

Department of Electrical Engineering

Mid – Term Assignment Spring 2020

Date: 13/04/2020

Course Details

Course Title:	<u>Programming Fundamentals</u>	Module:	<u>08</u>
Instructor:	<u>Engr. Muhammad Waqas Sir</u>	Total Marks:	<u>30</u>

Student Details

Name:	<u>FAWAD AHMAD</u>	Student ID:	<u>13204</u>
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Q1.	(a)	Write a program in python where you input two integer values from user and determine if the first integer is the multiple of the second integer.	Marks 5 CLO 1																								
	(b)	Write a program in python for a shopping mall to determine if the customer has exceeded the credit limit on a charge account. Program should input the following facts in five variables <ol style="list-style-type: none"> 1. Account number 2. Balance at the beginning of month (Beginning balance) 3. total of all items charged by customer this month (charges) 4. total of all credits (credits) 5. allowed credit limit Calculate the new balance New balance = Beginning balance + charges – credits Your program must determine if the new balance exceeds the allowed credit limit. If credit limit is exceeded then program should display the message “Credit Limit exceeded.”	Marks 5 CLO 1																								
Q2.	(a)	<ol style="list-style-type: none"> 1. Steps that involve precise sequence to solve a problem is called <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. Statement</td> <td>b. Program</td> </tr> <tr> <td>c. Utility</td> <td>d. Routine</td> </tr> </table> 2. In an if structure statements are executed only, <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. When the condition is false</td> <td>b. When it contain arithmetic operators</td> </tr> <tr> <td>c. When it contain logical operators</td> <td>d. When the condition is true</td> </tr> </table> 3. Which of the following can not be a variable name? <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. area</td> <td>b. _area</td> </tr> <tr> <td>c. 10area</td> <td>d. area2</td> </tr> </table> 4. Which loop process is best when the number of iterations is known? <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. for</td> <td>b. while</td> </tr> <tr> <td>c. again</td> <td>d. all looping processes require that the iterations be known</td> </tr> </table> 5. Which special character is in the end of a string to indicate the end? <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. new line</td> <td>b. tab</td> </tr> <tr> <td>c. null</td> <td>d. carriage return</td> </tr> </table> 6. A total of ____ bytes are occupied by the following variable. txt = “programming fundamentals” 7. Commenting the code _____ <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. Makes a program easy to understand for others.</td> <td>b. Make programs heavy, i.e. more space is needed for executable.</td> </tr> <tr> <td>c. Makes it difficult to compile</td> <td>d. All of the given options</td> </tr> </table> 	a. Statement	b. Program	c. Utility	d. Routine	a. When the condition is false	b. When it contain arithmetic operators	c. When it contain logical operators	d. When the condition is true	a. area	b. _area	c. 10area	d. area2	a. for	b. while	c. again	d. all looping processes require that the iterations be known	a. new line	b. tab	c. null	d. carriage return	a. Makes a program easy to understand for others.	b. Make programs heavy, i.e. more space is needed for executable.	c. Makes it difficult to compile	d. All of the given options	Marks 14 CLO 1
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Q3.	(a)	Write a program in python that will create and display the following series in the output using the formula $2x^2 - 3x$: 65, 44, 27, 14, 5, 0, -1, 2, 9, 20	Marks 2 CLO 1																								
	(b)	You have the following python code, draw the flow chart of the whole code <pre>numbers = range(10,20) sum = 0 for i in numbers: sum = sum + i print("Total Sum = ", sum)</pre>	Marks 3 CLO 1																								

Q 1 (a)

Write a program in Python where you input two integer values from user and determine if the first integer is the multiple of the second integer.

Sol:-

```
def main():  
    first_integer = int(input('Enter an integer'))  
    second_integer = int(input('Enter an integer'))  
    if first_integer == second_integer * 2:  
        print('first integer is the multiple of second integer')  
    else:  
        print('first integer is not multiple of second  
              integer')  
main()
```

_____ x _____ x _____ x _____ x _____ x _____ x

Q 1 (B)

Solution :-

```
1 → def main():
2     → Account-Number=input('Enter your account Number')
3     → print(Account-Number)
4     → Beginning-Balance=int(input('Balance at the beginning
5     → print(Beginning-Balance)                of month'))
6     → Charges=int(input('Total of all item charged by the
7     → print(Charges)                            Customer this month'))
8     → Credits=int(input('total of all credit'))
9     → print(Credits)
10    → Credit-limit=int(input('input the credit limit'))
11    → print(Credit-limit)
12    → new-Balance = beginning-Balance + Charges - Credits
13    → if new-Balance > credit-limit:
14        → print('New-Balance is exceeded')
15        → else:
16            → print('credit-limit exceeded')
17    → main()
```

Q 2 (A):

- ① Steps that involve precise sequence to solve a program is called ⑥ Program.
- ② In an if structure statements are executed only ④ When the Condition is True.
- ③ Which of the following can not be a variable name? ③ 10area
- ④ Which Loop process is best when the number of iteration is known? ② for
- ⑤ Which special character is in the end of a string to indicate the end? ③ null
- ⑥ A total of 22 bytes are occupied by the following variable. `txt = "Programming Fundamental"`.

(3)

⑦ Commenting the Code ① makes a program easy to understand for other.

Q 3 (A) :- Write a program in Python that will create and display the following series in the output using the formula $2x^2 - 3x$:
65, 44, 27, 14, 5, 0, -1, 2, 9, 20.

Sol :-

- ① Import math
- ② Print("Enter the Coefficient of the form $ax^3 + bx^2 + cx + d$ ")
- ③ `lst = []`
- ④ for i in range(0, 65):
- ⑤ `a = int(input("Enter the Coefficient:"))`
- ⑥ `lst.append(a)`
- ⑦ `x = int(input("Enter the value of x:"))`
- ⑧ `sum1 = 0`
- ⑨ `j = 2`
- ⑩ for i in range(0, 2):

- ⑪ While ($j > 0$):
- ⑫ $Sum1 = Sum1 + (1st[i] * \text{math.pow}(x, j))$
- ⑬ break
- ⑭ $j = j - 1$
- ⑮ $Sum1 = Sum1 + 1st[2]$
- ⑯ Print ("The value of Polynomial is: " $Sum1$)

————— x ————— x ————— x ————— x

Q 3 (B): You have the following Python Code
Draw the Flow chart of the whole code

```
number = range (10,20)
```

```
Sum = 0
```

```
for i in numbers:
```

```
Sum = Sum + i
```

```
Print (" Total Sum =", Sum)
```

Sol :-

