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**VU Answer**

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\_\_\_\_\_ Procedure can have parameters.

Answer ( Please select your correct option )

Hardware Interrupt

Software Interrupt

Both Hardware and software Interrupt

None of the Given

Correct answer solved by hadi  
Cell No:03228043306  
Email: usmanraj20@gmail.com

The Address of partition block on hard disk is \_\_\_\_\_.

**Boot block is a special block on disk which contains information about the operating system to be loaded. If the data on boot block is somehow destroyed the disk would be rendered inaccessible. The address of partition block on hard disk is head # =1, track# = 0 and sector # = 1.**

Answer ( Please select your correct option )

head # =0, track # = 0 and sector # = 0

head # =0, track # = 0 and sector # = 1

head # =0, track # = 1 and sector # = 1

head # =1, track # = 0 and sector # = 1

NMI Stand for \_\_\_\_\_

**Hardware interrupts make use of two of such input signals namely NMI (Non maskable Interrupt) & INTR(Interrupt Request).**

Answer ( Please select your correct option )

Non Multitude Interrupt

Non Maskable Instruction

None of Given

Non Maskable Interrupt

**page 46**

Correct answer solved by hadi  
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The interval timer is used to divide an input frequency.

**The interval timer is used to divide an input frequency. The input frequency used by the interval timer is the PCLK signal generated by the clock generator. The interval timer has three different each with an individual output and memory for storing the divisor value.**

Answer ( Please select your correct option )

True

**page 68**

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False

The PPI acts as an interface between the CPU and a parallel \_\_\_\_\_.

**The PPI acts as an interface between the CPU and a parallel I/O device. A I/O device cannot be directly connected to the buses so they generally require a controller to be placed between the CPU and I/O device. One such controller is the PPI. Here we will see how we can program the PPI to control the device connected to the PPI which generally is the printer.**

Answer ( Please select your correct option )

I/O device **page 83**

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CPU

BUS

None of Given

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BIOS DO NOT support \_\_\_\_\_.

Answer ( Please select your correct option )

LPT1

LPT2

LPT3

LPT4

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\_\_\_\_\_ is used to identify the cause of interrupt.

dakh bhai parh lia kar  
:P

Answer ( Please select your correct option )

Interrupt Enable register

Interrupt ID register

**page 116**

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Interrupt Status register

None of the given



The bit \_\_\_\_\_ of Line control register in UART, if cleared will indicate that DLL is the data register.

**The line control register contains important information about the behaviour of the line through which the data will be transferred. In it various bits signify the word size, length of stop bits, parity check, parity type and also the a control bit to load the divisor value. The bit 7 if set indicates that the base +0 and base + 1 will act as the divisor register otherwise if cleared will indicate that base + 0 is the data register.**

Answer ( Please select your correct option )

3

5

7

page 114

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1

Int 14H \_\_\_\_\_ can be used to send a byte.

**14h include service #1 which is used to send a byte and service #2 which is used to receive a byte.**

beta parh lo warna  
riksaw chilna pare gah

:P

Answer ( Please select your correct option )

Service # 0

Service # 1

**page 121**

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Service # 2

Service # 3

To access battery powered RAM, only \_\_\_\_\_ ports are important from programming point of view.

## Internal Ports

70 – 7FH (16 ports)

Only 70 & 71H are important from programming point of view

Answer ( Please select your correct option )

70 and 71H

**page 141**

71 and 72H

70 and 72H

72 and 73H

The DMA requests to acquire buses through the \_\_\_\_\_ signal.

**The latch B of the DMA interface is used to hold the higher 4 or 8 bits of the 20 or 24 bit absolute address respectively. The lower 16bits are loaded in the base address register and the number of bytes to be loaded are placed in the count register. The DMA requests to acquire buses through the HOLD signal, it receives a HLDA (Hold Acknowledge ) signal if no higher priority signal is available**

Answer ( Please select your correct option )

HOLD

page 186

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ACR

ACK

All of the given

\_\_\_\_\_ used to program various common parameters of transfer for all the channels.

tun mere wal tak di  
rawe , tun hi k  
backbone jutt di

Answer ( Please select your correct option )

DMA Status Register

DMA Command Register

**page 191**

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DMA Request Register

None of the above

Bit # \_\_\_\_\_ of mode register in DMA determine the direction of a transfer.

Bit 5 of the mode register, determine the "direction" of a transfer. This "direction" isn't to or from a peripheral, rather it's forward or backward direction in memory. So you can decrement instead of increment the memory address during a DMA transfer. In his case, a data block is read backwards to forwards by the peripheral. Also the ending address of the buffer is loaded into the proper register before starting the transfer.

Answer ( Please select your correct option )

2

3

4

5

page 195

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\_\_\_\_\_ will specify if the next DMA transfer will happen as a single transfer, block transfer or demand transfer.

bhai time hai parh le  
abhi b

Answer ( Please select your correct option )

DMA Request register

DMA Mask register

DMA Mode register

**video lec 24**

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DMA Command register

Each addressable unit has a unique combination of sec#, head# and track# as its \_\_\_\_\_ address. **An addressable unit on disk can be addressed by three parameters i.e. head #, sector # and track #. The disk rotates and changing sectors and a head can move to and fro changing tracks. Each addressable unit has a unique combination of sec#, head# and track# as its physical address.**

Answer ( Please select your correct option )

Physical

page 202

Logical

Both Physical and Logical

None of the given



Highest capacity of disk can be accessed using BIOS functions is \_\_\_\_\_.

**Highest biosdisk() capacity**

- Hence the highest capacity of disk can be accessed using bios functions is
- 63x16x1024x512= 504 MB approx.**

bhai parh le warna kisi se larki b nahi deni :P

Answer ( Please select your correct option )

128 MB

256 MB

504 MB

**page 211**

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127 GB

DOS has built in limit of \_\_\_\_\_ blocks per cluster.

Answer ( Please select your correct option )

128

page 242

256

32

64

## Clusters

- A cluster is a collection of contiguous blocks.
- User Data is divided into clusters
- Number of blocks within a cluster is in power of 2.
- Cluster size can vary depending upon the size of the disk.
- DOS has a built in limit of 128 blocks per cluster.
- But practically limit of 64 blocks per cluster has been established.
- We will learn more about the size of clusters, later.

BIOS Parameter block is situated in \_\_\_\_\_ Block.

**BPB (BIOS Parameter Block)**

- Situated within the Boot Block.
- Contains vital information about the file system.

Answer ( Please select your correct option )

● Boot

**page 242**

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○ Data

○ Extended Data

○ None of Given

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The \_\_\_\_\_ block is the first block on disk.

**LBA = 0 is not the same as LSN=0.**

**The LBA=0 block is the first block on disk. Whereas each logical partition has LSN=0 block which is the first block in logical drive and is not necessarily the first block on physical drive. Also notice the hidden blocks between the first physical block on each partition and its first LSN block. These hidden blocks are not used by the operating system for storing any kind of data.**

Answer ( Please select your correct option )

Both LBA=0 and LSN=0

None of the given

LSN =0

LBA=0

Inside a boot block jump code part occupies \_\_\_\_\_ byte.

## Inside a Boot Block

- Contains Code and Data  
 jmp codepart  
 OSName  
 BIOS  
 Parameter Block

codepart:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- Boot Block executes at Booting time.

The above slide shows the location of BPB within the boot block. A jump instruction (near jump of 3 bytes size) is used to jump to the code part and skip the data part so that it is not interpreted as instructions by the processor.

Answer ( Please select your correct option )

3

page 244

8

11

5

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In boot block BIOS parameter block starts from \_\_\_\_\_.

Answer ( Please select your correct option )

03H

05H

08H

0BH

page 243

## BPB (BIOS Parameter Block)

Byte Offset	Field Length	Meaning
0x0B	WORD	Bytes per Sector. The size of a hardware sector. Usually 512.
0x0D	BYTE	Sectors Per Cluster. The number of sectors in a cluster. The default cluster size for a volume depends on the disk size and the file system.
0x0E	WORD	Reserved Sectors. The number of sectors from the Partition Boot Sector to the start of the first file allocation table, including the Partition Boot Sector. The minimum value is 1.
0x10	BYTE	Number of file allocation tables (FATs). The number of copies of the file allocation table on the volume. Typically, the value of this field is 2.
0x11	WORD	Root Entries. The total number of file name entries that can be stored in the root folder of the volume.
0x13	WORD	Small Sectors. The number of sectors on the volume if the number fits in 16 bits (65535). For volumes larger than 65536

In main memory smallest addressable unit is \_\_\_\_\_.

baby ko base pasand  
hai :P

Answer ( Please select your correct option )

Byte

Nibble

Word

None of the given

**I think this is ans because smallest addressable unit is bytes not single byte. Block is called smallest addressable unit and it can have 512 bytes**

page 202

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Total number of clusters of FAT12 are \_\_\_\_\_.

Answer ( Please select your correct option )

FF0 H

FFF H

FEF H

FEE H

page 266

### Unused FAT Entries

• Reserved Entries = FF0H ~ FF6H

• EOF value = FF7H ~ FFFH

• First Two Clusters = 0,1

• Free Cluster = 0

• Max. range of Cluster # = 2 ~ FEFH

• Total # of Clusters of FAT12 = FEEH



In FAT12 to calculate the address or offset from index, we need to multiply it with \_\_\_\_.

Answer ( Please select your correct option )

- 1/2
- 3/2 **page 267**
- 5/2
- 7/2

### Selecting a 12-bit entry within FAT12

```
offset = cluster No * 3/2
```

```
temp = cluster No * 3%2
```

```
if (temp == 0)
```

```
{
```

Then the entry is even, consider the word at this offset. Make a 12-bit value, by selecting the low Nibble of the high byte of this. Use this Nibble as the higher 4-bits. And use the low byte as the lower eight bits.

```
} else
```

```
{
```

The entry is odd, consider the word at this offset. Select the high Nibble of the low byte as lower 4-bits. And select high byte as the higher 8-bits.

```
}
```

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Total number of cluster of FAT16 is \_\_\_\_\_.

Answer ( Please select your correct option )

FFF0 H

FFFF H

FFEF H

FFEE H

page 272

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### Unused FAT Entries

- Reserved Entries = FFF0H ~ FFF6H
- EOF value = FFF7H ~ FFFFH
- First Two Clusters = 0,1
- Free Cluster = 0
- Max. range of Cluster # = 2 ~ FFEFH
- Total # of Clusters of FAT16 = FFEEH

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Total \_\_\_\_ fragments can be supported for storing long file names.

Quote :

The wrong people always

Teach you the right

Life lessons

Answer ( Please select your correct option )

26

**Video Lecture 37**

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28

32

48

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\_\_\_\_\_ used for FCB in FAT 12 and FAT 16.

Answer ( Please select your correct option )

Nibble

Byte

2 Bytes

4 Bytes

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To store a cluster in FAT 32 \_\_\_\_\_ is/are needed.

Answer ( Please select your correct option )

Nibble

Byte

2 Bytes

4 Bytes

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Practically in FAT 32, total number of entries are \_\_\_\_\_.

Answer ( Please select your correct option )

$2^{26}$

$2^{28}$

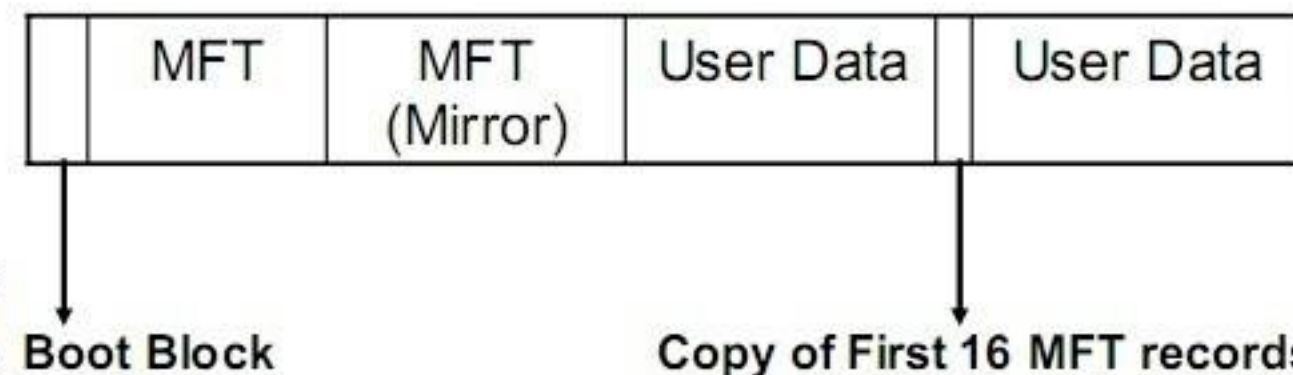
$2^{30}$

$2^{32}$

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First logical sector of NTFS partition is \_\_\_\_\_.



Answer ( Please select your correct option )

DPB

MFT

Boot sector **Lec 39**

None of the given

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Extended memory can be accessed in \_\_\_\_\_ mode.

memory portion higher than 1MB is called extended memory

## Protected Mode

## Real Mode

- PC has to be shifted to Protected Mode if originally boots in Real Mode.

- In Protected Mode whole of the RAM is accessible that includes the Conventional, Expanded and Extended Memories.

- OS like Windows has a memory management system for Protected Mode.

- A privilege level can be assigned to a memory area restricting its access.

- PCs initially boots up in Real Mode. It may be shifted to protected mode during the booting process using drivers like HIMEM.SYS

- Only first 1 MB of RAM can be accessed in Real Mode.

- The Real Mode address is a 20-bit address, stored and represented in the form of Segment : Offset

- OS like DOS has a memory management system in reflection of the Real Mode.

Answer ( Please select your correct op

Real

Protected **lec 42 pg:319**

Both real and protected

None of the given

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MCB is a \_\_\_\_\_ bytes data structure.

## MCB or Arena Header

- MCB is used to control an allocated block in memory.
- Every allocated block will have a MCB before the start of block.
- MCB is a 16-bytes large structure.

Answer ( Please select your correct option )

8

16

**page 321**

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32

64

Size	Offset	
Byte	0	Contains 'M' if the MCB controls allocated memory and 'Z' if it controls free space.
Word	1	Contains the Segment address of the PSP and the program controlled by MCB.
Word	3	Contains number of Paragraphs controlled by the MCB.
Byte [11]	5	Reserved or contains the program name in case of higher versions of DOS.

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Real mode does not support \_\_\_\_\_ memory allocation system.

Suno larkiyon itna  
attitude na dikhaya karo  
:P

Answer ( Please select your correct option )

Contiguous

Non Contiguous

**Video Lec 43 page 325**

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Both Contiguous and Non Contiguous

None of the given

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There can be \_\_\_\_\_ different descriptors privilege levels.

**00 highest privilege level and 11 is lowest privilege level**

baji dar gai baji dar gai

Answer ( Please select your correct option )

2

4

**Video Lec 43**

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Email: usmanraj20@gmail.com

8

10

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In memory management, descriptor entry is of \_\_\_\_\_ bytes.

baji dar gai baji dar gai

Answer ( Please select your correct option )

64

32

8

**Lec 43**

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16

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For virus to propagate itself, it has to intercept interrupt \_\_\_\_\_.

Answer ( Please select your correct option )

9H

11H

13H

17H

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If virus wants to be in memory independently, it should have its own \_\_\_\_\_.

Answer ( Please select your correct option )

MCB

PSP

EB

Both MCB and PSP

page 334

## How COM Virus Loads Itself

- When a file is Loaded in Memory it will occupy a number of Paragraphs controlled by some MCB.
- If the file is infected the Virus is also loaded within the Memory Area allocated to the Program.
- In this case the Virus does not exist as an Independent Program as it does not have its own PSP. If the Program is terminated the Virus Code will also be unloaded with the program. The Virus will try to attain an Independent Status for which it needs to relocate itself and create its own PSP and MCB in Memory.
- When the program runs the Virus Code executes first. The Virus creates an MCB, defines a new PSP initializes the PSP and relocates itself, updates the last MCB, so that it can exist as an Individual Program, and then transfers the execution back to the Original Program Code.
- Now if the Original Program Terminates the Virus will still remain resident.

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Size of single entry in Partition Table is \_\_\_\_\_.

#### File System for Each O.S.

- On a single disk there can be 4 different file systems and hence 4 different O.S.
- Each O.S. will have its individual partition on disk.
- Data related to each partition is stored in a 16-bytes chunk within the Data Part of Partition Table.

Answer ( Please select your correct option )

512 bytes

128 bytes

64 bytes

16 bytes

page 219

### Structure of Data Part of P.T.

Size	Description
16 Bytes	Partition into of 1 <sup>st</sup> partition.
16 Bytes	Partition into of 2 <sup>nd</sup> partition.
16 Bytes	Partition into of 3 <sup>rd</sup> partition.
16 Bytes	Partition into of 4 <sup>th</sup> partition.
02 Bytes	Signature

Dr Siddhu

\_\_\_\_\_ is a data structure maintained by DOS in the boot block for each drive.

**BIOS parameter block is a data structure maintained by DOS in the boot block for each drive. The boot block is typically a 512 byte block which as seen the previous slides is the first logical block i.e. LSN = 0. It contains some code and data. The data part constitutes the BPB**

Answer ( Please select your correct option )

DPB

BPB

page 242

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FCB

None of the Given

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Cluster size is variable and can be measured in power of \_\_\_\_\_.

**The cluster size can vary from 512 bytes to 32K in powers of 2 depending upon the volume size.**

bus raty baaz :P

Answer ( Please select your correct option )

4

8

16

2

**Page 266 cluster size determination**

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