



R22 Regulation

Subject code: 4E3DB

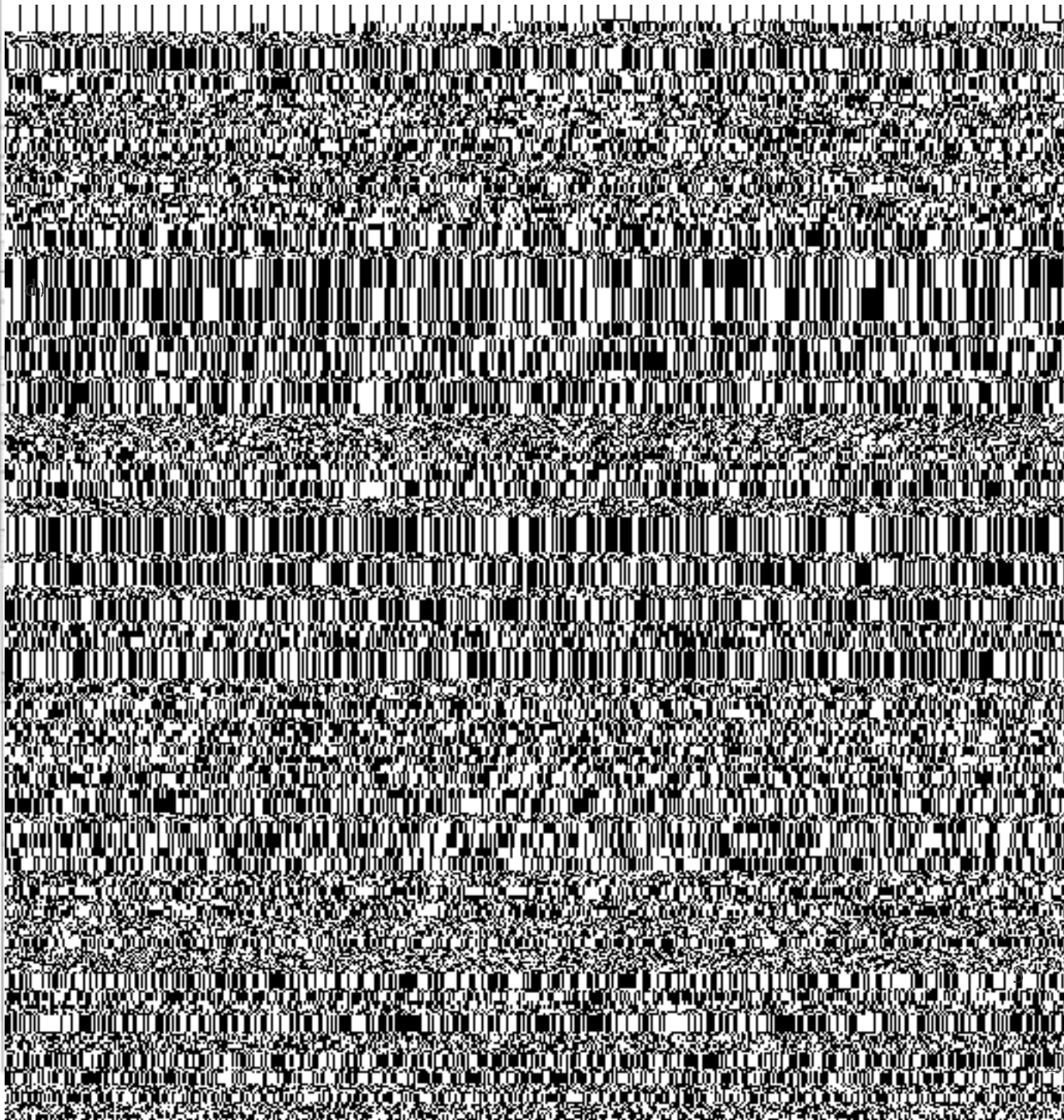
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech III Semester Supplementary Examinations, April 2025

DIGITAL LOGIC DESIGN

(ECE)



6	a) Explain the working and functions of decoders and encoders. Construct 2/4 line decoder with logic gates with enable input. b) Explain the design procedure for multiplexers and de-multiplexers and draw the logic diagram of a 4-to-1 line multiplexer	5M 5M	3	2
	OR			
7	a) Design an half adder using only NAND gates. b) Implement 4*16 decoder using two 3*8 decoders.	5M 5M	3	4
8	a) What is the difference between latch and flip flop? Explain about clocked RS flip flop using NAND gates b) Explain the conversion of RS flip flop to JK flip flop	5M 5M	4	2
	OR			
9	a) Explain Negative Edge JK Flip Flop and draw its truth table. b) Explain the conversion of D flip flop to T flip flop.	5M 5M	4	2
10	a) With a neat diagram explain about 4-bit bidirectional shift register. b) Construct and explain a Johnson counter for ten timing signals	5M 5M	5	4
	OR			
11	a) Design 4-bit shift register using D flip-flops and explain its working with the help of timing diagrams. b) Design a counter with the following repeated binary sequence: 0,1,2,3,4,5,6, using JK flip-flops.	5M 5M	5	4