

FACULTY OF SCIENCE

M.Sc. II-Semester Examination, May / June 2017

Subject: Physics & Applied Electronics
Paper- IV
Electronics

Time : 3 Hours

Max. Marks: 80

PART – A (8x4=32 Marks)
(Short Answer Type)

1. Draw the Block diagram of regulated Power Supply.
2. Write Barkhausen Criteria, explain with illustrations.
3. Mention characteristics of an Ideal Operational Amplifier.
4. Draw the Basic diagram of R-2R ladder type of D/A converter, mention their merits.
5. Draw the circuit diagram of a Full Adder, and write its the Truth Table.
6. Draw the circuit diagram of a Ring Counter, and its wave forms.
7. Write the evolution of Microprocessors.
8. Mention the Interrupts, with the Priorities.

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

- 9.(a) Explain the working of Hartley Oscillator with neat circuit diagram and derive its Frequency formula.
OR
(b) Explain the Monostable Multivibrator with neat circuit diagram and derive formula for its Time period.
- 10.(a) Draw the internal block diagram of Timer IC 555 and discuss Duty Cycle.
OR
(b) Draw and Explain Counter method of A/D Converter, with neat circuit diagram.
- 11.(a) Explain D and M/S J K flip flops, with logic diagrams and Truth Tables.
OR
(b) Mention the merits and demerits of Serial and Parallel Counters. Draw the circuit diagram of Decade a Counter, with Flip flops, and explain with waveforms and Truth Table.
- 12.(a) Draw the Architecture of 8085 microprocessor, explain each block.
OR
(b) Write the Assembly Language Program for 8-bit subtraction, with its Flow chart and explain the logic.