Q1.

```
mov cx, 2000
mov si, sp
mov di, 0
mov ax, 0xB800
mov es, ax
mov ax, ss
mov si, ax
rep movsw
```

Dumping data from stack to display memory. (2 marks)
Hook Timer interrupt to count seconds via a global variable. (2 marks)
A global variable n, shl [n] , 2 after each snaking. (2 marks)
movsw for sliding data in a subroutine. (6 marks)

Q2.

Hook 0x16 to your ISR & save old ISR's CS and IP for interrupt chaining. (2 marks)
Read port 0x60 for keyboard input. Define ranges for a-z & A-Z scan codes and add factor for conversion to ascii. Four jumps needed for boundary checks. (7 marks)
Chain for rest of the keyboard keys. (3 marks)

Q3.

3 global variables. One for Key 1, another for Key2 and another for Key3.
Hook keyboard ISR for key 1,2,3 and set/reset the global variables in driver program.
Communicate the values of these global variables to kernel code via parameter block passing.(4 marks)

Keep dummy variable of task states for storing task #'s. This will be done in INITPCB while initializing threads. (2 marks)

Hook timer. Read next task's dummy to check for task# to be suspended. Repeat in loop. Context switch to the task in the chain which is not required to be suspended. In case of resume, ignore this suspension process. (4+2 marks)

Q4.

(i) SP, IP
(ii) 0x30348
(iii) 0x2000:0x834E , 0x2000: 0x034F
(iv) 31

(v) 830
(vi) 0x0238
(vii) 0x0044