NATIONAL SCHOOL OF BUSINESS MANAGEMENT

BSc. In Management Information Systems (Special) – 20.2

BSc. (Honours) in software Engineering – 20.2

BSc. (Honours) in Computer Science – 20.2

BSc. (Honours) in Computer Networks – 20.2

BSc (Hons) Software Engineering (PU) – 20.2

BSc (Hons) Computer Networks (PU) – 20.2

BSc (Hons) Computer Security (PU) – 20.2

Year 01 Semester 02 Examination

6 July 2021

CS104.3 – Computer Architecture

Instructions to Candidates

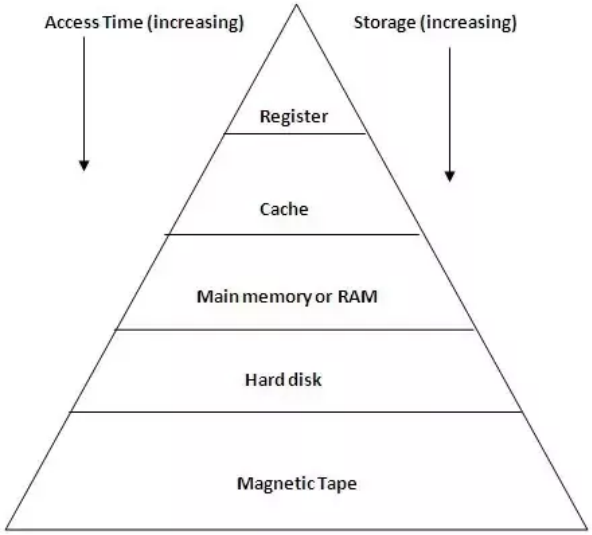
1) Answer All Questions
2) Total Number of Pages 03 (Three)
3) Time allocated for the examination is three (03) hours and 30 minutes (Including downloading and uploading time)
4) Weightage of Examination: 60% out of final grade.
5) Download the paper, provide answers to the selected questions in a word document.
6) Please upload the document with answers (Answer Script) to the submission link before the submission link expires.
7) Answer script should be uploaded in PDF Format.
8) Under any circumstances E-mail submissions would not be taken into consideration for marking. Incomplete attempt would be counted as a MISSED ATTEMPT.
9) The Naming convention of the answer script – Module Code_Subject name_Index No
10) You must adhere to the online examination guidelines when submitting the answer script to N-Learn.
11) Your answers will be subjected to Turnitin similarity check, hence, direct copying and pasting from internet sources, friend's answers etc. will be penalized.

QUESTION 01: Composition of the Computer. (Total: 25 Marks)

1. Name all the main components of the computer and explain the role and task of each component. (6 Marks)
2. Distinguish Data, and Information. (5 Marks)
3. Explain how to convert data into information using suitable examples. (7 Mark)
4. There are several cooling systems in the computer (VGA Card, Processor and Power Supply are some of them). What is the effect of the cooling system to each module of the computer and efficiency of the computer? (7 Marks)

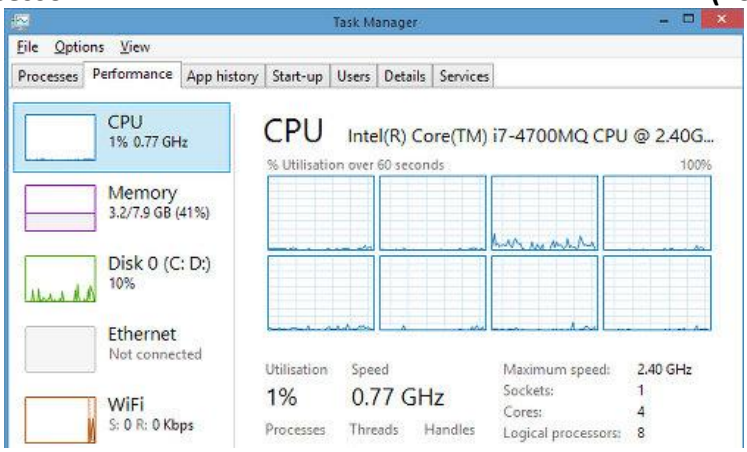
QUESTION 02: Memory and Storage Devices. (Total: 25 Marks)

1. Explain Volatile and Non-Volatile Memories used in computers. (6 Marks)
2. As explained in the image, the access time of the memory element increase in the downward direction. Explain the architecture of each type of memory element given in the diagram below. (Consider SRAM and DRAM also and their architecture) (7 Marks)



3. Compare the HDD, SSD and Hybrid Type Storage Devices (HDD + SSD) (6 Marks)
4. Discuss the factors that affect; (6 Marks)
    a. The Capacity of the Hard Disk Drives (HDD – Magnetics Disk)
    b. Data Reading Speed of the Hard Disk Drive (HDD – Magnetics Disk)

QUESTION 03: Processor **(Total: 25 Marks)**



I. According to the above image of Task Manager of Windows operating system and intel Core i7 processor, (6 Marks)
    a. Explain what a socket? The computer details given in the figure shows that it has one socket. Are there any computers which having two or more sockets?
    b. There are 4 cores and 8 logical processors explain having 1 socket how it can have 4 core and 8 logical processors in this computer.

II. Explain what the maximum speed of the processor 2.40 GHz is. (6 Marks)

III. The current speed of the computer is 0.77 GHz, explain the reason for having such speed while having maximum speed of 2.4 GHz. (6 Marks)

IV. CPU consisting of several other components name them and explain their role and task. (7 Marks)

QUESTION 05: Explain following topics deliberately with suitable examples. (5*5 Marks= 25 Marks)

1. Embedded Computer System and Usage
2. Half Adder and Full Adders
3. Flip Flop (RS and D Flip Plop)
4. Oscillators and Clock Cycles
5. GPU

---END OF THE PAPER---