National University of Computer and Emerging Sciences, Lahore Campus



Course Name: | Computer Organization and

Assembly Language

Program: BS(Computer Science)

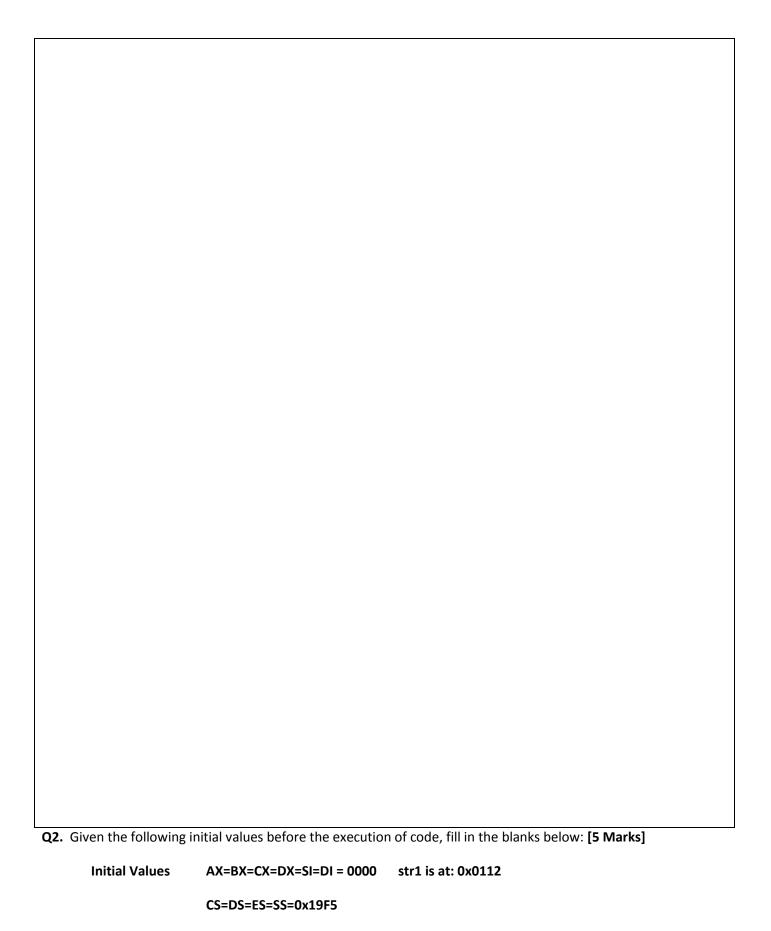
Duration: 60 Minutes
Paper Date: 15th Nov, 2018
Section: ALL

Exam Type: Mid-2

Course Code: EE213
Semester: Fall 2018
Total Marks: 35

Weight 15% Page(s): 4

Student : Name:			Roll No	Section:		
Instruction/Notes:	2. 3.	Write your answe	t your code. esult in negative marking.	an take extra sheets BUT they PAPER OR MARKED.		
Q1. Write a function, to clear the screen, whose only parameter is always zero and which is already placed on stack before any call. The function is hooked at interrupt 80h and may also be called directly as a subroutine or as an interrupt. The function should detect how it is called and returns appropriately. [10 Marks]						



[org 0x0100]					
std mov si, str1 push cs pop es mov al, 'o' mov cx, 23 repne scasb	;ascii of 'o' is 0x6F				
mov ax, 0x4 int 21h str1: db 'The	e exam is of one hour',0				
ZF		SI	AX		
CX		DI			
Q3. Write a software interrupt service for int 0x50 that receives three arguments via registers: a number k in ax register, a segment value in dx register, and an offset value in bx register. The isr locates the string placed at dx:bx and reduces its length by 'k' if its length is greater than 'k' and returns the new length in ax register, else returns the original length. For this question, you can assume the string is null terminated. Do this question using string instructions. Write complete code. [5 Marks]					

Q4. The video display memory is divided into 25 rows and 80 columns. Assume that for the purpose of this question, rows are numbered from 0 to 24 and columns are numbered from 0 to 79. Assuming there are no errors in the code and the screen is cleared prior to execution of this code, write the output of the following code in the right column. With each output line, also write the row and the column number. For example if the output 'A' is generated at row 10 and column 20, then write as follows: **[1x15 Marks]**

Row=10, Column=20, Output=A

[org 0x	k0100]				
	mov ax, 0xb800	Row	_ Column	Output	
	mov es, ax				
	mov bl, 2	Row	_ Column	_Output	
	mov di,0				
	mov dx, 0x0730	Row	_ Column	_Output	
	mov cx, 9				
print:	mov ax, cx	Row	_ Column	_Output	
	add dx, ax				
	div bl	Row	_ Column	_Output	
	cmp ah, 0				
	je skip				
	mov ah, 0				
	add di, 320				
	mov word[es:di], dx				
skip:	mov dx, 0x0730				
	dec cx				
	jnz print				
	mov ax, 0x4c00				
	int 0x21				

Best of Luck ©