Laptop Hardware Repairer Interview Questions And Answers Guide.

Laptop Hardware Repairer Job Interview Preparation Guide.

Question # 1

Would you love to know how to diagnose motherboards on a component level. What tools do you use?

Answer:-

I find it is very hard to explain this. actually, it is very simple and can be described in two words: current and singal. read the current change during booting tells you where the machine stopped. check the singals on the different part of motherboard tells what is wrong or what may missing.

Tools are: smd rework station, bga rework station, power supply has current meter. all the rest tools you can find in any radio tv repair shop.of course all the datasheets for the components, especially the schematic diagram, you will find it much difficult without it.

Read More Answers.

Question # 2

What are common faults on mainboards?

Answer:-

Different maker/model has different common fault. Toshiba S1 is vga chip, and can't be repaired(well, almost can't be repaired because the pcb quality is not very good so successful rate is very low).

HP DV2000, 6000, 9000, compaq v3000, v6000, dell 1210, all those use nvidia chips have problem on vga chip or north bridge. easy to repair but have to make fan keep spinning after repaired, otherwise will break down in 1 or 2 week again.

hp nx5000, cpu pwm chip dry joint. acer 290, cpu pwm dry joint.

hp dv1000, compaq m2000 protection circuit easy to blow up.

ibm t40 vga dry joint problem.

These are just few of them. every machine has its own common fault. but dry joint is the common problem for all machines. Motherboard repair is not as difficult as people thought, i think much easer than repair a tv.

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Question # 3

Dell 1525 Inspiron that says system does not recognize the installed battery this system will not charge the battery?

Answer:-

Charging battery in Dell laptop involves two major chips: EC(or someone call it super IO), PWM chip for battery charging. BIOS has no part of charging. Battery communicate with EC through SMB(system management bus??) and EC controls charging PWM. Fix charging problem is very hard in laptop repair, you must fully understand schematics, where all the signals come from and where to go.

Today's laptops are less and less with programmed EC, Dell 1525 has no programmed EC so it can be replaced with same model.

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Question # 4

How to fix a DV6 with power problem. The problem of machine is it cannot power up at all?

Answer:-

Doing routine check:

1. system power: 3V, 5V all presented - ok
2. NBSWON signal: 3.3V presented - ok
3. press power button, NBSWON pull down to 0V, ok
4. check DNBSWON while press power button, no response. - problem.

in here I made a mistake, I didn't pay attention of the voltage of DNBSWON, this mistake waste me the next few days time. It should be 3.3V, but only about 1V.

Change EC as usual, because I thought the EC has problem. Then the big trouble comes - it auto power up once I plug in the power but stop in 0.04A current. Check and find no S5_ON signal, which indicate south bridge has problem, so change south bridge. But still same problem and still no S5_ON. I find that the EC I change is kb3926A rather than kb3926C. In most case, this is no problem but in very rare occation...

So I find a 3926C and put on. Now the motherboard is back to the same problem while I first start to check! So I change a wrong EC and this time I change a correct one, and also EC has no problem!

Because EC will start to read bios once the power plug in(not as people think, once you press power button). I check BIOS chip, BIOS_CS should have a countinue wave form but it just one stright line. BIOS chip is faulty, I replace the BIOS chip and it works perfect.

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Question # 5

Is it possible to replace the USB port/controller?

Answer:-

The USB ports seem totally dead, no power at all. It is because some soda was spilled on it (I presume, at least, may be randomly related with something else). I also corrupted my OS X install, have to reinstall freshly. Now, I haven't reset the SMC or PRAM yet, and that's the first thing I'll do (however as there's is no 5V power, I doubt this will fix it, correct me if I am wrong). However, if that goes sour, and won't fix the problem, what are my options? Here's how I was thinking:
Firstly, can someone tell me all the devices I should be seeing in the system profiler under USB? Also, isn't it so that a central USB controller also handles the internal keyboard and iSight which still work perfectly, meaning that only the ports themselves are damaged? Let's presume so, and that the USB controller chip is still okay. Should I just replace (desolder old, solder new) the female USB ports, or could the problem lie in the connection between them and the USB controller, and if the latter, how would one go about fixing it?

Read More Answers.

Question # 6

How to test Back lights?

Answer:-

Backlights can be tested by connecting them to a known good inverter. You can use one of the inverters they sell for case moding. Just provide a 12V input for it and connect your backlight to one of the output sockets. If your backlight illuminates then it is OK and the fault lies elsewhere. A pink or red hue to the screen is nearly always a sign of a failing backlight and if this happens it is well worth replacing the backlight as the only other thing that can cause this is a faulty screen.
Remember backlights work on an AC Voltage of around 1000v and although the wattage is very small can give you a nasty shock and could prove fatal if you have a pacemaker or similar.

Read More Answers.

Question # 7

What are inverters?

Answer:-

We now come to an item that can only be tested by a qualified electronics engineer or simply substituted. There is usually a small fuse located near the input connector. Check this for continuity. Depending on the inverter there can be several inputs but it is worth checking the input voltages. Basically you will have a positive and negative feed plus a switching voltage and a brightness connection. The basic voltage for powering the inverter is usually the same as you laptop input voltage but the switching voltage may be as low as 5 volts DC. The brightness voltage can be anything from 0 to 5 volts but normally full brightness is acheived with 0 volts so don't worry about this. Unfortunately inverters often have up to 20 or more connections and may incorporate circuits which show battery charge status, on/off status and almost anything else you care to name! As wiring diagrams are rarely available its impossible to know which connection does what. It is possible by a process of elimination to work out the main positive and negative terminals and you may often find there are several of these but the rest is pure guesswork. If you have an analogue multimeter, set it to the highest AC reading (usually 1000V) and check for an output from the inverter. Initial start up voltage will probably exceed 1000 volts but normal running voltage should be below 1000 volts depending on the size of your screen. Look for a voltage in the region of 400 - 900 volts. Obviously if you are getting a good voltage here then your backlight has failed. Otherwise I am afraid it is a case of replacing with a known good inverter to see if this cures the problem. (If anyone knows of a foolproof way to test an inverter please enlighten me)

Read More Answers.

Question # 8

A question I am often asked is "How can I tell if the backlight or inverter has failed on my laptop/monitor as I can only just make out an image?

Answer:-

The answer is that there are several causes of a dim display or the failure of a backlight to illuminate the screen. As most people are aware, inverter and backlight failure are the most common. Other causes are:- a faulty or damaged LCD/Inverter cable, Faulty motherboard and a faulty screen.

Read More Answers.

Question # 9

Define LCD/Inverter cable?

Answer:-

Check this cable carefully for damage especially in the hinge area and make sure the connectors have not worked loose. It is possible for the wires to break internally with no obvious signs of damage so check the continuity of the cables. A faulty LCD cable can even result in your laptop not switching on

Read More Answers.

Question # 10

Described about Motherboard?

Answer:-

The motherboard sends a signal to the inverter board telling it when to switch the backlight on. If there is a fault on the motherboard then the inverter board will not receive a signal and therefore not switch the backlight on. It may be possible to check the input voltages to the inverter board with a multimeter but if you have eliminated the previous items I have found this to be quite a commom fault. NB If you connect your laptop to an external monitor and get a good picture this only proves that the video card is OK, there could still be a fault on the motherboard which is preventing your screen from illuminating.

Read More Answers.

Question # 11

What is laptop screen?

Answer:-

It is possible for a faulty screen electronics to result in the backlight failing to illuminate. This is rare but can happen and if you have eradicated the previous items is the only possibility left.

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Question # 12

What is APM?

Answer:-

Short for advanced power management, APM is an Application Program Interface (API) developed by Microsoft and Intel to allow computer and BIOS manufacturers to include Power Management.

Read More Answers.

Question # 13

Lis the different kinds of Battery technologies?

Answer:-

There are different battery technologies that allow a battery to work. Below is a listing of some of the major types you're most likely to encounter.
* LI-ION (Lithium Ion)
* Li-polymer (Lithium Polymer)
* NICAD (Nickel-Cadmium)
* NIMH (Nickel-Metal Hydride)

Read More Answers.

Question # 14

Define Computer POST and beep codes?

Answer:-

The computer POST (power-on self-test) checks a computer's internal hardware for compatibility and connection before starting the remainder of the boot process. If the computer passes the POST, the computer may give a single beep (some computers may beep twice) as it starts and continue to boot. However, if the computer fails the POST, the computer will either not beep or generate a beep code that tells the user the source of the problem.

Read More Answers.

Question # 15

What is AGP?

Answer:-

Short for Accelerated Graphics Port, AGP is an advanced port designed for Video cards and 3D accelerators. Designed by Intel and introduced in August of 1997, AGP introduces a dedicated point-to-point channel that allows the graphics controller direct access to the system memory. Below is an illustration of what the AGP slot may look like on your motherboard.

Read More Answers.

Question # 16

What laptop bus contains?

Answer:-

The bus contains multiple wires (signal lines) that contain addressing information that describes the memory location of where the data is being sent or where it is being retrieved. Each wire in the bus carries a single bit of information, which means the more wires a bus has the more information it can address. For example, a computer with a 32-bit address bus can address 4GB of memory, and a computer with a 36-bit bus can address 64GB of memory.

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Question # 17

What is BUS?

Answer:-

When referring to a computer, the bus also known as the address bus, data bus, or local bus is a data connection between two or more devices connected to the computer. For example, a bus enables a computer processor to communicate with the memory or a video card to communicate with the memory.

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Question # 18

Described about AGP channel?

Answer:-

The AGP channel is 32-bits wide and runs at 66 MHz, which is a total bandwidth of 266 MBps and much greater than the PCI bandwidth of up to 133 MBps. AGP also supports two optional faster modes, with a throughput of 533 MBps and 1.07 GBps. It also allows 3-D textures to be stored in main memory rather than video memory.
Each computer with AGP support will either have one AGP slot or on-board AGP video. If you needed more than one video card in the computer, you can have one AGP video card and one PCI video card or use a motherboard that supports SLI.
AGP is available in three different versions, the original AGP version mentioned above, AGP 2.0 that was introduced in May of 1998, and AGP 3.0 (AGP 8x) that was introduced in November of 2000. AGP 2.0 added 4x signaling and was capable of operating at 1.5V and AGP 3.0 was capable of double the transfer speeds.

Read More Answers.

Question # 19

What is AGP Pro?

Answer:-

AGP Pro is an AGP interface extension specification for advanced workstations. This specification delivers additional power to video cards, includes extended connector, thermal envelope, mechanical specifications, I/O bracket, and motherboard layout requirements.

Question # 20

What is AMR?

Answer:-

Released September 8, 1998, AMR is short for Audio/Modem Riser and allows OEMs to make one card that has the functionality of either Modem or Audio or both Audio and Modem on one card. This specification allows for the motherboard to be manufactured at a lower cost and free up industry standard expansion slots in the system for other additional plug-in peripherals. The picture an example of what the AMR slot looks like on the Motherboard. This slot is often on the far edge of the motherboard, next to a PCI slot.

Question # 21

What is the term EISA mean?

Answer:-

Short for Extended Industry Standard Architecture, EISA or Extended ISA is a standard first announced in September of 1988 for IBM compatible computers that competed with the MCA bus. The EISA bus is found on Intel 80386, 80486 and early Pentium computers and was designed by nine competitors. These competitors were AST Research, Compaq, Epson, Hewlett Packard, NEC, Olivetti, Tandy, WYSE, and Zenith Data Systems.
The EISA bus provided 32-bit slots at an 8.33 MHz cycle rate for use with 386DX or higher processors. EISA can also accommodate a 16-bit ISA card in the first row.

Question # 22

What is the term ISA mean?

Answer:-

Industry Standard Architecture, ISA was introduced by IBM and headed by Mark Dean. ISA was originally an 8-bit computer bus that was later expanded to a 16-bit bus in 1984. When this bus was originally released it was a proprietary bus, which allowed only IBM to create peripherals and the actual interface. However, in the early 1980's other manufacturers were creating the bus.
In 1993, Intel and Microsoft introduced a PnP ISA bus that allowed the computer to automatically detect and setup computer ISA peripherals, such as a modem or sound card. Using the PnP technology, an end-user would have the capability of connecting a device and not having to configure the device using jumpers or dip switches.
All recent computers today no longer included the ISA slots and instead are using more PCI, AGP, and other slots. Below is a graphic of what an ISA expansion card may look like as well as the slot it connects into on the motherboard.

Question # 23

What is Mini PCI?

Answer:-

Mini PCI is a standard used by leading notebook manufacturers that measures 2.75-inches x 1.81-inches x 0.22-inches. This technology could allow manufacturers to lower their prices, as the motherboards would be simpler to design.

Question # 24

List the types of Mini PCI?

Answer:-

Type I:
Identical to type II, except requires extra cables for connectors like the RJ-11 and RJ-45. However, offers more flexibility to where it can be placed in the computer.
Type II:
Used when size is not important. Type II can integrate the RJ-11 and RJ-45 connectors and did away with extra cables.
Type III:
SO-DIMM style connector that can be installed with a mere 5 mm overall height above the system board. Cabling to the I/O connectors also allow type III cards to be placed anywhere in the system.

Question # 25

What is the term PCI mean?

Answer:-

Peripheral Component Interconnect, PCI was introduced by Intel in 1992. The PCI bus came in both 32-bit (133MBps) and 64-bit versions and was used to attach hardware to a computer. Although commonly used in computers from the late 1990s to the early 2000s, PCI has since been replaced with PCI Express.

Question # 26

What is the term MCA mean?

Answer:-

Micro Channel Architecture, MCA was introduced by IBM in 1987 as a competitor to the ISA bus. MCA offered several additional features over the ISA such as a 32-bit bus (in addition to a 16-bit bus), it ran at 10MHz, automatically configured cards (similar to what Plug-and-Play is today), and included bus mastering for greater efficiency.

Question # 27

What is the term PCI Express mean?

Answer:-

Originally known as 3rd Generation I/O (3GIO), PCI Express, or PCIe, was approved as a standard on July 2002 and is a computer bus found in computers. PCI Express is a serial bus designed to replace PCI and AGP and is available in different formats: x1, x2, x4, x8, x12, x16, and x32. The data transmitted over PCI-Express is sent over wires called lanes in full duplex mode (both directions at the same time). Each lane is capable of around 250MBps and the specification can be scaled from 1 to 32 lanes. With 16 lanes PCI Express supports a bandwidth of up to 4,000MBps in both directions. Below are some graphic illustrations of what the PCI Express would look like on the motherboard.

Question # 28

What is the term VL Bus mean?

Answer:-

Alternatively abbreviated as VLB, VL Bus is short for VESA (Video Electronics Standards Association) Local Bus first introduced by VESA in 1992. The VLB is a 32-bit computer bus that had direct access to the system memory at the speed of the processor, commonly the 486 CPU (33/40 MHz). VLB 2.0 was later released in 1994 and had a 64-bit bus and a bus speed of 50 MHz. Unfortunately, because the VLB heavily relied on the 486 processor, when the Pentium processor was introduced manufacturers began switching to PCI.

Question # 29

What is the term SCSI mean?

Answer:-

Small Computer System Interface, SCSI is pronounced as "Scuzzy" and is one of the most commonly used interface for disk drives that was first completed in 1982. Unlike competing standards, SCSI is capable of supporting eight devices, or sixteen devices with Wide SCSI. However, with the SCSI host adapter located on ID number 07 and boots from the ID 00. This leaves the availability of six device connections. In the picture below, is an example of a SCSI adapter expansion card with an internal and external connection. Once installed in the computer this adapter would allow multiple SCSI devices to be installed in the computer. More advanced motherboard may also have available SCSI connections on the motherboard.

Question # 30

What is CNR?

Answer:-

Communication and Network Riser, CNR is a specification that supports Audio, Modem, USB, and LAN interfaces of core logic chipsets. This technology and the CNR slot was first introduced by Intel February 7, 2000 and was mainly developed by leading hardware and software developers who helped release the AMR (Audio Modem Riser) slot. In the picture below is an example of a CNR slot, which is labeled as "CNR_SLOT" on this motherboard.

Question # 31

Explain about laptop Battery?

Answer:-

A battery is a hardware component that supplies power to a device, enabling that device to work without a power cord. Batteries are often capable of powering a laptop computer for several hours depending on how much power it requires. Today, many high-end devices such as computer laptops and cell phones use rechargeable batteries that allow a user to recharge the battery once depleted of energy. In the picture below, is an example of what a laptop battery may look like when removed from the laptop with a close-up of the battery rating.

Question # 32

What are the POST troubleshooting steps?

Answer:-

* AMI BIOS beep codes
* Award BIOS beep codes
* Dell beep codes
* IBM BIOS beep codes
* Macintosh startup tones
* Phoenix BIOS beep codes
* Motherboard help

Question # 33

Got keyboard marks on the laptop screen. how to remove those marks without damaging the screen?

Answer:-

No Answer is Posted For this Question

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