

**COAL**  
**BS DS Fall 2022 Morning**  
**Quiz 5**

**Time allowed: 20 min**

**Total marks: 20**

**Roll Number:** \_\_\_\_\_

**Name:** \_\_\_\_\_

Assume SP=02F0h before the start of very first instruction in the following program. Answer the questions given at the end:

076A:0000	B86C07	MOV	AX,076C
076A:0003	8ED8	MOV	DS,AX
076A:0005	B82100	MOV	AX,0021
076A:0008	BB0300	MOV	BX,0003
076A:000B	E80400	CALL	0012
076A:000E	B44C	MOV	AH,4C
076A:0010	CD21	INT	21
076A:0012	50	PUSH	AX
076A:0013	53	PUSH	BX
076A:0014	33C9	XOR	CX,CX
076A:0016	E80300	CALL	001C
076A:0019	5B	POP	BX
076A:001A	58	POP	AX
076A:001B	C3	RET	
076A:001C	83FB01	CMP	BX,+01
076A:001D	7402	JZ	0023
076A:0021	03CB	ADD	CX,AX
076A:0023	D1E0	SHL	AX,1
076A:0025	D1EB	SHR	BX,1
076A:0027	75F3	JNZ	001C
076A:0029	C3	RET	

1. What is the value of **IP** after the execution of instruction CALL 0012?  
**0012**
2. What is the value of **SP** after the execution of "CALL 0012" instruction?  
**02EE**
3. What would be on **top of stack** after the execution of "CALL 0012" instruction?  
**000E**
4. What is the value of **SP** after the execution of "CALL 001C" instruction?  
**02E8**
5. What is in **SP** after the execution of RET instruction at 0029?  
**02EA**
6. What is in **IP** after the execution of RET instruction at 0029?  
**0019**
7. What is in **SP** after the execution of RET instruction at 001B?  
**02F0**
8. What is in **IP** after the execution of RET instruction at 001B?  
**000E**
9. What is the value of ???? in this program?  
**001F**
10. What will be the value of CX after the complete execution of the program?  
**0021**