement to create a Data Frame **df** by using the above Dictionary '**StdX**'. 2
- (b) Print the DataFrame. 1
- (c) Print the Columns as 'City', 'Name', 'TMarks'. 1
- (d) Print first three rows of the DataFrame. 1

- (e) Print last two rows of the DataFrame. 1
- (f) Print the total number of records in the DataFrame. 1
- (g) Add the following 2 rows with the given data: 1
  - Ishan 435 New Delhi
  - Amrita 432 Kolkata
- (h) Add a new column called 'Age' with following data: 1
  - [12,15,16,13,14,15,13]
- (i) Drop the column 'City'. 1
- (j) Drop the 3<sup>rd</sup> row. 1
- (k) Find the output of df.iloc[0:3] 1

4. Explain any one method to handle the missing values in DataFrame. 2

5. Name the pandas functions/methods

(i) that detects null values. 1

(ii) that is used to load a csv file to pandas. 1

**Data Management ( DM-1)**

1. Study the table '*flight*' given below and answer the questions.

| FL_No | Airlines        | S_point  | E_point  | Fare |
|-------|-----------------|----------|----------|------|
| IC301 | Indian Airlines | Mumbai   | Delhi    | 6500 |
| IC799 | Sahara          | Bangluru | Kochi    | 9400 |
| MC101 | Jet Airways     | Delhi    | Kolakata | 6500 |

a) Name the key which can be act as Primary key in the above table. 1

b) What is the degree and cardinality of the above table. 1

2. What is Tuple ? 1

3. Write SQL command to –

(a) create the following table. 1

**Job**

| Field       | Type    | Size | NULL | Key         | Description             |
|-------------|---------|------|------|-------------|-------------------------|
| Custid      | Int     | 4    | No   | Primary key | Stored customer id      |
| Custname    | varchar | 25   | Yes  |             | Store customer name     |
| Balance     | Decimal | 5,2  | No   |             | Customer balance amount |
| Creditlimit | Int     | 8    | Yes  |             | Credit limit            |
| Sno         | Int     | 2    | Yes  |             | Serial Number           |

(b) To Add a new column **mobilenno int(10)**. 1

(c)To add/insert the given record in table job. 1

| custid | custname   | balance  | credlimit | sno |
|--------|------------|----------|-----------|-----|
| 124    | TINA ADAMS | 41800.75 | 50000     | 3   |

- (d) To Delete the record of customer whose name is 'BOB'. 1
- (e) To Show custid, custname and balance sorted by customer name. 1
- (f) To Display the structure of the table. 1
- (g) To display all the record of the customers whose credit limit is greater than 25000. 1

**Society, Law and Ethics (SLE – 1) Cyber Safety**

1. Which of the following crime(s) is/are covered under cyber-crime ? 1
  - a. Stealing a hard disk from a shop
  - b. Getting into unknown person's facebook account and sending messages on his behalf.
  - c. Copying important data from a computer, without taking permission from the owner.
2. What are cookies? 1
3. Write short notes on Instagram. 2
4. What is Virus ? Name any two any two popular antivirus. 2
5. Name the terms used for the following descriptions:
  - (i) The act of online harassment of someone by using online tools such as Internet , email , instant messages , chat rooms or social networking sites. 1
  - (ii) An act of stealing someone's personal information such as name, login details etc. and then posting as if that person is online. 1
6. Nivedita has recently shifted to a new city and a new school. She does not know many people in her new city and school. But every time she goes online she finds someone chasing her online.
  - (a) What is this happening to Nivedita? 1
  - (b) What action should she take to stop them? 1\

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