

**B.Tech. – VIEP – ELECTRICAL ENGINEERING
(BTELVI)**

Term-End Examination

00183

June, 2018

**BIEE-015 : MICROPROCESSOR AND ITS
APPLICATIONS**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any seven questions. Assume missing data, if any. Use of scientific calculator is permitted. All questions carry equal marks.

1. (a) Define a Microprocessor, and explain the microprocessor as a programming device and as a CPU. 5
- (b) Draw the block diagram of a microprocessor based system with bus architecture. 5
2. (a) What is an ASCII code ? 5
- (b) Explain the operation of the following instructions : 5
 - (i) LDA 16-bit
 - (ii) ADD-R

3. (a) What is a bus ? Why is the data bus bi-directional ? 5
- (b) Calculate the number of memory chips needed to design 8-Kbyte memory, if the memory chip size is 1024×1 . 5
4. (a) What are the advantages of memory segmentation ? 5
- (b) Explain the architecture of 8086 microprocessor. 5
5. (a) What are controlling flags ? Explain in detail. 5
- (b) Discuss the difference between serial and parallel data transfer. 5
6. Explain in detail the different operating modes of the 8259 PIC. What are the different ways of changing priority of interrupts ? 10
7. Explain 8085 interrupts in detail, with suitable program. 10
8. (a) Explain the command words of 8255. 5
- (b) Draw and explain a functional block diagram of 8257. 5

9. (a). What are tri-state devices ? Why are they essential in a bus oriented system ? 5
- (b) Explain the different data transfer techniques using 8155. 5
10. Write short notes on any *two* of the following : $5+5=10$
- (a) Analog to Digital Converter
- (b) I/O Mapped I/O and Memory Mapped I/O
- (c) 80486 Microprocessor
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