

Code No: R164205A

R16

Set No. 1

IV B.Tech II Semester Advanced Supplementary Examinations, Aug/Sep - 2022

CONCURRENT AND PARALLEL PROGRAMMING

(Common to Computer Science and Engineering and Information Technology)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any FOUR questions from Part-B

PART-A (14 Marks)

1. a) Define Concurrent programming. [2]
- b) What do you mean by *live lock*? [2]
- c) Why do we need searching in parallel computations? [3]
- d) List the disadvantages of Processor array? [2]
- e) Discuss applications of CUDA? [3]
- f) What are the memory objects in *Open CL*? [2]

PART-B (4x14 = 56 Marks)

2. a) Explain about the advantages and Disadvantages of concurrent programs. [7]
- b) What is race condition? How to avoid race conditions? [7]
3. a) Explain in detail about Bankers algorithm. [7]
- b) What are the reasons for using the inter process communication protocol for information sharing? [7]
4. a) List and explain the steps in Breadth-First Search. [7]
- b) How do we impose ranking for parallel Algorithms? Discuss briefly? [7]
5. a) Describe about illustration of a shared memory system of three processors [7]
- b) Distinguish between Data parallelism and Task parallelism. [7]
6. a) How to initialize an *Open CL* application? Explain Briefly. [7]
- b) Discuss in brief about Reducers and hyper objects in *cilk ++* [7]
7. a) Describe in brief about *Open CL* Execution model [7]
- b) List the applications of C++AMP. [7]

