Ahsanullah   University of Science & Technology

Department of Computer Science & Engineering

Course No : CSE 1108

Course Title : Introduction to Computer Systems

Assignment No : 01

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Title: Gaming PC build under 70,000TK

Components:	Product Name:	Prices:
CPU	AMD Rayzen 3600 processor(Bulk)	17,500/-
Motherboard:	ASRock B550M-HDV DDR4 AMD Motherboard	9,000/-
Ram:	TwinMos 8GB 3200MHz DDR4 Desktop RAM	4.500/-
SSD:	Transcend 110S 128GB M.2 2280 PCIe SSD	2,600/-
HDD:	Toshiba 1TB 7200RPM Desktop Hard disk	3,500/-
Graphics Card:	ASUS GeForce GT 1030 2GB GDDR5 low Profile Graphics Card	10,500/-
Casing:	Xigmatek Astro TG Mid Tower Black ATX Gaming Casing	4,200/-
PSU:	Cooler Master MWE 450W V2 Non- Modular Power Supply	3,700/-
Monitor:	Viewsonic VX2276-SHD 75hz 21.5" FHD IPS LED Monitor	11,400/-
Keyboard:	Xtreme KB6109 Black Wired Keyboard with Bangla	350/-
Mouse:	A4Tech G3-400N 2.4G V-Track Glossy Grey Wireless Mouse	625/-

Total: 67,825/-

Explanation(Gaming PC)

Processor: The AMD Ryzen 5 3600 is an intelligent built in processor that features 6 processor cores, 12 threads, and an astonishingly efficient 65W TDP as well as It stands with 3.6GHz Base Clock which can be maxed out to 4.2GHz, ensuring a better performance and smooth experience for gaming.

Motherboard: The ASRock B550M-HDV DDR4 AMD Motherboard supports the next generation PCI Express 4.0 M.2 SSDs that is capable of performing twice the speed compared to previous 3rd generation which gives a lightning fast data transferring experience as well as offering the most recent HDMI 4K 60Hz graphics output specification

RAM: TwinMos 8GB DDR4 RAM (2x) is the best option for the setup as it has a frequency speed of 3200MHz.

SSD: SSD means Solid State Drive. It's a comparatively newer generation of storage technology. I used Transcend 110s 128gb ssd. 128gb is the least amount of capacity recommended for Windows 10. It makes a roughly 6-7 times faster than a conventional HDD based pc.
Also it has a Read and write speed: 1500MB/s and 400MB/s respectively.

HDD: HDD is abbreviation for Hard Disk Drive. I used Toshiba 1TB 7200rpm hdd for this build. For hard drives, the read and write speeds are proportional to the rotation per minutes of the magnetic platters inside the HDD.

It has peak sequential read and write speed: 175MB/s which is good enough for upto 4k 120 fps video playback. And with 1TB of storage (Only 931gb is user accessible) this hdd is perfect for a generic user.

Graphics Card: I used ASUS GeForce GT 1030 2GB GDDR5 low Profile GPU for this build. It has 2GB GDDR5 high bandwidth dedicated memory. Its core and memory clock is 1266MHz and 6008MHz respectively. It supports pcie gen 3.0 which is twice more faster than gen 2.0. And of course, you can play decent amount of games at 720p and 1080p. It has 384 CUDA cores, based on Pascal GP108 sillicon. It's passively cooled via a large heatsink on top of gpu core.

Casing: Xigmatek Astro TG Mid Tower Black ATX Gaming Casing, it's a very spacious casing with good ventilation as it has 3 120mm intake fans on front and 1 120mm fan on back for exhaust.

PSU: PSU means Power Supply Unit. This is a type of small transformer which converts 220V AC wall current to 12V or 5V or 3V DC current for specific components of a PC. I've this Corsair CV550W psu for this build. It's a 80+ Bronze certified PSU, which means that when the psu is put under load gradually, it will still maintain 80% efficiency all the time. For this build, this might be a bit overkill psu, as, the total power consumption of this build is around 200-250W, but still, it's always recommended to keep a headroom for PSU as a bad PSU or even a slight spike in voltage or Wattage can fry the whole build. But, this PSU also have over voltage protection built in, which is so much helpful against lightning hazards, or even, sudden load-shedding.

Keyboard & Mouse: For keyboard, (Xtreme KB6109 Black Wired Keyboard with Bangla) this keyboard has Bijoy Bangla layout for Bangla Typists. It's a membrane keyboard.

A4Tech G3-400N 2.4G V-Track Glossy Grey Wireless Mouse is a Bluetooth optical wireless mouse. It works over Bluetooth 2.4GHz frequency and a single battery.