S. NO.: 227 BATCH: 2009-18, 2016 Reg. No.:

END OF SEMESTER EXAMINATIONS, APRIL / MAY - 2017
DIGITAL COMPUTER FUNDAMENTALS
SUBJECT CODE : 09UACT04

MAJOR : B.Sc. (CT) **SEMESTER : II**
TIME : 3 HOURS **MAX. MARKS: 75**

SECTION A – (5 X 2 = 10)

Answer ALL the Questions:

1. What is the use of gray code?
2. What is the purpose of BCD adder?
3. Write the function of a decoder.
4. What is meant by Handshaking?
5. List down any four logic micro operations.

SECTION B – (5 X 4 = 20)

Answer ALL the Questions:

6. a) Explain the following with an example.
   i) Hexadecimal to binary conversion
   ii) Binary to Hexadecimal conversion
   iii) Hexadecimal to decimal conversion
   iv) Decimal to Hexadecimal conversion

   (OR)

   b) Explain the fundamentals of number system.

7. a) Write short note on parallel binary adder.

   (OR)

   b) Explain the NAND, NOR and Ex-OR gates with Truth Table.

8. a) Draw and explain the 4-bit register.

   (OR)

   b) Illustrate on Ripple counters.

9. a) Write brief note on Input / output Interface.

   (OR)

   b) What are the types of buses? Explain them.

10. a) Explain the register transfer and micro operations.

    (OR)

    b) Illustrate on various addressing modes used in microprocessor.

SECTION C – (3 X 15 = 45)

Answer any THREE Questions:

11. Draw fundamental blocks of a computer and explain each of them.
12. Discuss the full adder with neat diagram.
13. Describe JK and JK Master – Slave flip flop with its truth table.
14. Briefly explain about asynchronous data transfer.
15. Explain the process of CPU-IOP communication.

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