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**BIEL-008**

**B.Tech. - VIEP - ELECTRONICS AND  
COMMUNICATION ENGINEERING**

**(BTECVI)**

**Term-End Examination, 2019**

**BIEL-008 : MICROCONTROLLERS**

**Time : 3 Hours]**

**[Maximum Marks : 70**

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**Note :** Answer **any seven** questions. All questions carry equal marks. Use of scientific calculator is allowed.

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1. (a) Compare RISC and CISC CPU architecture. [5]
- (b) Draw the block diagram of Microcontroller and explain each block in detail. [5]
2. (a) Explain the Memory Organization in 8051 Microcontroller. [5]
- (b) Write an Assembly Program in 8051 to add two 16-bit numbers stored in external memory. [5]
3. (a) Name the Interrupts of 8051. How can they be enabled and disabled ? [5]

- (b) With a suitable diagram explain various modes of timer in 8051. [5]
4. (a) Explain Stack and Stack Pointer. With the help of an example explain Stack Organization. [5]
- (b) Name the addressing modes of following instructions : [5]
- (i) MUL AB
- (ii) DAA
- (iii) MOV B, # 04H
5. (a) Explain Serial Communication Procedure in 8051. [5]
- (b) Draw and explain the interfacing diagram of DC Motor with 8051. [5]
6. What does it mean when it is said that a given sensor has a linear output ? Draw 8051 connection to ADC 0848 and Temperature Sensor. [10]
7. With the help of diagram show LCD connections to 8051 and explain its functioning. [10]

8. Draw and explain the block diagram of ADC and DAC.  
Also write down its applications. [10]
9. Find out to which byte each of the following bits belong.  
Give address of RAM byte in hex. [10]
- (a) SETB 42h,
  - (b) CLR 47h,
  - (c) CLR 12
10. Write short notes on **any two** of the following :  
[2×5=10]
- (a) Harvard and Von-Neumann architecture
  - (b) Flags
  - (c) PUSH and POP in stack

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