322845(22)

B. E. (Eighth Semester) Examination, April-May 2021

(New Scheme)

(CSE, IT Engg. Branch)

REAL TIME SYSTEMS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : (i) *Attempt all questions. Part (a) is compulsory in all questions. Attempt any two parts from (b), (c) and (d).*

(ii) *The figures in the right-hand margin indicate marks.*

Unit-I

1. (a) What is real time system?   2

(b) What are the different phases of software life cycle model? Explain each with neat & clean diagram. 7

(c) List & explain various terminologies used in Real Time System. 7

(d) Write short notes on : 7

(i) Code generation

(ii) Memories

Unit-II

2. (a) What is flow chart? 2

(b) What is the use of finite state autometer in real time system? 7

(c) Discuss about priority driven scheduling with an example. 7

(d) What are the applications of flow chart, structure charts, Pseudocode? Explain each with suitable example. 7

Unit-III

3. (a) What are the needs and disadvantages of Dynamic Memory allocation? 2

(b) What are the essential condition for deadlock? Write also about deadlock preventions and deadlock avoidance. 7

(c) What are mail boxes? Also explain mail boxes implementation and its critical regions. 7

(d) "Round Robin Scheduling does not work for the real time application." Comment on statement. 7

Unit-IV

4. (a) What is the difference between white box testing and Black box testing? 2

(b) Discuss application of Queuing theory with suitable example. 7

(c) How Non Von Nueman concept is used in Modern Parallel Computing architecture? 7

Unit-V

5. (a) Write the name of any four real time system software. 2

(b) Explain how to hardware redundancy in the issue of voting and consensus? 7

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(c) Explain briefly Real Time Databases.   7

(d) Write short notes on :

    (i)   Fault, failure and buggs with example

    (ii) Real time system Vs. Complex system   7

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