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[5559]-187

S.E. (Computer Engineering) (First Semester) EXAMINATION, 2019
MICROPROCESSOR ARCHITECTURE
(2012 PATTERN)

Time : 2 Hours

Maximum Marks : 50

Instructions:

- 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 diagram must be drawn whenever necessary.
- iii. Figures to the right indicate full marks.
- iv. Assume suitable data, if necessary.

- 1 a) Explain the flag of 80386DX microprocessor. [3]
- b) Explain how physical address is generated in 8086 microprocessor? [5]
- c) What is significance of LDTR? Explain with diagram. [4]

OR

- 2 a) Explain various data types supported by 80386 [3]
- b) Explain the significance of following 80386 pins [5]
i) IOPL ii) VM iii) ET
- c) What is interrupt descriptor and interrupt descriptor table? [4]
- 3 a) What is the difference between HALT and SHUTDOWN in 80386? [3]
- b) Explain the Idle and wait state machine cycle with the help of timing diagram. [5]
- c) Explain the following instructions with example. [4]
i) RCL ii) XCHG iii) STI

P.T.O.

OR

- 4 a) Differentiate between Near and Far Call procedures. [3]
b) Draw and explain the timing diagram of non-pipelined read cycle. [5]
c) Explain register indirect addressing mode and Register index addressing mode with suitable example. [4]
- 5 a) What are the advantages of cache memory? [4]
b) Explain the software Developer's Viewpoint that must be considered by parallel processing. [6]
c) Explain Multicore design and implementation. [3]

OR

- 6 a) What are the advantages of parallel programming? [4]
b) What are the three common configuration that supports the multiprocessing? [6]
c) What are the difference between Dual core and Quad core CMP? [3]
- 7 a) What are the operating modes of IA-32 bit architecture? Explain [4]
b) Write short note on Hyper Threading (HT) Technology. [6]
c) Draw the EFLAG register structure of 64 bit Intel processor, and explain any two flag. [3]

OR

- 8 a) What are the features of micro architecture code name Nehalem? [3]
b) Draw and explain the IA 64-bit architecture. [6]
c) Explain the virtualization technology. [4]