	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE **Supplementary Summer Examination – 2024** **Course: B.Tech. Branch : E&CE / E&CSE Semester: III** **Subject Code & Name: BTESC305_EC Digital Electronics and Microprocessor** **Max Marks: 60 Date: 09/07/2024 Duration: 3 Hr.**		
	Instructions to the Students: *1. All the questions are compulsory.* *2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.* *3. Use of non-programmable scientific calculators is allowed.* *4. Assume suitable data wherever necessary and mention it clearly.*		
		(Level/CO)	Marks
Q. 1	**Solve Any Two of the following.**		**12**
A)	**i. Perform the Subtraction by using 1's complement method $(1110101)_2$ - $(1111)_2$** **ii. Perform the Subtraction by using 2's complement method $(1101101)_2$ - $(1010)_2$**	Evaluate	**6**
B)	**Explain and prove De Morgan's theorem in Boolean algebra.**	Understanding	**6**
C)	**Conversion of Number System.** **i) Convert 29.37 Decimal to Binary** **ii) Convert 45D2.56 Hexadecimal to Octal** **iii) Convert 6327.405 Octal to Decimal**	Evaluate	**6**
Q.2	**Solve Any Two of the following.**		**12**
A)	**Write short note on.** **i. Parity Generator** **ii. Don't Care Conditions**	Applying	**6**
B)	**Compare Multiplexer and Demultiplexer with neat diagram.**	Analyze	**6**
C)	**Minimize and implement by using Universal gate using K-Maps.** **F (A, B, C, D) = ∑m (1, 2, 6, 7, 8,10,13, 14, 15) + d (0, 3, 5, 12)**	Applying	**6**
Q. 3	**Solve Any Two of the following.**		**12**
A)	**Design Decade ripple counter.**	Create	**6**
B)	**Convert S-R Flip-Flop to J-K Flip-Flop.**	Applying	**6**
C)	**What is shift register? Explain in detail any two applications of shift register.**	Understand	**6**
Q.4	**Solve Any Two of the following.**		**12**

A)	**State and explain with examples the different addressing modes of 8085 microprocessor.**	Analyze	**6**
B)	**What is stack pointer and what is its function?**	Understand	**6**
C)	**Explain Data Transfer Instructions in 8085 microprocessor.**	Analyze	**6**
Q. 5	**Solve Any Two of the following.**		**12**
A)	**Write a short note on Procedure and Subroutine.**	Understand	**6**
B)	**What is assembly language? Explain assembler, compiler and interpreter.**	Understand	**6**
C)	**Explain with example different types of instruction set of 8086**	Analyze	**6**
	***** End *****		