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FINALTERM EXAMINATION
Fall 2008
CS401- Computer Architecture and Assembly Language Programming (Session - 1)
Marks: 75

Question No: 1 (Marks: 1) - Please choose one

Which of the following is not true about registers:

► Their operation is very much like memory

► Intermediate results may also be stored in registers.

► They are also called scratch pad ram

► None of given options.

Question No: 2 (Marks: 1) - Please choose one

move [bp], al moves the one byte content of the AL register to the address contained in BP register in the current

► Stack segment

► Code segment

► Data segment

► Extra segment

Question No: 3 (Marks: 1) - Please choose one

In a rotate through carry right (RCR) instruction applied on a 16 bit word effectively there is

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► 16 bits rotation

► 1 bit rotation

► 17 bits rotation

► 8 bits rotation

Question No: 4 (Marks: 1) - Please choose one

The 8088 stack works on

► Word sized elements

► Byte sized elements

► Double sized element

► Nible sized element

Question No: 5 (Marks: 1) - Please choose one

An 8 x 16 font is stored in _____ bytes.

► 2

► 4

► 8

► 16

Question No: 6 (Marks: 1) - Please choose one

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INT 10 is used for _____ services.

- ► **RAM**
- ► **Disk**
- ► **BIOS video**
- ► **DOS video**

Question No: 7 (Marks: 1) - Please choose one

Priority of IRQ 0 interrupt is

- ► **medium**
- ► **high**
- ► **highest**
- ► **low**

Question No: 8 (Marks: 1) - Please choose one

Threads can have function calls, parameters and _____ variables.

- ► **global**
- ► **local**
- ► **legal**
- ► **illegal**

Question No: 9 (Marks: 1) - Please choose one

How many prevalent calling conventions do exist

- ► 1
- ► 2

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► 3

► 4

Question No: 10 (Marks: 1) - Please choose one

In 9pin DB 9 DSR is assigned on pin number

► 4

► 5

► 6

► 7

Question No: 11 (Marks: 1) - Please choose one

In 9pin DB 9 CTS is assigned on pin number

► 6

► 7

► 8

► 9

Question No: 12 (Marks: 1) - Please choose one

In 9pin DB 9 CD is assigned on pin number

► 1

► 2

► 3

► 4

Question No: 13 (Marks: 1) - Please choose one

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In 9pin DB 9 RD is assigned on pin number

► 1

► 2

► 3

► 4

Question No: 14 (Marks: 1) - Please choose one

in device attribute word which of the following bit decides whether it is a charater device or a block device

► Bit 12

► Bit 13

► Bit 14

► Bit 15

Question No: 15 (Marks: 1) - Please choose one

Video servioces are classified into _____ broad catagories

► 2

► 3

► 4

► 5

Question No: 16 (Marks: 1) - Please choose one

In STOSB instruction, when DF is clear, SI is

► Incremented by 1

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► Incremented by 2

► Decremented by 1

► Decremented by 2

Question No: 17 (Marks: 1) - Please choose one

The process of sending signals back and forth is called

► Activity

► Hand-shaking

► Interruption

► Time clicking

Question No: 18 (Marks: 1) - Please choose one

Which of the following interrupts is used for Arithmetic overflow

► INT 1

► INT 2

► INT 3

► INT 4

Question No: 19 (Marks: 1) - Please choose one

which of the following is a special type of interrupt that returns to the same instruction instead of the next instruction

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► Divide overflow interrupt

► Debug interrupt

► Arithmetic overflow interrupt

► Change of sign interrupt

Question No: 20 (Marks: 1) - Please choose one

Which of the following IRQs is derived by a timer device?

► IRQ 0

► IRQ 1

► IRQ 2

► IRQ 3

Question No: 21 (Marks: 1) - Please choose one

Which of the following IRQs is connected to serial port COM 2?

► IRQ 0

► IRQ 1

► IRQ 2

► IRQ 3

Question No: 22 (Marks: 1) - Please choose one

An End of Interrupt (EOI) signal is sent by

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► Handler

► Processor

► IRQ

► PIC

Question No: 23 (Marks: 1) - Please choose one

The source registers in OUT is

► AL or AX

► BL or BX

► CL or CX

► DL or DX

Question No: 24 (Marks: 1) - Please choose one

In programmable interrupt controller which of the following ports is used for selectively enabling or disabling interrupts

► 19

► 20

► 21

► 22

Question No: 25 (Marks: 1) - Please choose one

The number of pins in a parallel port connector are?

► 20

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► 25

► 30

► 35

Question No: 26 (Marks: 1) - Please choose one

Which of the following pins of a parallel port connector are grounded?

► 10-18

► 18-25

► 25-32

► 32-39

Question No: 27 (Marks: 1) - Please choose one

Suppose a decimal number 35 when its binary is shifted to write two places the new number will become

► 35

► 70

► 140

► 17

Question No: 28 (Marks: 1) - Please choose one

A 32bit address register can access upto ..... of memory so memory access has increased a lot.

► 2GB

► 4GB

► 6GB

► 8GB

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Question No: 29 (Marks: 1) - Please choose one

In NASM an imported symbol is declared with the ..... while and exported symbol is declared with the .....

- ► Global directive, External directive
- ► External directive, Global directive
- ► Home Directive, Foreign Directive
- ► Foreign Directive, Home Directive

Question No: 30 (Marks: 1) - Please choose one

Single step interrupt is

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 31 (Marks: 1)

Which services are gained bi INT 0x16

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 32 (Marks: 1)

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Give the name of any one VESA servic

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 33 (Marks: 2)

INT 14 - SERIAL - READ CHARACTER FROM PORT

By using above port what do AH,AL and DX shows here?

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 34 (Marks: 2)

What do these instructions do ? write your answer in single line.

```
mov  cx, 0xffff
loop $
```

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt

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► Software interrupt

Question No: 35 (Marks: 3)

Define the protected mode

Solution:

► Hardware interrupt

► Like divide by zero interrupt

► Like divide by 1 interrupt

► Software interrupt

Question No: 36 (Marks: 3)

Write a program in assembly language to disable keyboard interrupt using PIC mask register
Hint: Only five instructions are needed

Solution:

► Hardware interrupt

► Like divide by zero interrupt

► Like divide by 1 interrupt

► Software interrupt

Question No: 37 (Marks: 3)

Read the following passage carefully and fill the blanks with proper words. Note: Don't rewrite the passage just write the words in same order.

"BIOS sees the disks as a combination of sectors, tracks, and....., as a raw storage device without concern to whether it is reading a file or directory. ..... provides the simplest and most powerful interface to the storage medium. However this raw storage is meaningless to the user who needs to store his files and organize them into..... . "

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 38 (Marks: 5)

What is interrupt chaining? Describe its purpose.

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 39 (Marks: 5)

Write any five DOS services for file manipulation.

Solution:

- ► Hardware interrupt
- ► Like divide by zero interrupt
- ► Like divide by 1 interrupt
- ► Software interrupt

Question No: 40 (Marks: 10)

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Now write down instructions for saving the values of cx, dx, si, di, bp and es in current pcb in the same order.

Solution:

► Hardware interrupt

► Like divide by zero interrupt

► Like divide by 1 interrupt

Consider the following instruction that save ax register into current PCB
mov [pcb+bx+0], ax

► Software interrupt

Question No: 41 (Marks: 10)

Read the passage and fill in the blanks with words given at the bottom.
Note: Don't rewrite the passage just write the words in same order

"Serial port is also accessible via.....ports. ..... is accessible via ports 3F8-3FF while ..... is accessible via 2F8-2FF. The first register at 3F8 (or 2F8 for the other port) is the ..... holding register if written to and the receiver..... register if read from. Other registers of our interest include 3F9 whose ..... must be set to enable received data available interrupt and .....must be set to enable transmitter holding register empty interrupt. Bit 0 of 3FA is set if an interrupt is pending and its bits 1-3 identify the cause of the interrupt. The three bit causes are as follows."

(Transmitter, COM1, I/O,COM2,bit 0, buffer, 3FA)

Solution:

► Hardware interrupt

► Like divide by zero interrupt

► Like divide by 1 interrupt

► Software interrupt