

# GOVERNMENT ENGINEERING COLLEGE, DAHOD

## 8<sup>th</sup> CE TUTORIAL LIST YEAR 2016

Subject : Parallel Processing (180702)

Tutorial No.	Title	Last Date of submission
1	<ol style="list-style-type: none"><li>1) Explain pipelining and superscalar execution with suitable example.</li><li>2) What is the meaning of memory latency? How memory latency can be improved by Cache?</li><li>3) Enlist various decomposition techniques used to achieve concurrency.</li><li>4) Explain recursive decomposition with suitable example.</li><li>5) What is data locality? Explain techniques for maximizing data locality.</li><li>6) Describe the following for one-to-all broadcast and all-to-one reduction communication operations:<ul style="list-style-type: none"><li>- Linear Array</li><li>- Mesh</li><li>- HyperCube</li></ul></li><li>7) Explain All-to-All Broadcast and All-to-All Reduction with example</li></ol>	4-2-2016
2	<ol style="list-style-type: none"><li>1) What is parallel system? Enlist various performance metrics for parallel system. Explain SpeedUp in detail.</li><li>2) Write a note on MPI.</li><li>3) What is isoefficiency function? Derive equation of isoefficiency function.</li><li>4) Differentiate blocking and non-blocking message passing operations.</li><li>5) Explain Cannon's algorithm for matrix multiplication.</li><li>6) Explain following functions with respect to Pthreads API. Also discuss arguments of these functions.<ol style="list-style-type: none"><li>i) pthread_create()</li><li>ii) pthread_join()</li></ol></li><li>7) Explain the concept of Barrier with suitable example.</li><li>8) Write a note on Synchronization primitives in POSIX.</li></ol>	4-3-2016
3	<ol style="list-style-type: none"><li>1) Explain Bitonic sort with example.</li><li>2) Explain Prim's algorithm.</li><li>3) Write and explain Odd-Even Transposition sort Algorithm.</li><li>4) Explain parallel formulations of Dijkstra's algorithm</li><li>5) Enlist and explain the various forms of PRAM in brief.</li></ol>	6-4-2016