

B.E (Electronics) VII CBSS  
Embedded Syst Design

13/0/2018.

QP Code : 31253

(3 Hours)

Total Marks: 80

- N.B. 1) Question number 1 is compulsory.  
2) Attempt any three from remaining five questions.  
3) Assume suitable data wherever necessary.  
4) Figure to the right indicates full marks.

- Q1. Attempt any four from the following (20)  
a) Describe design metric and optimization challenges for embedded system  
b) Explain serial peripheral interface. Compare it with parallel method  
c) Explain some features of cortex R and A series which are not available in M series  
d) What is on chip debugging feature? How it is accessed?
- Q2a) What are communication means available for networking industrial field devices? (10)  
b) What architectural features of cortex-M3 make it low power device. (10)
- Q3a) Describe any two wireless communication means used for embedded system. (10)  
b) Describe any three RTOS scheduling methods and compare. (10)
- Q4 Design a driver-less car system. Show hardware block diagram, system working model (FSM), software architecture module/function/drivers and their relationship, list of components. (20)
- Q5a) Which features of c-programing may be specifically useful in embedded system? How? (10)  
b) Interface any sensor/display device with any controller. (10)
- Q6 Write short notes on, (20)  
a) Digital design using Verilog/vhdl: Advantages/Disadvantages  
b) MSP430 architecture compared against Cortex-M3 based architecture  
c) Prominent features of Cortex M3 and its impact on design, development and maintenance



FW-Con. 9944-16.