

1186

Code : 15EC62T

Register
Number

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VI Semester Diploma Examination, Nov./Dec.-2018

EMBEDDED SYSTEMS

Time : 3 Hours]

[Max. Marks : 100

- Note :** (i) Answer any **six** questions from Part – A.
(ii) Answer any **seven** questions from Part – B.

BETA CONSOLE!

PART – A

Diploma - [All Branches]

Beta Console Education

3+

1. Explain the characteristics of an embedded system. **5**

2. Explain with neat block diagram Embedded system. **5**

3. Write short notes on Actuators and Sensors. **5**

4. Explain the architecture of MSP430 microcontroller with block diagram. **5**

5. List the features of MSP430 microcontroller. **5**

6. Explain MSP430 movement instruction and stack operation. **5**

7. Write MSP430 assembly program to light LED when button is pressed. **5**

8. Explain MSP430 Non-interruptible I/O with pin logic diagram. **5**

9. Explain basic features of ADC10. **5**

PART – B

10. (a) Define embedded system. Distinguish this from general purpose system. 5
(b) List major applications of embedded system. 5
11. Explain the role of following circuit in embedded system : 10
(a) Reset circuit
(b) Brown – out protection circuit.
12. Explain the Addressing Modes of MSP430 microcontroller with example. 10
13. (a) Explain naming and different families of MSP430. 5
(b) Explain the low-power modes of MSP430 microcontroller. 5
14. (a) Explain the memory mapping of MSP microcontroller. 5
(b) Write short note on MSP430 status register. 5
15. (a) Explain coding guidelines for C. 5
(b) Explain MSP430 arithmetic instructions with one and two operands. 5
16. Explain editor, Assembler/Compiler, Linker, Stand-alone simulator, embedded emulator/debugger. 10
17. (a) Explain MSP430 interrupts from Timer A. 5
(b) Explain watchdog Timer with control register. 5
18. (a) Explain Timer block in Timer A. 5
(b) Explain Timer different output modes for capture/compare channel. 5
19. (a) Explain architecture of MSP430 comparator-A with block diagram. 5
(b) Describe how we can use Comparator-A in Capacitive Touch Sensing. 5