



Marks:

08

Department of Computing and Information System (CIS)

Class Test-2, Spring 2026

Course Code: CIS121, Course Title: Introduction to Industry 4.0

Time: 30 Minutes

Marks: 15

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Section: A

Date: 2-4-26

1. Write any three operators used in Python with examples. [3]

→ (+) Addition • used to sum as a value. Ex:  $x + y$   
 (-) Subtraction • used to subtract the value Ex:  $x - y$   
 (\*) Multiplication • used to multiply the value Ex:  $x * y$

2. Create a Pandas DataFrame using the following student data:

| Student_ID | Name  | English | Industry | Math |
|------------|-------|---------|----------|------|
| 001        | Ahad  | 67      | 73       | 93   |
| 002        | Mubin | 76      | 80       | 72   |
| 003        | Sami  | 90      | 78       | 65   |
| 004        | Ratul | 82      | 88       | 87   |

a) Write Python code to display the DataFrame. [5]

b) Find the Average marks of Industry course. [2]

input pandas as pd

```
data = {"Student_ID": [001, 002, 003, 004], "Name": [Ahad,
Mubin, Sami, Ratul], "English": [67, 76, 90, 82], "Industry":
[73, 80, 78, 88], "Math": [93, 72, 65, 87]}
```

print('data')

print(pd.DataFrame('data'))

print("Average : pd.DataFrame[["Industry"].mean())

3. Write a Python program to determine the cost of an electricity bill based on the number of units consumed:

[5]

- a) Units  $< 50 \rightarrow 100$  Taka
- b) Units 50 to 100  $\rightarrow 200$  Taka
- c) Units 101 to 200  $\rightarrow 400$  Taka
- d) Units 201 to 300  $\rightarrow 600$  Taka
- e) Units  $> 300 \rightarrow 800$  Taka

Sample Input: 150

Sample Output: 400 Taka

Note: Take the number of units from the user using `input()` and calculate the bill according to the rules.

3 cost = input('unit')

if ~~cost~~ units  $< 50$  :  
    print ("100 taka")

elif unit  $< 101$  :  
    print ("200 taka")

elif unit  $< 201$  :  
    print ("400 taka")

elif unit  $< 301$  :  
    print ("600 taka")

else print

print ("800 taka")