INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
UNA [HP]

An Institute of National Importance under MoE

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Website: www.iiitu.ac.in

School of Electronics
CURRICULUM: IIITUGECE22
Cycle Test - I
September 20, 2022
Time : 9:00 AM to 10:00 AM

Degree	B. Tech.	Branch	ECE
Semester	V		
Subject Code & Name	ECPE32: Embedded Systems		
Time: 60 Minutes	Answer All Questions		Maximum: 20 Marks

Sl. No.	Question	Marks
1.a	Define an embedded system.	1
1.b	Explain the different characteristics of embedded systems in detail.	2
1.c	Explain the components of a typical embedded system in detail.	2
2.a	Classify embedded systems.	1
2.b	Compare RISC and CISC processors.	2
2.c	Explain the significance of the quality attributes Testability and Debug-ability in the embedded system design context.	2
3.a	Illustrate the process of instruction pipe lining.	1
3.b	Interpret various forms of program memory and data memory.	2
3.c	Analyze how RAM location is accessed in direct and indirect addressing mode for PIC microcontroller.	2
4.a	State whether the following instructions are valid or not. Explain the reason. a) ADDLW 256; b) BSF 0x82,7; c) CALL 0x7FF; d) NOP 0x44;	1 (0.25*4)
4.b	Write an assembly program that adds 2 to the contents of locations 0x20-0x2F using indirect addressing.	2
4.c	Analyze various levels of abstraction in the design of embedded system with an example.	2