

Code: 9A04701

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2016

EMBEDDED REAL TIME OPERATING SYSTEMS

(Common to ECE, E.Con.E, EIE & CSS)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Define the terms 'system' and an 'embedded system'. Give the classification of embedded systems.
(b) With a neat sketch explain the components of embedded system hardware.
- 2 (a) Explain the basic elements of unified modeling language (UML).
(b) Discuss the fundamental issues in hardware software co-design.
- 3 (a) Compare analog and digital electronic components.
(b) Briefly explain about embedded firmware design approaches.
- 4 Explain the following:
(a) Task scheduling.
(b) Task communication.
- 5 (a) What are the functions performed by watchdog timer?
(b) Briefly explain about serial bus communication protocols.
- 6 Explain in detail about DFG models.
- 7 (a) List the functions of a device manager.
(b) Briefly explain about preemptive scheduling model.
- 8 (a) What are the requirements of smart card communication system with a host?
(b) With a neat sketch explain the adaptive cruise control (ACC) system cycle of actions and synchronizing cycle of different units.
