B.E.Eighth Semester (Information Technology) (C.B.S.)
Elective - III : Embedded Systems

P. Pages : 2

Time : Three Hours

‖*0544*‖

NKT/KS/17/7620

Max. Marks : 80

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Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What are the characteristics and advantages of embedded systems. **7**

b) Write the applications of Embedded systems in detail. **7**

OR

2. a) List and explain the basic components of embedded systems. **7**

b) Explain the various classification of Embedded systems. **7**

3. a) What is cross compiler? Explain. **5**

b) Describe the function of embedded software development tools with their applications. **8**

OR

4. Write short note on the following **any three.** **13**

i) Cross Assembler.

ii) Linker locator.

iii) In-circuit simulator.

iv) ROM Emulator.

5. a) Explain the interrupt routines handled in RTOS. **7**

b) Differentiate between. **6**

i) Process and Threads.

ii) Light weighted threads and Heavy weighted threads.

OR

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6.	a)	Discuss operating system security issues.	**7**
	b)	Write short note on **any two.**	**6**
		i) ISR ii) Mutex	
		iii) Interrupt Latency	
7.	a)	Differentiate between:	**7**
		i) UART and USART	
		ii) Serial and parallel communication	
	b)	Describe the following-	**7**
		i) Real time clock	
		ii) Network embedded systems.	

OR

8.	a)	Discuss and explain the various types and applications of wireless devices.	**14**
9.	a)	Explain the embedded programming in C++.	**7**
	b)	What are the advantages and disadvantages of object oriented programming.	**6**

OR

10.		What are the features in Java that makes it a highly useful High level language for an embedded systems in many network related applications? Also write the advantages and disadvantages of Java in embedded progrmming.	**13**
11.	a)	Write in detail the addressing modes and instruction sets.	**7**
	b)	Draw and explain the Architecture of 8051.	**6**

OR

12.		Write short note on-	
		i) I/O ports.	**4**
		ii) Wireless communication protocol.	**4**
		iii) Routing methodologies.	**5**

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