Sir Syed University of Engineering & Technology
Faculty of Computing& Applied Sciences
Department of _____Software Engineering_____

Midterm Examinations (Fall 2020)

Course Title with Code	SWE-102: Programming Fundamental		Program	BS SE
Instructor	Adnan Afroz, Nida Khalil, Muhammad Saad		**Semester**	1st
Start date & Time	December 01, 2020 at 08:30 AM	**Submission Deadline**	December 01, 2020 at 011:30 AM	
Maximum Marks	30			

IMPORTANT INSTRUCTIONS:

Read the following Instructions carefully:

- Attempt All Questions on MS-Word. Font theme and size must be Times New Roman and 12 points respectively. Use line spacing 1.5. Convert file to PDF format before submitting.
- You may provide answers HANDWRITTEN. The scanned solution must be submitted in PDF file format (Use any suitable Mobile Application for Scanning)
- For Diagrams, you can use paper and share a clear visible snapshot in the same Answer Sheet.
- Arrange questions and their subsequent parts in sequence.
- Make sure that your answers are not plagiarized or copied from any other sources. In case of plagiarism, **ZERO** marks will be awarded.
- Provide relevant, original and conceptual answers, as this exam aims to test your ability to examine, explain, modify or develop concepts discussed during the course.
- Recheck your answer before the submission on **VLE** to correct any content or language related errors.
- You must upload your answers via the VLE platform ONLY.

You must follow general guideline for students before online examination and during online examination which had already been shared by email and WhatsApp.

This paper has a total of _03__ pages including this title page

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Q.1. (10)

a) What do you think about Compiler, Interpreter and Assembler? Which program does python language supports and how its processing and execution varies compared to other programs **(Note: Give answer in your own words).** **(5)**

b) Design a Python code to check whether an alphabet is a vowel or consonant. **(Note: Try to take user input as alphabet of your Last Name in Uppercase or Lowercase. Also commenting is necessary**). **(5)**

Q.2. (10)

a) Consider the following code and analyze it in your own words: **(5)**

(1) For Roll Number Mod 3 = 0	(2) For Roll Number Mod 3 = 1	(3) For Roll Number Mod 3 = 2

sum = 0
number = 0
 	
while (number < 10):
  number += 1
  if (number == 5 or number == 6):
    continue
  sum += number
 	
print(number,sum,sep="=",end="\n")
	if x > 2:
	  if y > 2:
	    z = x + y
	    print ("z is", z)
	  else:
	    z = x - y
	    print ("z is", z)
	else:
	  print ("x is", x)
		if score >= 90.0:
		  print("grade = A")
		else:
		  if score >= 80.0:
		    print("grade = B")
		  else:
		    if score >= 70.0:
		      print("grade = C")
		    else:
		      if score >= 60.0:
		        print("grade = D")
		      else:
		        print("grade = F")

What is the purpose of the code? Explain the working of the code by taking 2 sample inputs. **(Suppose your Roll Number is '010', then 10 Mod 3 is '1', so you have to attempt Part – 2)**

b) Write a program, that asks user for Experience using **eval**() function and display the **Post** and **Income** as per the following table:**(Note: commenting is necessary)** **(5)**

Experience	Post	Income
More than 15 years	Director	200,000
11 to 15 years	Senior Manager	150,000
8 to 10 years	Manager	100,000
5 to 7 Years	Assistant Manager	80,000
3 to 4 years	Supervisor	60,000

Roll Numbers	Display Profile
Roll Number Mod 4 = 0	Director and Manager
Roll Number Mod 4 = 1	Senior Manager and Assistant Manager
Roll Number Mod 4 = 2	Assistant Manager and Supervisor
Roll Number Mod 4 = 3	Director and Supervisor

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Q.3. (10)

a) Which types of loop belongs to a category of sentinel-controlled loop, and in which circumstances this loop is most appropriate? **Give your answer with appropriate example**. **(5)**

b) Write a python program for displaying the following pattern logically using nested loops **(5)**

(1) For Roll Number Mod 3 = 0	(2) For Roll Number Mod 3 = 1	(3) For Roll Number Mod 3 = 2
1		
12	99999	97531
123	7777	7531
1234	555	531
12345	33	31
123456	1	1

(Suppose your Roll Number is '020', then 20 Mod 3 is '2', so you have to attempt Part – 3)

(……….BEST OF LUCK!!!..........)