



**SCHOOL OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**FINAL EXAMINATION PAPER-PENSTER 2 - 2014**

**CERTIFICATE IV IN ELECTRONICS ENGINEERING**

**EEE419: COMPUTER SYSTEMS 1**

**DAY:**

**DATE:**

**TIME:**

**VENUE:**

# SOLUTION

**SECTION-A** (26 Marks)**MATCHING**

	<b>COLUMN A</b>		<b>COLUMN B</b>
1.	A car computer	<b>P</b>	Can be described as special-purpose, because it only accepts specific input and performs limited functions.
2.	A personal computer	<b>I</b>	Is general-purpose, meaning it accepts a wide range of input and can perform a variety of tasks.
3.	Computer Input	<b>G</b>	Is data which can be in the form of words, symbols, numbers, pictures and audio signals.
4.	Computer Processes	<b>J</b>	A sequence of instructions which a computer follows in order to process data.
5.	Computer Storage	<b>F</b>	Floppy disks and CD-ROM are examples of such devices
6.	Computer Output	<b>Q</b>	It is the end-product of processing.
7.	Digital computer	<b>D</b>	Manipulates large amount of information at high speeds.
8.	Analog computer	<b>R</b>	Is a device that accepts data as a continuously varying quantity.
9.	Power On Self-Test	<b>E</b>	Computer checks if all its hardware is working.
10.	Computer Hardware	<b>B</b>	Consists of the parts that are tangible, visible and take up space.
11.	Computer Software	<b>A</b>	Consists of a collection of computer programs which are written in a language that is understood by the computer
12.	Peripheral devices	<b>C</b>	Are basically additional pieces of equipment that you use with a computer
13.	Speed	<b>H</b>	Computer can perform millions (1,000,000) of instructions and even more per second.
14.	Accuracy	<b>Y</b>	The degree of correctness of computer is very high and every calculation is performed with the same accuracy
15.	Diligence	<b>Z</b>	A computer is free from tiredness, lack of concentration, fatigue, etc. It can work for hours without creating any error
16.	Versatility	<b>V</b>	It means the capacity to perform completely different type of work
17.	Power of Remembering	<b>W</b>	Computer has the power of storing any amount of information or data
18.	No IQ	<b>S</b>	A computer cannot take its own decision as you can.
19.	No Feeling	<b>T</b>	It does not have feelings or emotion, taste, knowledge and experience
20.	Storage	<b>U</b>	The Computer has an in-built memory where it can store a large amount of data
21.	Supercomputers	<b>X</b>	Are the fastest and most expensive machines
22.	Mainframe computers	<b>K</b>	Are generally 32-bit microprocessors and are generally used in centralised databases
23.	Minicomputers	<b>L</b>	Are also used as servers in Local Area Networks (LAN).
24.	Microcomputers	<b>O</b>	Are most widely used and fastest-growing type of computer
25.	Arithmetic Logical Unit (ALU)	<b>M</b>	The actual processing of the data and instruction are performed by this Unit. i.e. addition, subtraction, multiplication, division, logic and comparison
26.	Control Unit (CU)	<b>N</b>	The next component of computer is the Acts like the supervisor and determines the sequence in which computer programs and instructions are executed

**SECTION-B** (12 Marks)

**MULTIPLE CHOICES**

1	B
2	B
3	A
4	B
5	B
6	C.
7	D
8	A
9	B
10	A
11	A
12	A

**SECTION-C****TRUE OR FALSE****(14 Marks)**

1	T	½ Mark
2	T	½ Mark
3	F	½ Mark
4	F	½ Mark
5	T	½ Mark
6	T	½ Mark
7	F	½ Mark
8	F	½ Mark
9	T	½ Mark
10	T	½ Mark
11	F	½ Mark
12	F	½ Mark
13	T	½ Mark
14	T	½ Mark
15	F	½ Mark
16	F	½ Mark
17	T	½ Mark
18	T	½ Mark
19	F	½ Mark
20	T	½ Mark
21	F	½ Mark
22	F	½ Mark
23	T	½ Mark
24	F	½ Mark
25	F	½ Mark
26	T	½ Mark
27	T	½ Mark
28	T	½ Mark

## **SECTION-D** (36 Marks)

PART-1

SHORT ANSWER QUESTIONS

(20 Marks)

1. Hardware is the equipment that processes the data to create information. It includes the keyboard, mouse, monitor, system unit, and other devices. Software refers to the set of computer programs, procedures that describe the programs, how they are to be used. (2Marks)
2. Languages use to communicate with computers (1Marks)
3. High Level Language, Machine language and assembly language. (3Marks)
4. Machine language is a collection of binary digits or bits that the computer reads and interprets. Machine language is the only language a computer is capable of understanding, thus it is very much required in the computer system. (2Marks)
5. Advantage: The only advantage is that program of machine language run very fast because no translation program is required for the CPU. Disadvantages: (1) It is very difficult to program in machine language. The programmer has to know details of hardware to write program. (2). The programmer has to remember a lot of codes to write a program which results in program errors.(3) It is difficult to debug the program. (2Marks)
6. The set of symbols and letters forms the Assembly Language and a translator program is required to translate the Assembly Language to machine language. This translator program is called 'Assembler'. It is considered to be a second-generation language. (2Marks)

### **Advantages:**

- (1). The symbolic programming of Assembly Language is easier to understand and saves a lot of time and effort of the programmer.
  - (2). It is easier to correct errors and modify program instructions.
  - (3). Assembly Language has the same efficiency of execution as the machine level language. because this is one-to-one translator between assembly language program and its corresponding machine language program.
7. Source program is a code written by a programmer usually using a higher level language, which is easily readable by the humans. Source programs usually contain meaningful variable names and helpful comments to make it more readable. Object program is usually a machine executable file, which is the result of compiling a source file using a compiler. (2Marks)
  8. High Level Language is a problem-oriented computer programming language. It is easier to use because it is written in a language we can easily understand. (2Marks)
  9. The Compiler is a program translator that translates the instruction of a higher level language to machine language. It is called compiler because it compiles machine language instructions for every program instructions of higher level language. The Compiler is a program translator like assembler but more sophisticated. It scans the entire program first and then translates it into machine code. (2Marks)

10. An interpreter is another type of program translator used for translating higher level language into machine language. It takes one statement of higher level languages, translate it into machine language and immediately execute it. Translation and execution are carried out for each statement. It differs from compiler, which translate the entire source program into machine code and does involve in its execution. (2Marks)

PART-2

ACRONYMS

(16 Marks)

- |     |        |   |
|-----|--------|---|
| 1.  | DPI    | Dots Per Inch                                       |
| 2.  | PPM    | Pages Per Minute                                    |
| 3.  | SIMM   | Single in line Memory Module                        |
| 4.  | SIPP   | Single in line Pin Package                          |
| 5.  | DIMM   | Dual in line Memory Module                          |
| 6.  | DIPP   | Dual in line Pin Package                            |
| 7.  | PROM   | Programmable Read Only Memory                       |
| 8.  | EPROM  | Erasable Programmable Read Only Memory              |
| 9.  | EEPROM | Electrically Erasable Programmable Read Only Memory |
| 10. | BIOS   | Basic Input Output System                           |
| 11. | WORM   | Write Once Read Many                                |
| 12. | MO     | magnetic optical                                    |
| 13. | MICR   | Magnetic Ink Character Recognition                  |
| 14. | OMR    | Optical Mark Reader                                 |
| 15. | OCR    | Optical Character Reader                            |
| 16. | VDU    | Visual Display Unit                                 |

<b>Question</b>	<b>Solution</b>	<b>Marks</b>
1	<pre>// File name: HelloWorld.cpp // Purpose:  A simple C++ program which prints "Hello World!" on the screen  #include &lt;iostream&gt; //need this header file to support the C++ I/O system using namespace std; //telling the compiler to use namespace "std", //where the entire C++ library is declared.  int main() {     // Print out a sentence on the screen.     // "&lt;&lt;" causes the expression on its right to     // be directed to the device on its left.     // "cout" is the standard output device -- the screen. cout &lt;&lt; "Hello World!" &lt;&lt; endl; return 0;     // returns 0,which indicate the successful     // termination of the "main" function }</pre>	6 Marks ½ mark off for any exclusion or mistake
2	<pre>// File name: Conversion of Gallons to Liters.cpp // Purpose:  Converts gallons to liters  #include &lt;iostream&gt; using namespace std;  int main() { float gallons, liters;  cout &lt;&lt; "Enter number of gallons: "; cin &gt;&gt; gallons; // Read the inputs from the user      liters = gallons * 3.7854; // convert to liters      cout &lt;&lt; "Liters: " &lt;&lt; liters &lt;&lt; endl;  return 0; }</pre>	10 Marks ½ mark off for any exclusion or mistake

# THE END