Roll No: .....

Total No. of Questions : 09] [Total No. of Pages :02

Paper ID [A0475]

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B. Tech. (Sem. - 6th/7th)

REAL TIME SYSTEMS (2k 3 Batch) (CS - 324)

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Two** questions from Section - C.

Section - A

Q1) *(10 × 2 = 20)*

a) What is the difference between real time systems and other computer based systems?

b) How can you classify the tasks for a real time system?

c) How performability is a performance measure for real time systems?

d) What is the difference between static priority and dynamic priority algorithms. Give examples for each.

e) What do you mean by Response-Time Predictability for real time systems?

f) What is pessimistic concurrency control for each real time system?

g) How a network topology is important for real time communication?

h) What is the concept of deadlines based protocols?

i) What is myopic offline scheduling algorithm?

j) What are the applications of real time systems?

Section - B

(4 × 5 = 20)

Q2) Explain the architecture of a real time system. What are the different issues for designing a real time system?

Q3) How the performance of a real time system can be evaluated? Discuss the different properties that evaluating parameters should have.

Q4) What are advantages of fault tolerant scheduling over other scheduling algorithms? Discuss fault tolerant scheduling in detail.

Q5) Write short note on databases for hard real time systems.

Q6) What are the different architectural issues for designing a real time system?

Section - C

(2 × 10 = 20)

Q7) Explain the Rate-Monotonic scheduling algorithm in detail.

Q8) What is the advantage of executing concurrent transactions? Discuss in detail the different concurrency control approaches used for real time systems.

Q9) Discuss in brief the different communication protocols suitable for real time systems.