POKHARAUNIVERSITY

Level: Bachelor	Semester – Spring	Year: 2020
Program: BE		Full Marks: 70
Course: Real Time System		Pass Marks:31.5
		Time: **2** hrs.

Candidates are required to answer in their own words as far as practicable.
The figures in the margin indicate full marks.

Attempt all the questions.

Section – A (5×10=50)

Q. N. 1	List any five computer-based systems and explain whether they are Real time systems, Non Real time systems, Hard, Soft or Firm Real time Systems.	10
Q. N. 2	Do you think that Object Oriented Analysis approach is more appropriate than the conventional Structured approach for specifying the requirements of a Real time system? Give your opinions.	10
Q. N. 3	How is Priority Inheritance Protocol different from Priority Ceiling Protocol? Draw a time line by taking four jobs J_1, J_2, J_3, J_4 with different levels of priorities to show how priority inversion occurs and how Priority Inheritance Protocol can provide a solution to prevent unbounded priority inversion.	10
Q. N. 4	How is Rate monotonic approach different from Earliest Deadline First approach for scheduling of Real time Tasks? A Real time System comprises of two Real time jobs J_1, J_2. Now making your own assumptions regarding their periodicity, execution time etc, draw a time line to show how these two jobs can be scheduled using Rate Monotonic and Earliest Deadline approach.	10
Q. N. 5	Why do you think it is necessary to optimize the performance of a Real Time System? How is Binary Angular Measurement different from Scaled Numbers?	10
	OR	
	Is it better to build a Real time application using threads or processes? Give your justification.	

Section – B (1×20=20)

Q. N. 6	You have been asked to design and develop a Real time system that is fault tolerant as well. What would be your choice of hardware and software components for this purpose? What strategy would you use to integrate these hardware and software components?	