

B.E. ELECTRICAL ENGINEERING (PART TIME) EXAMINATION 2018 (OLD)

(1st Year, 1st Semester, Supplementary)

INTRODUCTION TO COMPUTING

Time: Three Hours

Full Marks: 100

Answer any five questions (5x20)

1. a) Explain with diagram the basic components of Database Management Systems. 10
b) Discuss the advantages and disadvantages of Database Management Systems. 10
2. a) Explain the three-layer of data architecture. 5
b) What is Meta data and why this data is needed? Briefly explain the different types of Meta data. 10
c) Briefly explain external, internal and conceptual schemas 5
- 3.a) Mention the advantages and disadvantages of File Oriented System (FOS) 10
b) What is Data Dictionary? What are the components of Data Dictionary? Explain each of them with example. 10
4. a) Convert the following
I. $(125.35)_{10}$ to octal
II. $(567)_8$ to hexadecimal
III. $(AB5.C4)_{16}$ to binary
IV. $(10010.0110)_2$ to octal 10
b) Design a logic circuit for a two input OR gate using NAND gates only. 5
c) Describe in details the functions of control unit and arithmetic logic unit 5
5. a) Explain the function of the following instructions with examples.
MVI A,32H; SUB B ; RLC ; INR B ; CMP B 10
b) Classify the 8085 microprocessor instructions according to the task to be performed. Give one example for each. 10

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6. a) Name the different types of memory which are available in CPU and briefly describe the functions of each. 10
- b) Realize NOT, OR and AND gates using the NOR gates. 6
- c) Briefly explain the different buses in CPU 4
7. a) Write a program to determine smallest number from stack of 15 numbers stored in the consecutive memory location starting from 2210H. Store the result in the memory location 2150H. Mention the function of each mnemonics. 10
- b) Explain with timing diagram how the following Intel 8085 instruction is executed.
MOV A,B 10
8. Write short notes on **any two** of the following: 10x2=20
- a) Operating system
- b) Clusters and file allocation table (FAT)
- c) BCD number system and ASCII Code