Q.1       (2.5x8=20)
(a) What do you mean by data dependency hazard? Explain with suitable examples.
(b) Discuss characteristics of scientific attached processors.
(c) Differentiate among arithmetic pipeline and instruction pipeline.
(d) What do you mean by vector processing? Differentiate it with serial processing.
(e) Differentiate among: Parallel processing at job level, task level, the inter instruction level and intra instruction level.
(f) Prove that $k$ stage linear pipeline can be at most $k$ times faster than that of a non pipelined serial processor.
(g) Describe the degree of decomposition of parallel algorithm.
(h) List some processor characteristics for multiprocessing.

SECTION A

Q.2(a) Discuss how instructions are executed in pipelined system, explain with the help of space diagram. (10)

SECTION B

Q.5(a) what is Cray? Explain the features of Cray machine with the help of suitable diagram. (10)

(b) Draw and explain the Block diagram of AP-120B Supercomputer’s processor. (10)

Q.6(a) Describe the mesh connected illiac network. Explain the routing function performed in Illiac network. (10)

(b) Give the Algorithm for SIMD Matrix multiplication, Also show that how the algorithm can perform faster matrix multiplication. (10)

Q. 7(a) Differentiate among loosely and tightly coupled multiprocessor. (10)

(b) Describe the Asynchronous parallel algorithm with suitable example. Mention the advantage as well as disadvantages associated with it. (10)