

Q1. Basic communication operations are \*

- ☐ One to all broadcast
- ☐ All to all broadcast
- ☐ All to one reduction
- ☐ All of above

Q2. In ring and linear array link can be efficiently utilised by broadcasting and using \*

- ☐ Recursive algorithm
- ☐ Recursive doubling algorithm
- ☐ Linear algorithm
- ☐ All of above

Q3. Effective and accurate implementation of communication operations in parallel algorithm design will

- ☐ Decrease efforts
- ☐ Decrease development cost
- ☐ Develop Quality software
- ☐ All of above

Q4 . Total number of steps required in one to all broadcast on 16-node mesh are \*

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4

Q5. A hypercube with  $2^d$  nodes can be regarded as \*

- ☐ d dimensional
- ☐ N dimensional
- ☐ K dimensional
- ☐ None of above

Q6. In balanced binary tree leaf nodes are processors and internal nodes are

- ☐ Processor
- ☐ Routing nodes
- ☐ Inert nodes
- ☐ All of above

Q7 . In general one to all broadcast algorithm initial mask equal to \*

- ☐  $3^d-1$
- ☐  $2^d-1$
- ☐ Both of above
- ☐ None of above

Q8.Inorder to convert virtual destination to the label of the physical destination in broadcast algorithm you can use \*

- ☐ Logical AND operator
- ☐ Logical OR operator
- ☐ Logical XOR operator
- ☐ None of above

Q9.In all to one reduction algorithm initial mask equals

- ☐ One
- ☐ Zero
- ☐ Two
- ☐ All of above

Q10. In general one to all broadcasting involves \*

- ☐ Log p steps
- ☐  $2^{d-1}$  steps
- ☐ Both of above
- ☐ None of above

Q11. In all to all broadcast each processor is \*

- ☐ Destination only
- ☐ Source only
- ☐ Source as well as Destination
- ☐ None of above

Q12. in all to all broadcast on hypercube

- ☐ Partner= $\text{my\_id} \oplus 2^i$
- ☐ Partner= $\text{my\_id} \vee 2^i$
- ☐ Partner= $\text{my\_id}$
- ☐ All of above

Q13. In prefix sum operation on hypercube Partner= \*

- ☐ My\_id XOR  $2^i$
- ☐ My\_id OR  $2^i$
- ☐ Both of above
- ☐ None of above

Q14. In prefix sum operation on hypercube prefix sum accumulated on \*

- ☐ Low label node in pair
- ☐ High label node in pair
- ☐ Both of above
- ☐ None of above

Q15. we can port algorithm for higher dimensional network eg. hypercube into ring network. is it possible?

- ☐ It is possible
- ☐ It is not possible
- ☐ Both of above
- ☐ None of above

Q16. In Scatter operation \*

- ☐ only one node sending unique message to other nodes in network
- ☐ All nodes sending distinct message to other nodes in network
- ☐ Both of above
- ☐ None of above

Q17. In gather operation \*

- ☐ more than nodes collect a unique message from each node.
- ☐ a single node collects a unique message from each node.
- ☐ Both of above
- ☐ None of above

Q18. In all to all personalized communication

- ☐ Each node has a distinct message of size  $m$  for every other node.
- ☐ Each node has a unique message of size  $m$  for every other node.
- ☐ Both of above
- ☐ None of above

Q19 . In all to all personalized communication on ring , the size of the message reduces by \*

- ☐ 3m at each step
- ☐ 2m at each step
- ☐ M at each step
- ☐ None of above

Q20. In all to all personalized communication using hypercube we have  $\log p$  iterations and ..... \*  
Words are communicated in each iteration.

- ☐  $mp$  words
- ☐  $mp/2$  words
- ☐ Both of above
- ☐ None of above

Q21. In all to all personalized communication

- ☐ Each node has a distinct message of size  $m$  for every other node.
- ☐ Each node has a unique message of size  $m$  for every other node.
- ☐ Both of above
- ☐ None of above