



INDIAN INSTITUTE OF INFORMATION TECHNOLOGY

UNA (IIT)

An Institute of National Importance under MoI

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AY 2022-23

School of Electronics

Cycle Test – I

19, September, '22

Degree	B. Tech.	Branch	ECE
Semester	V		
Subject Code & Name	ECPE22: Modelling and Testing of Digital Systems (VHDL)		
Time: 60 Minutes	Answer All Questions	Maximum: 20 Marks	

Sl. No.	Question	Marks
1.a	What are sequential and concurrent statements?	1
1.b	Illustrate the different VHDL structural elements.	2
1.c	Write down the truth table and VHDL Code for the J-K flip-flop using behavioral modeling.	2
2.a	State the features of VHDL.	1
2.b	Identify and illustrate digital system design process.	2
2.c	Implement 16 x 1 multiplexer in VHDL using case statement.	2
3.a	Name the abstraction levels.	1
3.b	Illustrate the different data types in VHDL language.	2
3.c	Write down the truth table and VHDL Code for full subtractor using behavioral modeling.	2
4.a	What are the languages that are combined together to get VHDL language?	1
4.b	Illustrate the different data operators in VHDL language.	2
4.c	Write down the truth table and VHDL code for the 8X3 encoder using behavioral modeling.	2

\*\*\*Good Luck\*\*\*