


[BIT21ES01]

	Pimpri Chinchwad Education Trust's Pimpri Chinchwad College of Engineering An Autonomous Institute (Permanently affiliated to Savitribai Phule Pune University)	SET – II
		SEMESTER- I

Summative Assessment**First Year B. Tech. (Information Technology)****Digital Electronics and Logic Design [ESC]****[BIT21ES01]****(Regulation:2023)****Odd Semester (2024-25)****Total No. of Questions-3****[Time: 1Hr. 00 min.]****Total No. of Printed Pages-01****[Max. Marks: 30]**

PRN

Instructions:**IMP:** Verify that you have received a question paper with correct course, code, branch etc.

- All questions are compulsory.
- Assume suitable data wherever necessary.
- Neat labelled diagrams must be drawn wherever necessary.
- Figure to right indicates full marks.
- Use of a non-programmable calculator is allowed.

		Marks
Q.1	Attempt the following	15
A	Solve the following- a) $(11001.101)_2 - (?)_{10}$ b) $(456)_{10} - (?)_2$ c) $(4D.5)_{16} - (?)_2$ d) Explain types of codes with example in digital electronics.	[7M]
B	i) Convert following equation first into SOP and then into Canonical SOP $F(A, B, C) = (A+BC)(B+\bar{C}A)$ ii) Simplify by K-Map : $F(A,B,C,D) = \sum m(0,2,3,8,10,11,12,14)$	[8M]
Q.2	Attempt the following	7
A	Design the following logic function using 8:1 Multiplexer. $F(A,B,C,D) = \sum m(0, 1, 2, 3, 4, 10, 11, 14, 15)$	[3M]
B	Design the Binary to Gray Code converter using SSI.	[4M]
Q.3	Attempt any one	8
A	How will you convert JK FF to D Flip flop? Demonstrate the working of JK Flip flop.	[8M]
B	Make use of JK FF to design 3-bit Synchronous up counter.	[8M]

****** End of Question Paper******