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[5252]-165

S.E (Computer Engineering) (I semester) EXAMINATION, 2017
MICROPROCESSOR ARCHITECTURE
(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

- N.B. :—** (i) Answer any *four* questions, Q.No. 1 or Q.No. 2, Q.No. 3 or Q.No. 4, Q.No. 5 or Q.No. 6, Q.No. 7 or Q.No. 8.
(ii) Neat diagrams must be drawn whenever necessary.
(iii) Figures to the right indicate full marks.
(iv) Assume suitable data, if necessary.

1. (a) How many segment registers are used by 8086 ? Mention their use. [3]
(b) Explain memory organization and segmentation in 80386DX.[6]
(c) What is TSS descriptor ? [3]

Or

2. (a) Explain the difference between 8086 and 80386. [3]
(b) Explain the various data types supported by 80386DX. [6]
(c) What is LDT descriptor ? [3]
3. (a) What is the use of bit test and modify instructions ? [3]
(b) Draw the timing diagram for read cycle with non-pipelined address. [6]
(c) How to define and use macro in assembly language programming ? [3]

Or

4. (a) Enlist program flow control instructions. [3]

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- (b) Draw the timing diagram for write cycle with non-pipelined address. [6]
- (c) How is IMUL different than MUL ? [3]
5. (a) What are the differences between dual and quad core CMP ? [3]
- (b) What is Front Side Bus, Back Side Bus and I/O Bus ? [6]
- (c) What is single instruction multiple data model for parallel processing ? [4]

Or

6. (a) Define Chip Multiprocessors (CMP). [3]
- (b) What are different architectures of multicore ? Explain. [6]
- (c) What are the advantages of cache memory ? [4]
7. (a) What are the advantages of Hyper-threading Technology ? [4]
- (b) Draw and explain the block diagram of 64-bit architecture. [6]
- (c) What are the features of Intel Microarchitecture code name Nehalem ? [3]

Or

8. (a) What are the advantages of virtualization technology ? [4]
- (b) Explain the execution model of SIMD with neat diagram. [6]
- (c) Enlist data types of 64-bit architecture. [3]