



College of Business, Peace, Leadership and Governance

COURSE TITLE: CIS302 COMPUTER HARDWARE AND SOFTWARE

SEMESTER 1: FINAL EXAMINATION

LECTURER: Mukhalela B.U

TIME: 3 HOURS

Answer any four (4) Questions.

Total possible mark is **100**.

Start **each** question on a new page in your answer booklet.

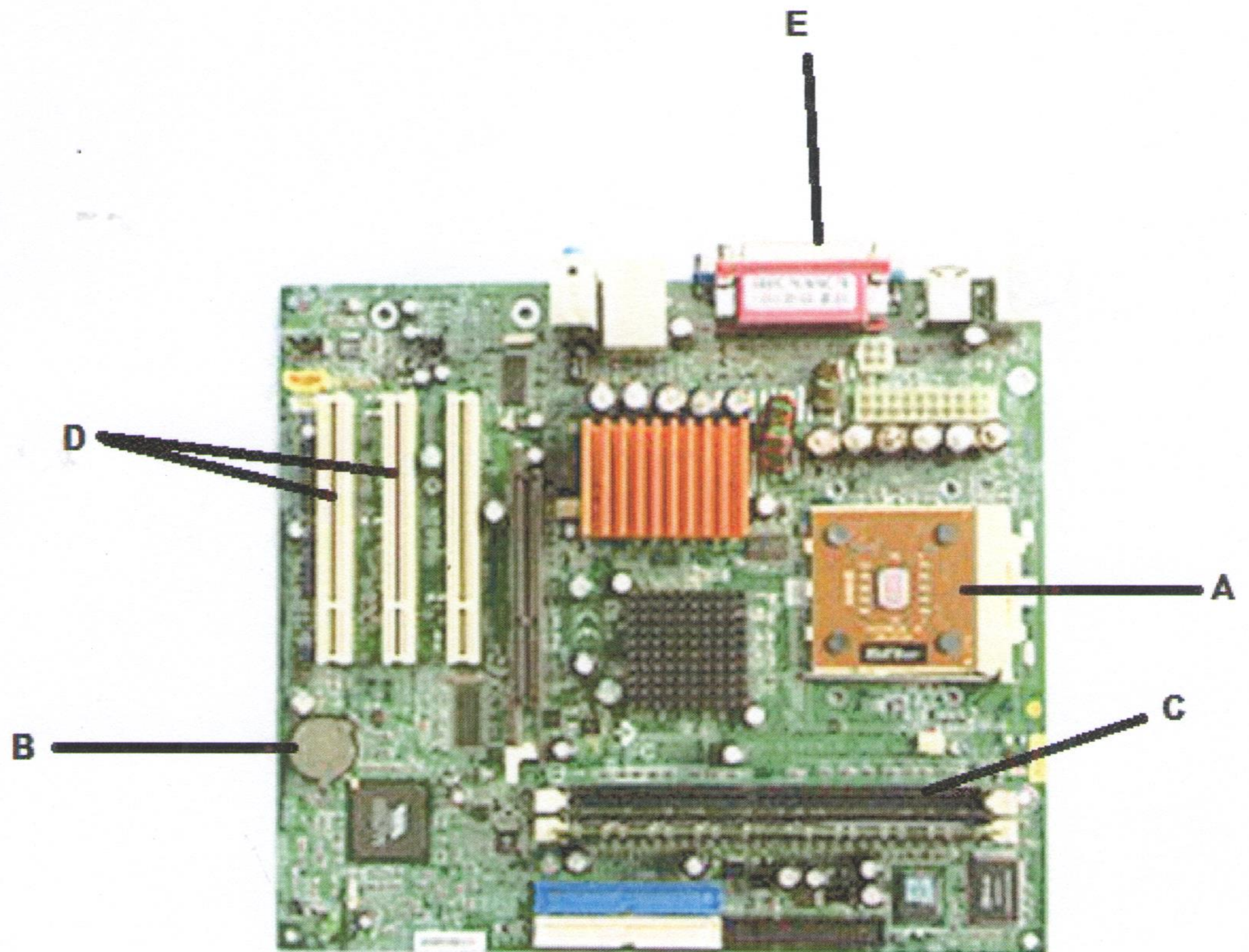
The marks allocated to **each** question are shown at the end of the section.

QUESTION 1

You were shown a PC's mother board so as to advise a client intending to upgrade his machine to allow watching TV channels via his usual DSTV decoder.

- a) Identify any two types of Expansion cards that he or she can make use of and why you recommended such. [4]
- b) The area labelled as **A** requires additional hardware components for the component to work well, identify these missing hardware and tell what they are used for and how the machine will behave if not installed. [6]
- c) The component marked as **B** is crucial, name the component and what it is used for on a computer mother board. [2]
- d) For one to install most components like one shown by arrow **C**, one is guarded by the idea of 'full proof'. Explain briefly what this is meant by this concept in computer hardware. [2]

- e) Identify any five ports found on the rear side of a mother board as shown by arrow E. [5]



QUESTION 2

- a) Write the full meanings of the following abbreviations, and also write brief notes on what each is all about as used in Computer architecture?

- | | | |
|-----|------|-----|
| i | POST | [3] |
| ii | AGP | [3] |
| iii | CMOS | [3] |
| iv | SIMM | [3] |
| v | HDMI | [3] |

- b) With the aid of a block diagram, explain the Von Neumann architecture of computer system.[5]

- c) Define Interrupts as used in Operating Systems and Microprocessors and name any four interrupt pins found on a 8085A Intel microprocessor. [5]

QUESTION 3

- a) Using a sketch diagram, explain how a Hard disk drive works. [10]
- b) You intend to add another Hard disk drive (hdd) on a computer whose mother board has only one IDE connector with room for connecting the two intended hdds, show by means of a sketch diagram how you are to configure the jumpers on the two hdds, ie one to be the Master and the other to be the slave. [5]
- c) Identify some of the limiting factors that one should observe if upgrading a hdd on a computer system. [5]
- d) Advise a client who wish to acquire a Printer. Which type should he buy and why. Hint: the Client is in the Cinema industry. [5]

QUESTION 4

- a) Define cache memory. [2]
- b) Distinguish between Registers and RAM. [5]
- c) One Hardware guru was quoted saying 'CPUs like the LGA Socket processor has lower voltage and the trend is such that modern CPUs' voltages is getting even lower'. Briefly outline the merits for the trend by manufacturers of cpus in lowering the voltage. [6]
- d) Briefly elucidate the merits of having BIOS backup before one upgrades a motherboard BIOS settings. [6]
- e) Compare and contrast the following;
 - i) LCD vs LED
 - ii) FireWire vs USB [6]

QUESTION 5

- a) Simeon buys a tool kit with the following tools: digital multimeter, IC remover, antistatic wrist strap and a tweezers. He comes to you for advice on how and where those tools can be used. Advise Simeon. [8]
- b) Your Senior Hardware Technician told you that a client you were to attend to require a host of cards with Plug and Play drivers. Explain briefly what Plug and Play drivers are and how they work in relation to Operating Systems. [6]
- c) Using any computer system of your choice, associate any 3 Beep sounds produced by a mother board to some error alerts on the system. [8]
- d) Identify any precautions when repairing computer systems. [3]

QUESTION 6

- a) Write a report to explain how to upgrade an Operating Systems from Windows & to Windows 10. [10]

- b) Using a diagram, interpret the Fetch-decode-execute cycle as used in processors. [10]
- c) Outline the steps followed when installing Print Drivers on a newly installed OS, imagining the driver is not plug and play. [5]