

Elective - II : Embedded System

P. Pages : 2

Time : Three Hours



NKT/KS/17/7564

Max. Marks : 80

- 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. Assume suitable data whenever necessary.

1. a) What is embedded system? Explain the characteristics of an embedded system. 7

b) State & Explain different design challenges of embedded system. 7

OR

2. a) Explain various optimizing parameter of design metrics. 7

b) Explain the recent trends in an embedded system. 7

3. a) Explain Hardware architecture of embedded system. 7

b) Explain Device drivers & Content switching. 6

OR

4. a) Explain the role of interrupt driven mechanism. 6

b) Write short note on: 7

i) Processor selection.

ii) Little endian & big endian

5. a) Explain in detail ARM core data flow model. 6

b) Explain CPSR Register in detail. 7

OR

6. a) State & Explain ARM core extension. 7

b) State various instructions of ARM and Write ALP to find factorial of a number. 6

7. Write technical note on: **any two**. **14**
- i) CAN protocol.
 - ii) GPRS
 - iii) USB

OR

8. a) Explain I2C protocol in Detail. 7
- b) State and explain Bluetooth protocol in detail. 7
9. a) What is Intertask communication? Explain semaphore to achieve intertask communication. 7
- b) What is task? How task scheduler manages the task. 6

OR

10. Explain the following terms related to operating system in detail. 13
- i) Timer function.
 - ii) Event function.

11. Discuss in detail the case study of ACVM. 13

OR

12. Discuss in detail the case study in the field. of security. 13
