S.E. Electronics IV (E)
Digital System Design - II.

Con. 3048-11. **RK-1863**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. 1 is **compulsory**.
(2) Solve any **four** from Q. No. **2** to Q. No. **7**.
(3) Assume **suitable** data if **necessary**.

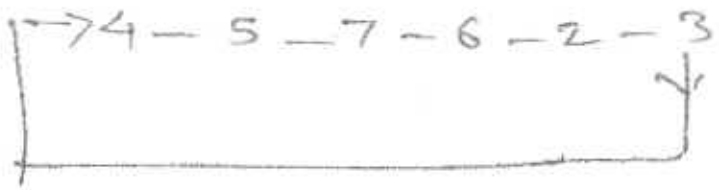
1. (a) Explain basic structure of VHDL file. 20
(b) Compare Moore and Mealy models.
(c) Explain Universal Shift Register for four bits.
(d) Memory Organisation and Operation.

2. (a) Explain VHDL statements. 10
(b) What are modeling styles in VHDL and write code for full adder using component modeling. 10

3. (a) Write VHDL code for multiplexer IC 74151 10
(b) Write a code Behavioral description of simple floating point encoder. 10

4. (a) Explain state reduction and state Assignments techniques. 10
(b) Design sequential circuit for detecting and overlaping sequence 1101 using J.K./F.F. 10

5. (a) Design a asynchronous counter using J.K./F.F. which runs through the sequences. 10



(b) Write VHDL code for two digit BCD counter. 10

6. (a) Explain Internal organization of RAM 10
(b) Explain XC9500 Architecture. 10

7. (a) Explain pulsed mode Asynchronous Circuit. 10
(b) Write short notes on :— 10
(i) Hazards
(ii) Race Condition Stability.