D 90184 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, NOVEMBER 2015

IT 09 503—EMBEDDED SYSTEMS

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*
Each question carries 2 *marks.*

1. Define a system.
2. Give the summary of I/O devices used in embedded system.
3. What are the advantages of assembly language ?
4. Define process.
5. Name any *two* important RTOS.

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*
Each question carries 5 *marks.*

6. Explain the exemplary applications of each type of embedded system.
7. Explain the various form of memories present in a system.
8. Write short notes on analog to digital converter.
9. Explain the use of pointers. NULL pointers.
10. Explain the goals of operating system services.
11. Explain the features of V × Works.

(4 × 5 = 20 marks)

Part C

Answer **all** *questions.*
Each question carries 10 *marks.*

12. (a) What is the need for IDE in an embedded architecture ? Discuss.

Or

(b) List the hardware units that must be present in the embedded systems.

Turn over

13. (a) Describe the functions of a typical parallel I/O interface with a neat diagram.

Or

(b) Explain the serial communication using 12C, CAN, USB in detail.

I4. (a) (i) Explain the multiple function calls in the cyclic order in the main. Also write the advantages of building ISR queues. Explain.

(ii) Explain the C program compiler and cross compiler.

Or

(b) Explain state transition diagram of RTOS.

15. (a) Explain in detail about memory allocation related functions.

Or

(b) List out explain the various task service functions in V × Works/MUCOS II.

(4 × 10 = 40 marks)