Parallel Architecture and Computing
(IT-309, Dec-07)

Section-A

1). a). Define pipelining?
   b). What are major components of array processors?
   c). What is difference between available and utilized parallelism?
   d). Define Brent's theorem.
   e). What are control hazards?
   f). Differentiate shared memory and distributed memory MIMD architecture?
   g). What are different ways of exploiting parallelism in parallel computer architecture?
   h). Multiprocessor systems are SIMD systems. State True of False with reason.
   i). What are non uniform access multiprocessors?
   j). What do you mean by Parallel merge?

Section-B

2). How instruction pipelining is implemented in parallel processing?
3). Explain load balancing in multiprocessor systems.
4). What do you mean by data hazards and how they are removed?
5). What are the relative powers of the various PRAM models?
6). What are different components of MIMD architecture? How it is different from SIMD architecture?

Section-C

7). What are different parallel algorithms for SIMD architectures? Explain.
8). Explain how memory is accessed in multiprocessors?
9). What are different parameters on basis of which various networks of Array processors are compared?