(b) Write short notes on the following semiconductor memories :

(i) SRAM

(ii) DRAM

(iii) PROM

(iv) EPROM. **8**

Unit III

6. (a) Discuss the construction and working of Parallel in-Parallel out Shift registers. **8**

(b) Draw the block diagram of a 3-bit asynchronous counter and explain its operation. **7**

7. (a) Explain the operation and timing diagram of outputs of a synchronous counter. **9**

(b) Discuss the important applications of Shift Registers. **6**

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18BB1802

M. Sc. EXAMINATION, May 2019

(Second Semester)

(C Scheme) (Main Only)

PHYSICS

PHY504C

Electronics-II

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Q. No. **1** is compulsory. Attempt *Five* questions in all including the compulsory question and select at least *one* question from each Unit. All questions carry equal marks.

1. (a) How the full adder is beneficial over half adder ?

(b) Explain accuracy and resolution of a DAC.

(c) Differentiate between decoder and demultiplexer.

(d) What is meant by up/down counter ?

(e) Why are registers required in microprocessor ? **3×5=15**

Unit I

2. (a) Discuss the circuit diagram and operation of CMOS NAND gate. **6**

(b) Use a Karnaugh map to reduce the given expression to a minimum SOP form :

$$\overline{A}BC + A\overline{B}\overline{C} + ABC + AB\overline{C}$$ **5**

(c) Explain the operation of a Decimal to BCD Encoder. **4**

3. (a) Discuss the circuit diagram, operation and characteristics of DTL Circuit. **7**

(b) Write short notes on the following :

(i) J-K flip-flop

(ii) Multiplexer

(iii) ECL

(iv) TTL. **8**

Unit II

4. (a) Explain CAM and other advanced memories. **7**

(b) Discuss digital ramp analog to digital converter with necessary circuit diagram. **8**

5. (a) Discuss digital to analog conversion technique using resistor ladder network. **7**

Unit IV

8. Describe the pin diagram of 8085 microprocessor. Discuss the working of each unit used in it. **15**

9. (a) Explain internal architecture and working of 8085 microprocessor. **10**

(b) What is the difference between microprocessor and microcontroller ? **5**

Unit IV

8. Describe the pin diagram of 8085 microprocessor. Discuss the working of each unit used in it. **15**

9. (a) Explain internal architecture and working of 8085 microprocessor. **10**

(b) What is the difference between microprocessor and microcontroller ? **5**