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QUESTION BANK (DESCRIPTIVE)

Subject with Code : MCSD(16EC3807) **Branch & Specialization**: M.Tech – DECS

Year & Sem: I-M.Tech & II-Sem **Regulation:** R16

UNIT –I

REVIEW OF 8086 PROCESSOR,THE 80286 MICRO PROCESSORS

1. (a) Explain the memory management unit of 80286 processor. [5M]
   (b) Explain the interrupt handling mechanism in 80386 processor. [5M]
2. (a) Discuss the features of 8086 microprocessor. [5M]
   (b) Explain the memory organization of 8086 microprocessor. [5M]
3. What is addressing modes? Explain types of addressing modes with an example. [10M]
4. (a) What are the different between 8086 and 8088 with the respect to pin structures? [5M]
   (b) Explain the following pin details of 8086.
   (i)INTR (ii)HOLD (iii)TEST (iv)ALE [5M]
5. (a) Explain the salient features of 80286 microprocessor. [5M]
   (b) Explain the associative memory organization. [5M]
6. Draw and Explain the Architecture of 80286 Microprocessor. [10M]
7. (a) Explain the Classification of Instruction set of 80286. [5M]
   (b) What is Flag register? Explain in detail. [5M]
8. (a) Explain bus HOLD and HLDA Sequence in detail. [5M]
   (b) Explain the Interrupt Acknowledge Sequence in detail. [5M]
9. Explain the following Additional Instruction in 80286. [10M]
   i)PUSH Imd ii)PUSH*A iii)POP*A iv)IMUL lmd-oper v)INS
10. (a) Discuss about addressing modes of 80286 microprocessor with examples. [5M]
    (b) Explain briefly bout the instruction set of 80286 microprocessors. [5M]

UNIT-II
THE 80386 AND 80486 MICRO PROCESSORS ,
THE PENTIUM AND PENTIUM PRO PROCESSOR

1. (a) Explain the salient features of 80386 processor. [5M]
   (b) Discuss the register organization of 80386 processor. [5M]
2. (a) Briefly explain the memory management of 80386. [5M]
   (b) Explain how 80386 moved to protocol mode. [5M]
3. (a) Explain the virtual 8086 mode in detail. [5M]
   (b) Explain the Memory Paging Mechanism in 80386 processor. [5M]
4. (a) Explain the Pin definitions of 80386 and 80486. [5M]
   (b) Draw and Explain the software model of 80486 processor. [5M]
5. Draw and explain the internal architecture of 80386 processor. [10M]
6. (a) Compare RISC and CISC Computer organizations. [5M]
   (b) Explain the interrupt processing mechanism in Pentium processor. [5M]
7. (a) Explain the Memory System in Pentium processor. [5M]
   (b) What are Input / Output Systems in the Pentium processor? [5M]
8. (a) Discuss the Branch Prediction Logic and cache structure. [5M]
   (b) Discuss the Features of Pentium pro processor. [5M]
9. (a) Classify the Special Pentium Registers in Pentium processor. [5M]
   (b) Explain the group of pin details in Pentium processor. [5M]
10. Draw and explain the internal structure of the Pentium Pro Processor. [10M]

UNIT III
THE PENTIUM IV AND DUAL CORE MICROPROCESSORS
INTODUCTION TO MULTIPROGRAMMING

1. (a) Draw and explain the software model of 80486 processor. [5M]
   (b) Explain briefly about programmed I/O operations. [5M]
2. (a) Explain the salient features of Pentium 4 processor. [5M]
   (b) Discuss the general purpose instruction for Pentium 4 processor. [5M]
3. Draw and explain the architecture for Pentium 4 processor. [10M]

4. (a) What are the various registers available in Pentium 4 processor and explain. [5M]
   (b) Explain pin structures of Pentium IV and dual core microprocessor. [5M]
5. Explain the four basic models of Pentium 4 processor. [10M]
6. (a) What is multiprogramming? Explain in detail. [5M]
   (b) Explain process management. [5M]
7. (a) What are the three states in the process management system explain them. [5M]
   (b) Explain neatly the semaphore operations. [5M]
8. Draw and explain the common procedure sharing .Then how reentrant code shared by more than one process. [10M]
9. (a) Explain the memory management system in the multiprogramming. [5M]
   (b) Discuss the concept of virtual memory. [5M]
10. Briefly discuss the virtual memory concept of 80286 and other advanced processors. [10M]

UNIT –IV

ARITHMETIC COPROCESSOR,MMX AND SIMD TECHNOLOGIES

1. (a) Explain the data formals for arithmetic coprocessor with an example. [5M]
   (b) Explain the control register of 8087 arithmetic coprocessor. [5M]
2. Draw and Explain the internal structure of 8087 and advanced coprocessor. [10M]
3. Explain the instruction set of 8087, with an example . [10M]
4. Discuss the following different data formals.
   a) Singed integer [4M]
   b) Binary coded decimal [3M]
   c) Floating point [3M]
5. (a) What are the co-processor control instruction and explain. [5M]
   (b) Explain the conversion method of from decimal to the floating point. [5M]
6. (a) Discus the salient features of 80x87 architecture. [5M]
   (b) Explain the 80x87 co-processor status register. [5M]
7. Explain the following instructions with an example.
   a) Floating point data transfer. [3M]
   b) Integer data transfer instruction. [3M]
   c) BCD data transfer instruction. [4M]

8. Describe with an example of the following instruction.
   (a) Comparison instruction. [5M]
   (b) Transcendental operations. [5M]
9. Explain the following instruction with an example. [10M]
   I) FCOM II) FPATAN III) FXTRACT IV) FADD
10. Write short notes on the following.
   a) Control register of 80x87 arithmetic processor. [5M]
   b) Status registers of 80x87 arithmetic processor. [5M]

UNIT V

8096- MICROCONTROLLER

1. (a) Comparison between 8051 and 8096 micro controller. [5M]
   (b) Write the features of 8096 micro controller. [5M]
2. (a) List the parts of the I/O section of 8096. [5M]
   (b) Write a note on SFRs. [5M]
3. (a) Explain the RAM structure of 8096 micro controller. [10M]
4. (a) What is conditional and unconditional branching? [5M]
   (b) What is subroutine? Explain with an example [5M]
5. (a) What is addressing mode? What are the addressing modes of 8096 with an example? [10M]
6. (a) Explain the classification of instruction. [5M]
   (b) What is the difference between signed number arithmetic and unsigned number arithmetic? [5M]
7. (a) Describe the following instructions with an example. [10M]
   I) XOR II) SHR III) JNC IV) Push F V) CMPB
8. (a) Draw and explain the internal architecture of 8096 micro controller. [10M]
9. (a) What is interrupt? Explain how interrupt can perform the 8096 micro controller with an example. [5M]
   (b) Give a brief note on PSW. [5M]
10. Explain the following:
   (i) Tabulate the interrupt vector locations and their priority levels. [5M]
   (ii) How will determine the source of interrupt. [5M]

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