FACULTY OF SCIENCE

M.Sc. II-Semester (CBCS/NON-CBCS) (New) Examination, May / June 2015
Subject: Physics and Applied Electronics
Paper: V
Electronics – II

Time: 3 hours
Max. Marks: 80

Note: Answer all questions from Part-A and Part-B. Each question carries 4 marks in Part-A and 12 marks in Part-B.

PART – A (8 x 4 = 32 Marks)
(Short Answer Type)

1. Explain the characteristics of ideal operational amplifier.
2. Explain the operation of logarithmic amplifier using Op-Amp.
3. Describe the working of half adder and full adder using truth table and circuit diagram.
4. Explain the race around condition in J-K flipflop.
5. Explain how the Ripple counter can be converted into mod 10 counter.
7. Briefly explain the addressing modes of 8085.
8. Write about the flag registers in 8085 microprocessor.

PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)

9. a) Describe the block diagram of an IC Op-Amp.
   OR
   b) Describe the working of inverting and non-inverting amplifiers.

10. a) Draw the logic diagram of demultiplexer and explain it's working.
    OR
    b) Describe the functioning of RS and JK flip-flops.

11. a) Explain the working of decade counter with suitable diagram.
    OR
    b) Explain the working of R-2R ladder type D/A converter.

12. a) Explain the data transfer and branch instructions with suitable examples in 8085 µP.
    OR
    b) Write the assembly language programme of 8085 µP to perform the addition of two 8-bit numbers.

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