ourdiu.com | Shared by Md. Rakib Ullah Mir

e) A public library charges different fees based on the visitor's category. **Construct** a Python program that takes the visitor's number representing their category and prints the corresponding fee in BDT according to the following rules: 4

- Category number less than 10: Fee is free
- Category number between 10 and 17: 50 BDT
- Category number between 18 and 59: 150 BDT
- Category number 60 or more: 70 BDT

Sample Input	Sample Output
65	Fee: 70 BDT

f) The following Python code is intended to assign grades based on marks but contains several syntax errors. **Identify and fix** the errors to ensure the program runs correctly and prints the appropriate grade. 2

```
marks = input()
elif marks >= 90
print("A+ Grade")
elif marks > 80
print("A Grade)
else:
print("Below A Grade")
```

ourdiu.com | Shared by Md. Rakib Ullah Mir

Daffodil International University
Department of Business Administration (BBA)
Faculty of Business & Entrepreneurship
Midterm Examination, Summer 2025
Course Code: 0613-114; Course Title: Programming for Business Analytics
Sections & Teachers: 68(A-D), All

Time: 1 Hour 30 Mins **Marks: 25**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1. a) **Explain** the different types of arithmetic and conditional operators used in programming, and illustrate their usage with relevant examples. 3 CLO-1 *L-2*

   b) Mina is trying to learn Python programming but is having difficulty understanding how to define a variable. As a fellow learner, **explain** to Mina how to properly declare and use a variable in Python with an appropriate example. 3

   c) **Explain** the various data types that Python supports. Provide examples to illustrate each type. 2

2. a) **Construct** a Python program that takes input for a product's name and its price from the user. Then, display the output in a formatted string as shown below. 2

Sample Input	Sample Output
Product: Chocolate Price: 50.00	Product: Chocolate | Price: 50.00 BDT

   b) There are N children in a classroom, and the teacher has K chocolates to distribute equally among them so that each child receives the same number of chocolates. If the chocolates cannot be divided evenly, the remaining chocolates will stay with the teacher. **Construct** a Python program that reads two integers N (number of children) and K (number of chocolates), then calculates and prints how many chocolates each child will get and how many will remain with the teacher. 3

Sample Input	Sample Output
6 20	3 2

   c) As a shop manager, you want to track the performance of each sale. Construct a Python program that takes the cost price and the selling price of an item as input, and then determines whether the transaction resulted in a profit, loss, or no gain/loss. Print an appropriate message based on the result. 3 CLO-2 *L-3*

Sample Input	Sample Output
Cost Price: 100 Selling Price: 120	Profit of 20

   d) You receive a sales value as a string input from a software system (e.g., "5500"). Construct a Python program that converts this string to a numeric value, calculates a 27% discount, and displays the final price after the discount. This type of calculation is frequently used in sales and marketing applications. 3

Sample Input	Sample Output
5000	Final Price after 27% discount: 3650.0