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2017

M.Sc. 3rd Semester Examination

ELECTRONICS

PAPER—ELC-305

(Practical)

Full Marks : 50

Time : 3 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

(Microprocessor Programming)

Answer any *one* question, selecting it by a lucky draw.

1. Write an assembly language program to convent an 8-bit binary number into its equivalent Gray code. The binary number is to be stored in the memory location X200H and the result is to be seen in the memory location X300H. Repeat the experiment with 5 different numbers.

2. Write an assembly language program to convert an 8-bit Gray code into its binary equivalent number. The Gray code is stored in memory address X200H and the result is to be stored in a memory location X300H. Repeat the process for 5 different Gray codes.

3. Write an assembly language program to find the 2's complement of an 8-bit number using the following algorithm:

"Copy all the bits starting from the LSB of the byte up to the first 1 bit of the number and then complement all the bits up to MSB " Repeat this experiment for 5.

4. Write an assembly language program to transfer the bytes from a block a 16 bytes stored from X050H to X05FH, following the condition stalid below.

"The byte should be even but the upper nibble of the byte should be odd. The starting address of the destination should be X300H". Repeat this process for 3 different block a bytes.

5. Write an assembly language program to convert an 8-bit binary number stored in a memory location X500H into its an equivalent BCD number. The memory locations starting from X700H are specified for the result. Repeat the experiment with 5 different numbers.

(Continued)

6. Write an assembly language program to convert a hex number into its ASCII equivalent. The hex number is stored at location X200H and store the result at location X201H. Repeat the process with 5 different data.

7. Three single byte numbers are to be stored in three consecutive memory locations write an assembly language program to find the LCM of the numbers and store the result in a memory address just after the data locations. Repeat the program for 5 different sets q data.

8. Write an assembly language program to find HCF of three 8-bit numbers sotred in three consecutive memory locations. Store the result in a memory address just after the data locations. Repeat the process with 5 different sets of data.

9. Write an assembly language program to calculate the square root of a given real number store the number and FFH if the number is a perfect square. Otherwise an error message FEH, and the result q the perfect square number in the consecutive memory locations.

10. Write an assembly language program to find the HCI of three 8-bit numbers stored in three consecutive memory locations starting from XX50H. Store the result in a memory location XX60. Repeat the process with 5 different sets of data.

(Turn Over)

Distribution of Marks

Flow chart	: 05	Marks
Assembly language program	: 10	Marks
Execution of the program	: 10	Marks
Result	: 05	Marks
Discussion	: 05	Marks
Viva voce	: 10	Marks
Laboratory note book	: 05	Marks
Total	: 50	Marks