Write down features of Pentium processor.

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Features of Pentium Processor are as follows:

1. 64 bit data bus
2. 8 bytes of data information can be transferred to and from memory in a single bus cycle
3. Supports burst read and burst write back cycles
4. Supports pipelining
5. Instruction cache
6. 8 KB of dedicated instruction cache
7. Two Integer execution units, one Floating point execution unit
8. Dual instruction pipeline
9. 256 lines between instruction cache and prefetch buffers; allows 32 bytes to be transferred from cache to buffer
10. Data cache
11. 8 KB dedicate data cache gives data to execution units
12. 32 byte lines
13. Two parallel integer execution units
14. Allows the execution of two instructions to be executed simultaneously in a single processor clock
15. Floating point unit
16. It includes
17. Faster internal operations

18. Local advanced programmable interrupt controller
19. Speeds up upto 5 times for common operations including add, multiply and load, than 80486
20. Branch Prediction Logic
21. To reduce the time required for a branch caused by internal delays
22. When a branch instruction is encountered, microprocessor begins prefetch instruction at the branch address
23. Data Integrity and Error Detection
24. Has significant error detection and data integrity capability
25. Data parity checking is done on byte – byte basis
26. Address parity checking and internal parity checking features are added
27. Dual Integer Processor
28. Allows execution of two instructions per clock cycle
29. Functional redundancy check
30. To provide maximum error detection of the processor and interface to the processor
31. A second processor 'checker' is used to execute in lock step with the 'master' processor
32. It checks the master's output and compares the value with the internal computed values
33. An error signal is generated in case of mismatch
34. Superscalar architecture
35. Three execution units
36. One execution unit executes floating point instructions
37. The other two (U pipe and V pipe) execute integer instructions
38. Parallel execution of several instructions – superscalar processor

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