15074

M.Sc. DEGREE EXAMINATION, NOVEMBER 2016.

FIRST SEMESTER

Physics

Paper IV — ANALOG AND DIGITAL ELECTRONICS

Time : Three hours Maximum : 75 marks

(No additional sheet will be issued)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. What are the Characteristics of UJT?

2. How the FET used as voltage variable register?

3. What is a comparator? Explain its function.

4. Construct the square wave generator and explain its working.

5. What is multiplexer? Explain its working.

6. Explain the working of D Flip Flop.

7. How the control signals are generated in 8085 μP?

8. Write a note on stack and subroutine.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. What is FET? Explain the working of JFET.

Or

10. What are the advantages of FET over BJT? How the FET used as a switch and Amplifier?

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11. What are the inverting and non-inverting amplifiers? Explain their operation.

Or

12. What are the Filters? Explain their functioning.

13. What is a Shift register? Explain the working of serial-in serial-out shift register.

Or

14. Construct the R-2R Ladder D/A converter and explain its working.

15. Describe the 8085 μP architecture.

Or

16. What is a memory? Explain the various types of memories.

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