FACULTY OF SCIENCE
M.Sc. II-Semester (CBCS / NON-CBCS) (New) Examination, April / May 2013
Subject: Physics & Applied Electronics
Paper – V (205)
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 (8x4 = 32 Marks)
[Short Answer Type]

1. Distinguish between inverting and non-inverting amplifiers.
2. Describe the working of an integrator and differentiator.
3. Generate a 3 variable and 4 variable Karnaugh maps.
4. Write about encoder and decoder circuits.
5. Define accuracy and resolution of a analog-to-digital converter.
6. Explain the working of a synchronous counter.
7. What happens when HLT instruction is used in 8085? Explain.
8. Write about hardware interrupts of 8085.

PART – B (4x12 = 48 Marks)
[Essay Answer Type]

9.(a) Describe logarithmic and exponential amplifiers.
(b) Using IC 555, describe the design details of Astable multi-vibrators

10.(a) Minimize the Boolean expression
Y = \overline{ABC}D + \overline{ABCD} + \overline{ABCD} + \overline{ABCD}
and implement using NAND gates.
(b) Develop the design logic for a full-adder circuit.

11.(a) Draw the circuit diagram of a 5-bit R-2R ladder network and explain its working.
(b) Describe the designing of a successive approximation method ADC.

12.(a) Explain the architecture of microprocessor 8085.
(b) Explain the instruction set of 8085 microprocessor with suitable example.