

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2018
(Sixth Semester)

Branch – ELECTRONICS

REAL TIME OPERATING SYSTEM

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 What is ISR?
- 2 What are the methods of solve the shared data problem?
- 3 Define mutex.
- 4 What is called priority inversion?
- 5 Write the uses of pipes.
- 6 What is a multitask system?
- 7 What is hard real-time system?
- 8 Write the role of DDP protocol task.
- 9 What is native tools?
- 10 Write the uses of ROM emulator.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Differentiate between Round Robin and Round robin with interrupts.
OR
b Describe briefly about the function queue scheduling architecture.
- 12 a Explain about the semaphore variants.
OR
b Briefly discuss about the shared data problem.
- 13 a Write notes on events.
OR
b Describe about the nested interrupts in RTOS.
- 14 a Explain about saving power.
OR
b Explain the avoid creating and destroying tasks.
- 15 a Write notes on cross assemblers and tool chains.
OR
b Explain how to execute more rapidly if the program is stored in RAM rather than ROM.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 In detail discuss about the real time operating system architecture.
- 17 Explain in detail about the operation of scheduler with an example.
- 18 Discuss about the different methods for inter tasic communication.
- 19 Design a underground tank monitoring system and discuss it in detail.
- 20 Explain how to getting embedded software into the target system.