

B.E. Electrical (Electronics & Power) Engineering (MODEL CURRICULUM) Semester-VII
FE103-1 - OEC-3-1 : Embedded Systems

P. Pages : 1

Time : Three Hours



GUG/W/22/14243

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) What are design matrices of embedded system. **8**
b) Elaborate concept of embedded system and its design with example **8**

OR

2. a) Mention ARM based microcontroller and comment on it. **8**
b) Classify embedded system and write characteristics. **8**
3. a) What is memory map of the system. **8**
b) How to select memory for embedded system explain. **8**

OR

4. a) Write difference between Dynamic memory allocation and static memory allocation. **8**
b) Explain structural units in a processor in details. **8**
5. a) What are stacks and heap what allocation each of them follows? **8**
b) Explain the following. **8**
i) Functions. ii) Data type
iii) Data Structure iv) Modifiers.

OR

6. a) Explain following terms. **8**
i) Statements. ii) Loops
iii) Pointers. iv) Queues.
b) Write different elements of embedded C programming language. **8**
7. a) Explain real time system and write basic model of it. **8**
b) What is kernel write characteristics of kernel. **8**

OR

8. a) Write characteristics of real time system. **8**
b) Explain following terms. **8**
i) Semaphores. ii) Mutex
iii) Mailboxes iv) RMA.
9. a) Elaborate and Write Features of uCOS II. **8**
b) What is exemplary embedded system. **8**

OR

10. a) Explain kernel structure. **8**
b) Define and explain tasks and threads. **8**
