

**ADIKAVI NANNAYA UNIVERSITY**  
**IV B.TECH – II SEMESTER**  
**ELECTRONICS AND INSTRUMENTATION ENGINEERING**  
**BTEIE 801 EMBEDDED REAL TIME OPERATING SYSTEMS**  
**MODEL QUESTION PAPER**

**Time: 3hrs.**

**Max. Marks: 75**

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**SECTION-A (4 X 15 = 60 M)**

**Answer ALL Questions**

1. a) What is Embedded System? Explain with Suitable examples (15M)  
Or  
b) Explain Von-Neumann Processor/Controller with neat diagram (15M)
2. a) Explain about Embedded Software development Tools (15M)  
Or  
b) Explain different types of Embedded Operating systems in detail (15M)
3. a) Explain about Round Robin Scheduling (15M)  
Or  
b) Draw the RTOS Structure and Discuss about Schedule Management for Multiple Tasks (15M)
4. a) Explain about Message Queue and Mail boxes with neat Sketch (15M)  
Or  
b) Draw and explain the architecture of automatic Chocolate vending Machine using MUCOS (15M)

**Section-B (5 X 3 =15 Marks)**

5. **Write a Short Note on any FIVE of the following**
  - a. What are the design issues for Embedded System
  - b. What is DMA
  - c. Differentiate host and target Machines
  - d. What is the function Linker
  - e. Draw the RTOS Structure
  - f. What is Non – Primitive Scheduling
  - g. Write a Short Notes on Pipes
  - h. What is meant by Semaphore

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**ELECTRONICS AND INSTRUMENTATION ENGINEERING**  
**BTEIE 802 INDUSTRIAL ELECTRONICS**  
**MODEL QUESTION PAPER**

**Time: 3hrs.**

**Max. Marks: 75**

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**SECTION-A (4 X 15 = 60 M)**

**Answer ALL Questions**

1. a) Explain the construction, Principle of Operation of IGBT with a neat diagram (15M)  
Or  
b) Explain the characteristics of Thyristor (15M)
2. a) Discuss about Single Phase Half Controlled Rectifiers with Load (15M)  
Or  
b) Discuss about Three Phase Half Controlled Rectifiers (15M)
3. a) Discuss about time ratio control in a DC Chopper (15M)  
Or  
b) Define Chopper and explain about types of Choppers and their applications (15M)
4. a) Explain about AC Voltage Regulators (15M)  
Or  
b) Explain about UPS (15M)

**Section-B (5 X 3 =15 Marks)**

5. **Write a Short Note on any FIVE of the following**
  - a. Explain about Power Transistor
  - b. Explain about Series and Parallel Operation of Thyristor
  - c. What are Step up and Step Down Cyclo converters
  - d. Write the applications of Cyclo converters
  - e. Explain about PWM Inverters
  - f. What are Voltage source and current source inverters
  - g. Explain about SMPS
  - h. What is Induction Heating

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