



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2007 /2008 – 1<sup>st</sup> Year Examination – Semester 1

***IT1203 - Computer Systems I***  
***01<sup>st</sup> March 2008***  
***(TWO HOURS)***

**Important Instructions :**

- The duration of the paper is 2 (two) hours.
- The medium of instruction and questions is English.
- The paper has **50** questions and **08** pages.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with **one or more** correct answers.
- All questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from 0 to +1 (*All the correct choices are marked & no incorrect choices are marked*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.
- If a page is not printed, please inform the supervisor immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.**

1) What is the specific technology used in Third Generation computers?

- |                  |                 |                     |
|------------------|-----------------|---------------------|
| (a) Vacuum Tubes | (b) Transistors | (c) Microprocessors |
| (d) ICs          | (e) VLICs       |                     |

2) Which of the following was the first 32-bit processor?

- |               |         |         |
|---------------|---------|---------|
| (a) 8086/8088 | (b) 286 | (c) 386 |
| (d) 486       | (e) 586 |         |

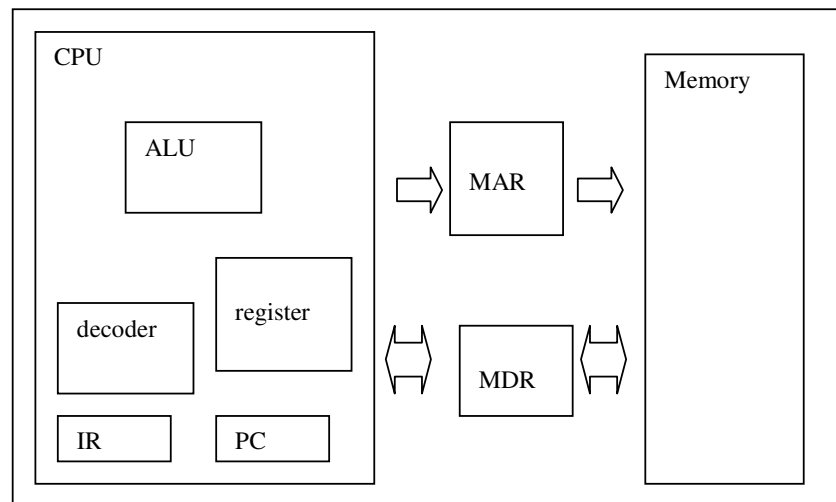
3) Which of the following had the first built-in math co-processor?

- |                           |                   |                   |
|---------------------------|-------------------|-------------------|
| (a) 8086 16 bit-processor | (b) 286 processor | (c) 386 processor |
| (d) 486 processor         | (e) 586 processor |                   |

4) Which of the following devices does **not** fall(s) into the category of Personal Computers and Microcomputers?

- |                       |                    |                        |
|-----------------------|--------------------|------------------------|
| (a) Desktop Computers | (b) Workstations   | (c) Notebook Computers |
| (d) Smart Phones      | (e) Mini Computers |                        |

**Questions 5 – 6 are based on the following Block Diagram of the Central Processing Unit (CPU).**



5) What is the correct functionality of the Memory Address Register (MAR) in the *Fetch* and *Execute* cycle?

- |   |
|---|
| (a) The address in the Program Counter (PC) is placed in Memory Data Register (MDR).                                |
| (b) The instruction address is read from memory (through the MAR) and is placed into the Instruction Register (IR). |
| (c) It enables the circuits of the Arithmetic Logic Unit (ALU) to perform arithmetic or other computations.         |
| (d) It stores data values into memory or registers.   |
| (e) It changes the value of the Program Counter.  |

- 6) Which of the following is a /are **not** function(s) of the CPU cycle?
- |   |
|---|
| (a) The address in the Program Counter (PC) is placed in Memory Data Register (MDR).<br>(b) The instruction address is read from memory (through the MAR) and is placed into the Instruction Register (IR).<br>(c) The Instruction Decoder examines the instruction in the Instruction Register and sends appropriate signals to other parts of the CPU to carry out the actions specified by the instruction.<br>(d) It executes the instruction.<br>(e) It increments the value of the Program Counter to the next instruction. |
|---|
- 7) Which of the following memory type(s) is a/are BIOS chip?
- |                           |                        |          |
|---------------------------|------------------------|----------|
| (a) True-ROM<br>(d) EPROM | (b) PROM<br>(e) EEPROM | (c) CMOS |
|---------------------------|------------------------|----------|
- 8) What does the acronym “MPDRAM” stand for with respect to Memory types?
- |  |
|--|
| (a) Multiport Dynamic Random Access Memory<br>(b) Multipoint Dynamic Random Access Memory<br>(c) Multiport Dimensional Random Access Memory<br>(d) Multipoint Disk Random Access Memory<br>(e) Multipoint Dimensional Random Access Memory |
|--|
- 9) Which of the following ROM type is most commonly used to store the BIOS?
- |                           |                        |          |
|---------------------------|------------------------|----------|
| (a) True-ROM<br>(d) EPROM | (b) PROM<br>(e) EEPROM | (c) CMOS |
|---------------------------|------------------------|----------|
- 10) Which of the following devices use(s) *Molex plug* power connector?
- |                                       |  |               |
|---------------------------------------|--|---------------|
| (a) ATA Hard Disk<br>(d) CD-ROM Drive | (b) SATA Hard Disk<br>(e) DVD+RW Drive | (c) ZIP Drive |
|---------------------------------------|--|---------------|
- 11) What is the latest DVD specification from the following given list?
- |                          |                           |           |
|--------------------------|---------------------------|-----------|
| (a) DVD-ROM<br>(d) DVD+R | (b) DVD-RAM<br>(e) DVD+RM | (c) DVD-R |
|--------------------------|---------------------------|-----------|
- 12) Select the correct statement(s) regarding “Tablet PC” and “PDA”.
- |  |
|--|
| (a) Tablet PCs have larger screens than PDAs.<br>(b) Unlike a Tablet PC, a PDA cannot be connected to the network.<br>(c) Tablet PCs run special versions of certain software programs unlike a PDA.<br>(d) Unlike a PDA, a Tablet PC is equipped with a Touch Sensitive screen and Stylus.<br>(e) Unlike a Tablet PC, latest PDAs have facilities of mobile phones and music players. |
|--|
- 13) Which of the following statements is/are true with respect to Mac keyboard?
- |   |
|---|
| (a) Mac keyboard has a lesser number of keys than a standard keyboard.<br>(b) Mac keyboard number pad layout is different having four additional keys for audio and CD/DVD control unlike standard PC keyboard.<br>(c) Mac Keyboards always have an Apple key.<br>(d) USB Keyboard has a power button on the top left corner.<br>(e) The layout of the Mac keyboard is in the form of a standard keyboard, except an Apple key. |
|---|

14) What is/are the main difference(s) between *USB Keyboard with hubs* and other keyboards?

- (a) USB keyboard has a Windows key.
- (b) USB Keyboard designs take human comfort into consideration.
- (c) USB Keyboard has a special USB hub where one could connect additional USB devices to the computer system through this hub.
- (d) USB Keyboard provides keys to launch a web browser and use its navigation.
- (e) The layout of the USB keyboard may be in the form of the standard, 101-key, Windows or Mac keyboards.

15) Which of the following is an /are optical device(s)?

- |                     |                |               |
|---------------------|----------------|---------------|
| (a) Barcode Readers | (b) Track Ball | (c) Touch Pad |
| (d) Mouse           | (e) Scanner    |               |

16) Which of the following statements is/are true with respect to video cameras?

- (a) The webcam supports the capture and transfer of sound.
- (b) The webcam provides high resolution and high quality images.
- (c) Analog cameras can directly store audio and video in the computer system.
- (d) The USB and the Firewire are the most commonly used ports to transfer digital video.
- (e) The main drawback is that the time taken to transfer a recorded video is same as the time taken to record it.

17) What does the acronym “DPPT” stand for with respect to Input Devices?

- |  |  |
|--|--|
| (a) Digital Pen and Paper Technology     | (b) Digital Pen and Pattern Technology   |
| (c) Digital Paper and Pattern Technology | (d) Digital Pattern and Paper Technology |
| (e) Digital Patterned Process Technology |  |

18) Which of the following printers fall(s) into the category of non-impact printers?

- |                         |                          |                    |
|-------------------------|--------------------------|--------------------|
| (a) Plotter             | (b) Ink Jet printers     | (c) Laser printers |
| (d) Dot matrix printers | (e) Thermal Wax printers |                    |

19) Which of the following devices is a/are biometric device(s)?

- |                         |                   |            |
|-------------------------|-------------------|------------|
| (a) Barcode Readers     | (b) OCR Devices   | (c) Webcam |
| (d) Fingerprint readers | (e) DVD camcorder |            |

20) Which of the following statements is/are true with respect to PLASMA monitors?

- (a) A plasma display uses a special gas sandwiched between two glass plates.
- (b) A plasma display uses a flashlight like the LCD display.
- (c) A plasma technology is mainly used for PCs, Mobile Phones, Laptops and PDAs.
- (d) A plasmas high operating temperature can be painful to touch.
- (e) A plasma technology is used for large screen and some laptops.

21) What is the colour of the Stereo Audio In port of a standard sound card?

- |           |            |            |
|-----------|------------|------------|
| (a) Blue  | (b) Pink   | (c) Orange |
| (d) Green | (e) Yellow |            |

- 22) Which of the following is the most commonly used method for indicating a keyboard error by the Power On Self Test (POST) method?
- |                        |                                  |                     |
|------------------------|----------------------------------|---------------------|
| (a) Blinking           | (b) Chassis indicator LED blinks | (c) Keyboard blinks |
| (d) On screen messages | (e) Checkpoint codes             |                     |
- 23) Which of the following devices is most likely to have a BIOS ROM chip?
- |                            |               |                |
|----------------------------|---------------|----------------|
| (a) SCSI Adapter           | (b) VGA Card  | (c) Sound Card |
| (d) Network Interface Card | (e) Hard Disk |                |
- 24) Which of the following is a difference(s) between a PROM and an EPROM?
- |  |
|--|
| (a) EPROM is larger in size than a PROM.                                   |
| (b) Unlike a PROM, an EPROM can be erased electronically.                  |
| (c) Unlike a PROM, an EPROM can be erased using Ultra Violet light.        |
| (d) PROM cannot be re-written, but EPROM can be re-written only once.      |
| (e) PROM cannot be re-written, but EPROM can be re-written multiple times. |
- 25) Which of the following ROMs can be erased electronically?
- |            |           |          |
|------------|-----------|----------|
| (a) EEPROM | (b) EPROM | (c) PROM |
| (d) LPROM  | (e) EROM  |          |
- 26) Which of the following is/are allowed to be configured in the Setup program of the BIOS?
- |                             |                                      |
|-----------------------------|--------------------------------------|
| (a) CPU clock settings      | (b) Date and Time settings           |
| (c) Memory Management       | (d) On-board interface configuration |
| (e) Hard Disk configuration |                                      |
- 27) Which of the following memory devices is/are referred to as “Multiport Dynamic” RAM?
- |           |            |                |
|-----------|------------|----------------|
| (a) FPRAM | (b) EDORAM | (c) DDR2 SDRAM |
| (d) RDRAM | (e) VRAM   |                |
- 28) Which of the following technology is/are used for Video adapters or 3-D accelerators?
- |            |          |               |
|------------|----------|---------------|
| (a) SRAM   | (b) DRAM | (c) DDR SDRAM |
| (d) MPDRAM | (e) RIMM |               |
- 29) Which of the following is an Optical Storage Device(s)?
- |              |                   |                  |
|--------------|-------------------|------------------|
| (a) Zip Disk | (b) Super Disk    | (c) Memory Stick |
| (d) CD-ROM   | (e) Magnetic Tape |                  |
- 30) What is the technology used to store 50GB of data on a Dual Layer DVD?
- |               |                |             |
|---------------|----------------|-------------|
| (a) Blue Book | (b) Green Book | (c) Red-Ray |
| (d) Blu-Ray   | (e) HD-DVD     |             |

31) Which of the following statements is/are true with respect to the Hybrid Hard Drive (HDD)?

- (a) It is a type of large-buffer computer hard disk drive.
- (b) It is different from standard hard drives in that it employs a large buffer of non-volatile flash memory to cache data during normal use.
- (c) Some of the benefits are speed, decreased power consumption, improved reliability and a faster boot process.
- (d) It was first released primarily for notebook computers in early 2007.
- (e) It is available in memory sizes starting from 10 GB to presently 120 GB.

32) Which of the following is a Digital Versatile Disc standard(s)?

- |             |             |            |
|-------------|-------------|------------|
| (a) DVD-ROM | (b) DVD-R   | (c) DVD-RW |
| (d) DVD+RW  | (e) DVD-RAM |            |

33) Which of the following statements is/are true with respect to Hard Disk Jumpers?

- (a) If the disk is connected to the Master position of the cable and the jumper is in Slave position, the disk will be configured as Master.
- (b) The cable will decide which disk is the Master and which is the Slave if the jumper is in the Cable Select (CS) position.
- (c) The jumper in the Master Position will make the hard disk Master drive irrespective of the location on the IDE cable it is connected to.
- (d) The Master disk in Cable Select (CS) mode is always the furthest from the motherboard IDE port.
- (e) The jumper is a plastic adapter.

34) Which of the following interfaces could be used to connect a VGA card?

- |             |              |                 |
|-------------|--------------|-----------------|
| (a) AGP     | (b) PCI      | (c) PCI-Express |
| (d) USB 2.0 | (e) Firewire |                 |

35) Which of the following statements is/are true when replacing a motherboard?

- (a) The motherboard has to be compatible with the speakers connected to the sound card.
- (b) The processor has to be compatible with the motherboard.
- (c) The power supply has to be of the same form factor as the motherboard.
- (d) The motherboard has to be compatible with the hard disk.
- (e) The motherboard has to be compatible with the keyboard.

36) What is the next version of USB technology?

- |             |             |             |
|-------------|-------------|-------------|
| (a) USB 2.1 | (b) USB 2.5 | (c) USB 3.0 |
| (d) USB 4.0 | (e) USB 8.0 |             |

37) Which of the following is/are **not** (a) functionalities of the Operating System performance?

- (a) Manages the way information is stored in the disks and how they are retrieved
- (b) Coordinates how programs work with the computer's hardware and other software
- (c) Sends a document to the printer and activate the printer
- (d) Provides resources which let one to copy or move data/contents from one file to another or from one program to another
- (e) Allows to copy large groups of files from the disk to tape or CD for safekeeping

38) Which of the following statements is/are true with USB and Firewire interfaces?

- (a) FireWire, built from the ground up for speed, uses a "Peer-to-Peer" architecture in which the peripherals are intelligent and can negotiate bus conflicts to determine which device can best control a data transfer.
- (b) The FireWire high-speed communication port is also referred to as the IEEE 1395 or the i.Link port.
- (c) The FireWire port is a high-speed serial communication port.
- (d) USB supports Plug and Play technology.
- (e) USB 2.0 uses a "Master-Slave" architecture in which the computer handles all arbitration functions and dictates data flow to, from and between the attached peripherals.

39) Which of the following statements is/are true with Wi-Fi?

- (a) The speed of an IEEE 802.11b network is much higher than that of an IEEE 802.11g network.
- (b) Wi-Fi refers to the IEEE 802.11b wireless Ethernet standard.
- (c) The maximum speed of a Wi-Fi network is 11MBps.
- (d) Access points are a must in-order to communicate via Wi-Fi.
- (e) Establishing a Wi-Fi network is less expensive compared with establishing a 10/100 Ethernet (wired) network.

40) What does RADSL stand for with respect to Networking?

- (a) Rate-Adaptive Digital Subscriber Line
- (b) Rate-Adaptive Dial-up Subscriber Line
- (c) Rate-Adaptive Dial-up Server Line
- (d) Rate-Asynchronous Digital Subscriber Line
- (e) Rate-Asynchronous Dial-up Subscriber Line

41) Which of the following is/are true about Optical Fiber Cables?

- (a) Used to transmit data over long distances at high data range like 40GB/s
- (b) Save space in cabling specially in LAN environment
- (c) Immune to electrical interface which prevents cross talks
- (d) Glass or plastic fiber designed to guide light over its length
- (e) Electro-magnetic fields carrying the signals in the space between inner and outer conductors

42) Which of the following are examples for a Wireless Application?

- (a) Security Systems
- (b) Television Remote Controls
- (c) Cellular Telephones
- (d) Global Positioning System (GPS)
- (e) Satellite Television

43) Which of the following are devices can be considered as networking equipment?

- (a) LAN
- (b) Modem
- (c) Router
- (d) Switch
- (e) WAN

44) What is the commonly used medium to send signals from a remote controller to a television?

- (a) Microwave
- (b) Infrared
- (c) Ultra Violet
- (d) Laser
- (e) Flash Light

45) Which of the following are **not** components of a motherboard?

- |                           |                    |               |
|---------------------------|--------------------|---------------|
| (a) BIOS                  | (b) Microprocessor | (c) Hard Disk |
| (d) PCI/ISA/AGP bus slots | (e) CD ROM Drive   |               |

46) Which of the following are examples for UNIX operating system?

- |                                |                               |
|--------------------------------|-------------------------------|
| (a) Single User/Single Tasking | (b) Single User/Multi Tasking |
| (c) Multi User/Single Tasking  | (d) Multi User/Multi Tasking  |
| (e) Real-Time OS               |                               |

47) Which of the following are Office Oriented Software Applications?

- |                                |   |
|--------------------------------|---|
| (a) Compilers and Interpreters | (b) Networking Software and Back-up Systems   |
| (c) Programming Languages      | (d) Word Processing Software and Spreadsheets |
| (e) Database Software          |   |

48) Consider the following tool.



What is the above tool?

- |                       |                              |                    |
|-----------------------|------------------------------|--------------------|
| (a) Needle Nose Plier | (b) Wire Cutter              | (c) Soldering Iron |
| (d) Multimeter        | (e) Electro Static Discharge |                    |

49) Which of the following are Network Operating Systems?

- |                         |                         |                |
|-------------------------|-------------------------|----------------|
| (a) Windows NT Server   | (b) Windows 2003 Server | (c) Windows CE |
| (d) Windows XP Embedded | (e) Symbian OS          |                |

50) Which of the following components need(s) to be taken into consideration when upgrading a processor?

- |                 |                 |                  |
|-----------------|-----------------|------------------|
| (a) Motherboard | (b) Main Memory | (c) Power Supply |
| (d) Chassis     | (e) Hard Disk   |                  |

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