

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech. Summer 2022 - 23 Examination**

**Semester:4**  
**Subject Code: 203107255**  
**Subject Name: Microconrollers**

**Date: 24/03/2023**  
**Time: 2:00 to 4:30pm**  
**Total Marks: 60**

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**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

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**Q.1 Objective Type Questions - (All are compulsory) (Each of one mark) (15)**

1. 80286 is \_\_\_\_\_ bit microprocessor.
2. What is the store by register?  
(a) data (b) operands  
(c) memory (d) None of these
3. \_\_\_\_\_ is the most important segment and it contains the actual assembly language instruction to be executed by the 8086 microprocessor.
4. The fetching of the program in 80286 processor from secondary memory to place it in physical memory, during the execution of CPU is called swapping in.  
(a) True (b) False
5. In 80386, the central processing unit has a sub - division of \_\_\_\_\_  
(a) memory unit and control unit (b) memory unit and ALU  
(c) execution unit and instruction unit (d) execution unit and memory unit
6. List the five Different Addressing Modes.
7. A microprocessor retrieves instructions from \_\_\_\_\_.  
(a) Control memory (b) Cache memory  
(c) Main memory (d) Virtual memory
8. The main importance of ARM micro-processors is providing operation with lower error or glitches.  
(a) True (b) False
9. How long the INTR pulse stay high?
10. ADD B Instruction having \_\_\_\_\_ addressing mode.
11. A valid HOLD request is ascertained only after the completion of  
(a) 34 clock cycles (b) 24 clock cycles and 80286 is SET  
(c) 34 clock cycles and 80286 is SET (d) 34 clock cycles and 80286 is RESET
12. 8085 is \_\_\_\_\_ architecture. (Harvard/Von Neumann)
13. List the 16 bit register in 8085 microprocessor.
14. The size of each segment in 8086 is:  
(a) 64 kb (b) 24 kb  
(c) 50 kb (d) 16 kb
15. Who introduce Pentium family?

**Q.2** Answer the following questions. (Attempt any three) **(15)**

- A) Write a program to count number of 1's in the contents of D register and store the count in the B register.
- B) Explain serial communication type in detail.
- C) Explain segments of BIU in 8086 microprocessor.
- D) Write short note on flags of 8086 microprocessor.

**Q.3** A) Explain the IC 8253 in detail. **(07)**

B) Draw and explain 8085 microprocessor architecture **(08)**

**OR**

B) Explain functional part of 80286 microprocessor. **(08)**

**Q.4** A) Draw and explain the IC 8251 in detail. **(07)**

**OR**

A) Explain Pentium processor with its basic features. **(07)**

B) Calculate the sum of series of even numbers from the list of numbers. The length of the list is in memory location 2200H and the series itself begins from memory location 2201H. Assume the sum to be 8 bit number so you can ignore carries and store the sum at memory location 2210H. **(08)**