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Mahatma Gandhi Mission’s College of Engineering and Technology

Kamothe,Navi Mumbai

**Department of Computer Engineering**

**Course Code: CSC405 Course Name: Microprocessor**

**Assignment No.4**

**Class: TE AY: 2021-22**

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| **Q.No** | **Question** | **Module** | **Bloom’s Taxonomy level** | **Performance Indicator** | **CO** |
| **Q1.Justify Your Answers** | |  |  |  |  |
|  | (a) 80386DX is available in a grid array package of\_\_\_\_\_\_\_\_ | M4 | L2 | 1.7.1 | CO4 |
|  | (b) The unit that is disabled in real address mode is\_\_\_\_\_\_\_\_\_\_ | M4 | L2 | 1.7.1 | CO4 |
|  | (c) The 80386DX has an address bus of | M4 | L2 | 1.7.1 | CO4 |
|  | (d The bus is available when the DMA controller receives the signal \_\_\_\_\_\_\_\_. | M4 | L2 | 1.7.1 | CO4 |
|  | (e) The 8257 DMA known as \_\_\_\_\_\_\_. | M4 | L2 | 1.7.1 | CO4 |
| **Q2. Choose Correct Options** | |  |  |  |  |
|  | 1․ Identify the programmable DMA controller from the following  a)8257 b) 8253 c) 8251 d) 8279 | M4 | L2 | 1.7.1 | CO4 |
|  | 2. Which of the following is not a scale factor of addressing modes of 80386?  a)2 b) 4 **c) 6** d) 8 | M4 | L2 | 1.7.1 | CO4 |
|  | 3.   The 80386 in protected mode, supports all software written for  a) 8086 and 80287 b) 80286 and 80287 c) 80287 and 80387 d) 80286 and 8086 | M4 | L2 | 1.7.1 | CO4 |
|  | 4. For a single task in protected mode, the 80386 can address the virtual memory of  a) 32 GB b) 64 MB c) 32 TB d) 64 TB | M4 | L2 | 1.7.1 | CO4 |
|  | 5. A 16-bit displacement that references a memory location using any of the addressing modes is  a) Pointer b) Character c) BCD d) Offset | M4 | L2 | 1.7.1 | CO4 |
| **Q3. State whether the following statements are true or false (Give Reasons)** | |  |  |  |  |
|  | a). The memory management of 80386 not supports shadow pagging (T/F). | M4 | L3 | 1.7.1 | CO4 |
|  | (b) In direct memory access mode, the data may transfer directly without the interference from the CPU. .(T/F) | M4 | L3 | 1.7.1 | CO4 |
|  | c) The linear address is calculated by effective address + segment base address T/F) | M4 | L3 | 1.7.1 | CO4 |
| **Q4. Name the following or define or design the following** | |  |  |  |  |
|  | (a) Write the feature of programmable Interval Timer. | M4 | L2 | 1.7.1 | CO4 |
|  | (b) Name the operating modes of 8254**..** | M4 | L3 | 1.7.1 | CO4 |
|  | (c) Design Programmable timer using 8253 and 8086 .Interface 8253 at an address 0040H for counter 0. Draw Interfacing Diagram . Write ALP to generate square wave 0f 1 ms. | M4 | L3 | 1.7.1 | CO5 |
| **Q5. Answer the following questions in brief (20 to 30 words)** | |  |  |  |  |
|  | (a) Justify mode mode of operation of 80386 | M4 | L4 | 1.7.1 | CO4 |
|  | (b) Try to find out **difference between real mode ,protected mode and virtual mode of 80386** | M4 | L4 | 1.7.1 | CO4 |
|  | (c ) Justify with your answer  **use of VM,RF,IOPL,TF&NT flags of 80386 microprocessor .** | M4 | L4 | 1.7.1 | CO4 |
| . **Q6. Answer the following questions in brief (50 to 70 words)** | |  |  |  |  |
|  | (a) Explain in detail DMA controller with mode of operation. Show and explain an interfacing diagram of 8086 with the 8257. | M4 | L2 | 1.7.1 | CO4 |
|  | (b) Draw and explain the block diagram of 80386 and modes of operation . | M4 | L2 | 1.7.1 | CO4 |
|  | (c ) Explain EFLAGES of 80386 | M4 | L2 | 1.7.1 | CO4 |
| **Q7. Think and Answer** | |  |  |  |  |
|  | (a) Disscuss the Selectors and Descriptors tables of 80386 processor | M4 | L4 | 2.6.1 | CO4 |
|  | (b) Justify  **protection mechanism implemented on 80386** | M4 | L5 | 2.6.1 | CO5 |
| Q8. **My Ideas** | |  | M4 |  |  |
|  | (a) Design the code for real world application using 8257 | M4 | L6 | 5.4.1 | CO5 |