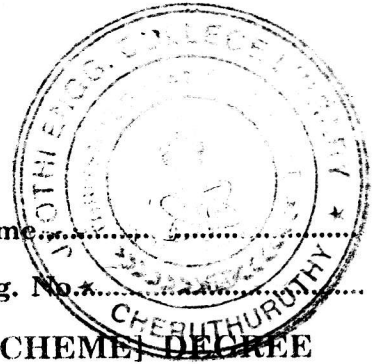


**C 1040**

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Name.....

Reg. No.....



**EIGHTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE  
EXAMINATION, APRIL 2016**

**CS 09 801—COMPUTER ARCHITECTURE AND PARALLEL PROCESSING**

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.*

1. How to calculate the cost of integrated circuits ?
2. What is thread level parallelism ?
3. What is the use of virtual memory ?
4. What is the role of multiprocessing in microprocessor architecture ?
5. What are the different levels of branch prediction ?

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.*

6. Explain data hazards in detail.
7. Explain compiler vectorization.
8. Explain the performance of Unix file system.
9. Describe centralized memory architecture.
10. How to encode an instruction set ?
11. Explain the protection and working of virtual memory.

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.*

12. (a) Define the terms 'structural hazard', 'control hazard', and 'data hazard' in the context of pipelines. Which of these hazards is addressed by a hardware branch prediction ?

*Or*

- (b) With neat diagram explain instruction set architecture.

**Turn over**

13. (a) Explain how parallelism is achieved in uniprocessor systems.

*Or*

(b) Explain vector processing in detail.

14. (a) With neat diagram explain memory hierarchy design in detail.

*Or*

(b) Describe the use of bench mark. Explain various types of bench marks in detail.

15. (a) With a neat diagram explain cache coherence in a distributed shared memory multiprocessor.

*Or*

(b) Briefly explain shared memory architecture in detail.

(4 × 10 = 40 marks)