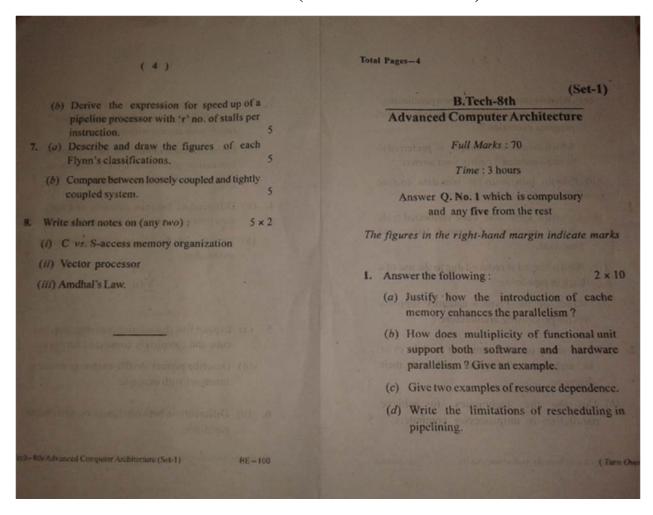
VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING & INFORMATION TECHNOLOGY

SESSION 2014-2015 (EVEN SEMESTER)



- (e) What do you mean by program partitioning?
 What is its contribution towards parallel program execution?
- (f) Which data flow technique is preferred to be implemented? Justify your answer.
- (g) Explain how many to one data routing function leads to blocking?
- (h) Compare cube and cube connected cycle network in terms of network latency and bandwidth.
- (i) Which hazard is reduced due to the use of a latch in pipelining?
- (j) Which of the Flynn's category supports vector processing architecture?
- (a) How many parallel computer models exist in architecture? Explain each with their diagrams.
 - (b) Describe the techniques to achieve parallelism in uniprocessor computers.

- (a) Do you agree that data, resource and controlled dependence lead to data hazard?
 Justify your answer with examples.
 - (b) Enlist sufficient conditions parallelism in instruction pipelining. Give examples of flow, anti and output dependence.
- 4. (a) Differentiate between dynamic and static data flow computer with their architecture. 5
 - (b) Draw the data flow diagram for the following expression:

$$C_i = \sum_{i=1}^{8} (a_i * b_i)$$

- (a) Explain five characteristics of ring, star, bus, cube and completely connected networks.
 - (b) Describe perfect shuffle exchange routing functions with example.
- 6. (a) Differentiate between linear vs. non-linear pipelines.