

Roll No.

Total No. of Questions : 09]

Paper ID [CS324]

[Total No. of Pages : 02

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Semester - 6th)

REAL TIME OPERATING SYSTEMS (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) Write about interrupt handling process in a multiple interrupt system.
- b) Can you describe a computer system that is completely a Real Time System.
- c) Differentiate between direct mode addressing & indirect mode addressing.
- d) Which are the traditional performance measures used for Real Time Systems?
- e) How much scheduling is important in Real Time Systems?
- f) What are main memory databases?
- g) List the advantages of multihop protocol.
- h) What are the hard deadlines mentioned for Real Time Systems?
- i) Mention concurrency control issues related to Real Time Databases.
- j) Write the disadvantages of pooled bus protocol.

Section - B

(4 × 5 = 20)

- Q2) What system considerations are required in designing Real Time System?
- Q3) Write using example Compare, Jump & Subroutine instructions.
- Q4) Which language provide for some sort of GOTO statement? Does the GOTO statement affect Real Time performance? If so, How?
- Q5) Differentiate between classical uniprocessor scheduling and fault tolerant scheduling.
- Q6) Differentiate between general purpose database & Real Time database.

Section - C

(2 × 10 = 20)

- Q7) Write & compare between contention based protocol and token based protocol.
- Q8) What are the architectural issues must be considered in designing the communication protocols for Real Time System?
- Q9) Write the algorithm for hierarchal round robin protocol.