UTM UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING
Faculty of Engineering

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Subject : Technology and Information Systems (SECP1513)

Section : 07

Assignment : Step by step PC Assembly

GROUP NAME / NUMBER : GROUP 7

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PART A – List at least FOUR tools needed to assemble a PC.

1.0 Screwdrivers

One of the most important tools for assembling a PC is the screwdriver. It is used to tighten the screws. As screws hold the PC together.

2.0 Anti-Static Equipment

During PC assembly, any anti-static equipment is important to protect both yourself and your pc components from any electrostatic discharge. For example, attaching an anti-static wrist strap device to yourself and clipping it to a grounded object would prevent electrostatic discharge from any component. Anti-static mats can also be used on which you would work on building your pc.

3.0 Cable-ties

To stop the buildup of dust, careful cable maintenance is required because it does not disrupt the air flow of multiple components preventing them from starving for air. Zip ties or twist ties can be used to tie together the wires and cables cleanly. This also makes the overall pc look beautiful. So it is both function and aesthetic.

4.0 Magnetic Screw Tray

A magnetic screw tray is a very useful equipment as whilst building a pc, a person has to unscrew and screw multiple screws and each screw is specifically designed for each component. Losing these screws can be detrimental as if they get dropped on the ground or even in the casing, looking for them would be very tedious and a waste of time. So, a magnetic tray can be used to keep the screws in without the worry of dropping or losing them. Trays that are divided into multiple sections can also be used as you can sort each type of screw into the sections to prevent them from mixing into themselves.

5.0 Thermal Paste

The thermal compound is an important tool in building a pc as it is the material that is applied between the iron dye of the processor and the heatsink of the cooler which allows the processor to dissipate its excess heat to the cooler. This keeps the temperature of the processor down during heavy workloads. Most coolers come with thermal compounds but some enthusiast grade ones don't. So, it is essential to have spare thermal compounds from some reputable brand on hand. Reputable brands like Corsair are known to have good quality thermal compounds.

PART B – Sketch of a mother board layout

1.0 Motherboard diagram Sketch

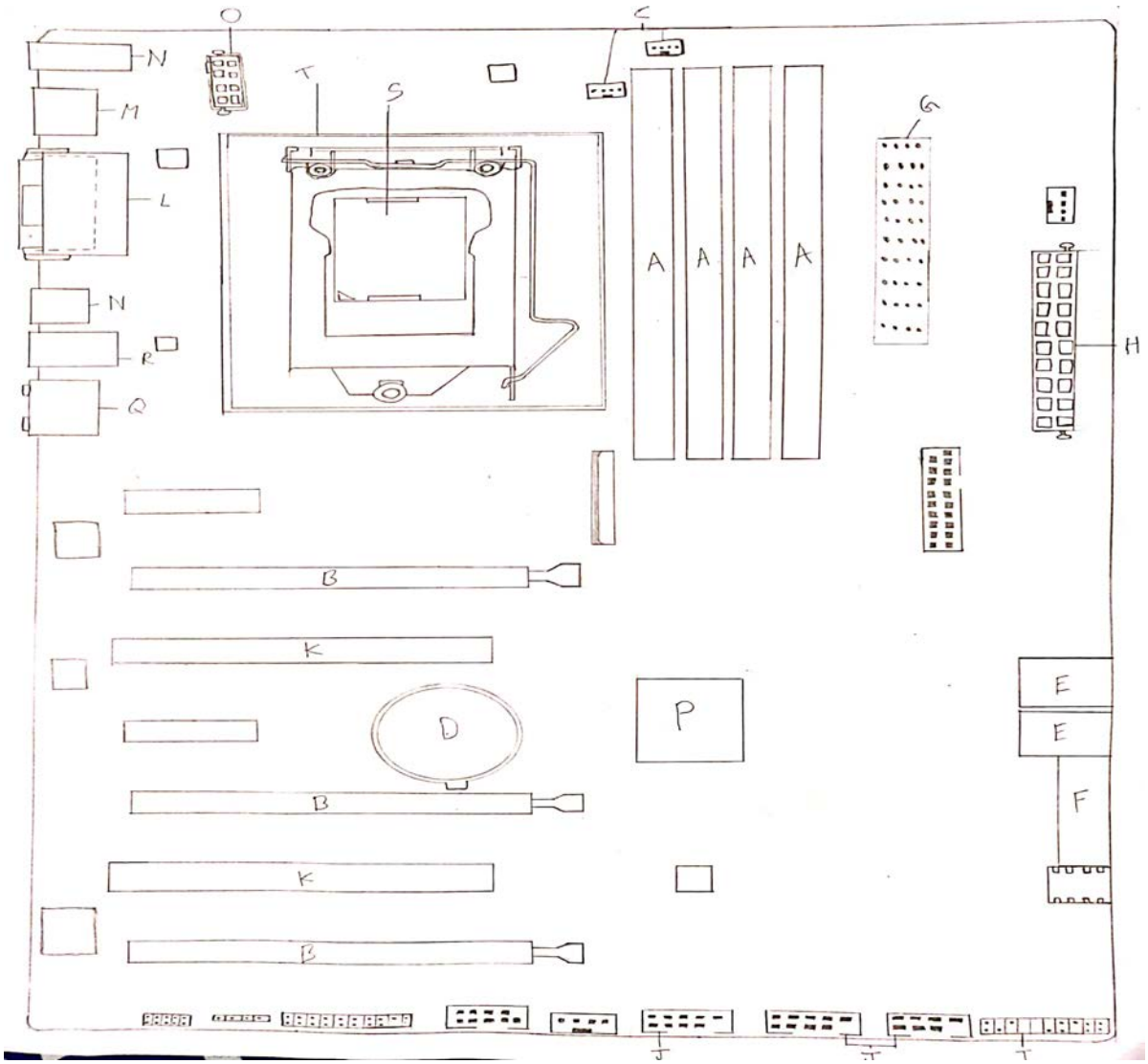


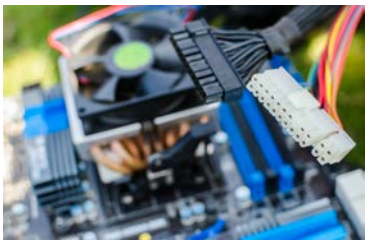
Diagram: 1.0

A- Ram slots	K-PC express slot
B-PCIE Express slots	L-VGA port
C- CPU Cooling Fan Connector	M-HDMI port
D- CMOS Battery	N-Back panel USB port
E-Sata connector	O-CPU Power
F-CD ROM Drive Connector	P-Motherboard chip
G-IDE slots	Q-Audio port
H-Standard 24-Pin ATX Power Connector	R-Lan ports
I-Panel connector	S-Processor socket
J-front panel USB ports	T-Heat Sink

2.0 Diagram Details and Description

SATA Cable-> It is an interface used to connect ATA hard drives to a computer's motherboard. They also use smaller, thinner cables, which allows for better airflow inside the computer.

Power Supply-> Hardware to supply voltage to components in need, and to provide signal to motherboard that indicates the DC voltages are in spec, so that the computer able to safely power up

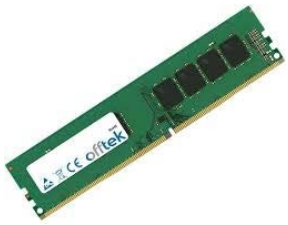


Hard Disk-> Is a non volatile data storage device, to store and retrieve digital data

USB Cable->is Universal Serial Bus, to connecting pen drives and external hard drives

CD ROM -> the BIOS, software in the form of programs stored on ROM chips, is used during the startup routine to check out the system and prepare to run the hardware

RAM->Is a form of computer memory that can be changed in any order. To provide fast long term storage and workspace for data and program code



Heatsink->A thermal conductive metal device designed to absorb heat from computer processor

CPU/Processor-> Perform actual data and computing, enables computer to interact with all applications

Graphic Card-> To connect computer to motherboard, and also have a direct connection to power supply

Slots(IDE and IDE Cable)->Is a standard interference to connecting motherboard to storage devices.

PART C - “Step by Step PC Assembly”

Based on the given video and keywords in Table 1.0, prepare a report on “Step by Step PC Assembly” that provide guided instructions on how to Assemble a PC. Assumed that in front of you is an opened computer case (without the side panels). Number of steps should not exceed the number of keywords.

STEP 1 – Install the central processor units (CPU), make sure the CPU is in the CPU socket right away.

STEP 2 – Spreading the thermal paste on CPU

STEP 3 – Install a CPU fan on the processor

STEP 4 – Install RAM Memory

STEP 5 – Install the power supply

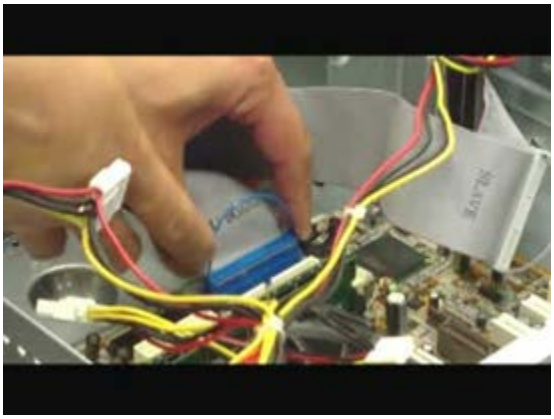
STEP 6 – Install the motherboard. Lock all the screws.

STEP 7 – Install Graphic card

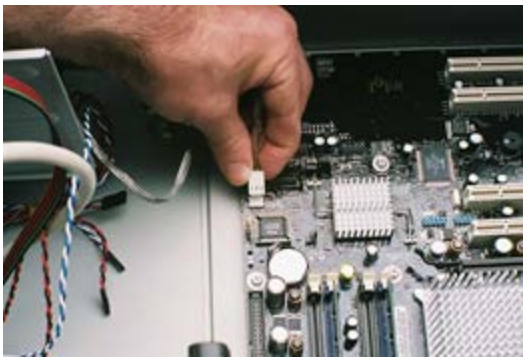
STEP 8 – Install a CD drive/ DVD Rom

STEP 9 – Install hard disk drive. Make sure it would not shake.

STEP 10 – connect SATA in an IDE, power supply



STEP 11 – connection of switch wires and switches to the motherboard



Last STEP - CLOSING THE CASE AND CONNECTING THE PERIPHERALS.

Place the side cover back on and secure the side panels with case screws.

Connect peripheral devices which include keyboard, mouse, wireless network dongle, printer and webcams with your CPU by plugging into a USB port.

Then, connect speakers and microphone into 2.5 mm sockets.

Finally connect the CPU with monitor by plugging into display ports