Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University) Coimbatore-641043.

Master's Degree Examination – November 2018

III Semester

Class : II PG **Time: 3 hours**
Major : M.Sc., Computer Science **Max. Marks: 60**

17MCSC13 Embedded Systems

Part A **10 x 1/2 = 5**

Choose the correct answer

1. The voltage divider bias is stable and requires ----------
   a. One supply voltage b. Two supply voltages
   c. Three supply voltages d. No supply voltage
2. Identify the digital logic gate used to build a single transistor.
   a. NAND gates b. NOT gates c. OR gates d. AND gates
3. The external chips for memory and peripheral interface circuits offered by
   a. Microcontroller b. Embedded system c. Microprocessor d. Memory system
4. The main advantage of ARM microprocessors is providing operation with ----------
   a. Efficient memory management b. Higher degree of multi-tasking
   c. Lower error or glitches d. Low cost and low power consumption
5. Embedded processors can be categorized as ordinary microprocessors and ----------
   a. Microcontrollers b. Macrocontrollers
   c. Macroprocessor d. Preprocessors
6. The activity which is concerned with identifying the task at the final embedded system is
   a. high-level transformation b. Task-level concurrency management
   c. compilation d. scheduling
7. The assembly language code is translated to target code by ----------
   a. Compiler b. Translator c. Assembler d. Interpreter
8. A small piece of software that executes soon after power on the Embedded system is called ----------
   a. Link Image b. Load Image c. Macro Image d. Boot Image
9. Embedded system applications typically involve processing information as ----------
   a. Block level b. Logical volumes c. Distance d. Signals
10. IoT-A reference model is a ----------
    a. Scalable b. Secure c. Both Scalable and Secure d. Neither Scalable nor secure

Part B 5 x 4 = 20

Answer ALL questions

Each answer should not exceed 200 words or one page

11.a. State Ohm's and Kirchhoff's law. (Or)

11.b. "Transistor act as a Switch and Amplifier" – Justify.

12.a. Enumerate the various applications of microprocessors. (Or)

12.b. Give an account on I/O ports.

13.a. Write short notes on the requirements of Embedded System design. (Or)

13.b. Describe the real time systems with examples.

14.a. Differentiate compiler and cross-compilers. (Or)

14.b. State the Linker/Locators for Embedded Software.

15.a. Write note on open source embedded platforms.(Or)

15.b. Describe the Embedded cloud computing.

Part C 5 x 7 = 35

Answer ALL questions

Each answer should not exceed 600 words or three pages

16.a. Elaborate the various electronic components. (Or)

16.b. Explain the various modules of main memory.

17.a. Discuss the addressing modes of 8086 microprocessor. (Or)

17.b. Illustrate the current sourcing and sinking in Embedded Systems.

18.a. Discuss the challenges in Embedded computing System design.(Or)

18.b. Explain the Embedded software development tools.

19.a. Why program the PIC18 in C? Explain (Or)

19.b. Discuss the services of Real Time Operating Systems.

20.a. Explain to build a blinking LED using PIC Microcontroller. (Or)

20.b. Write the role of embedded systems in robotics.

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