	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE **Supplementary Summer-2023** **Course: B. Tech. Branch: Electronics and Communication Engineering (Sandwich)** **Semester: III Subject Code & Name : Electronic Devices & Circuits (BTEXC303)** **Max Marks: 60 Date: 14/08/2023 Duration: 2:00 To 5:00 PM**		
	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)	**Explain E-MOSFET in detail.**	**C01**	**6**
B)	**Write difference between JFET and MOSFET.**	**C03**	**6**
C)	**Explain Construction and Characteristics of JFET.**	**C03**	**6**
Q.2	**Solve Any Two of the following.**		**12**
A)	**Explain CMOS inverter in detail.**	**C02**	**6**
B)	**Explain types of MOSFET.**	**C01**	**6**
C)	**Explain D-MOSFET transfer characteristics.**	**C03**	**6**
Q.3	**Solve Any Two of the following.**		**12**
A)	**Write classification of power amplifier.**	**CO2**	**6**
B)	**Write advantages of negative feedback in feedback amplifier.**	**CO2**	**6**
C)	**What are the four different types of feedback amplifier? Explain in detail**	**CO1**	**6**
Q.4	**Solve Any Two of the following.**		**12**
A)	**State Barkhausen criterion for sustained oscillation.**	**CO1**	**6**
B)	**Calculate a)operating frequency b) feedback fraction for Hartley oscillator Assume L1=1000uH L2=100uH M=20uH C=20pF**	**C03**	**6**
C)	**In phase shift oscillator R1=R2=R3=1 MΩ C1=C2=C3=68pF at what frequency does the circuit oscillate?**	**C03**	**6**
Q.5	**Solve Any Two of the following.**		**12**
A)	**Draw and Explain IC555 Block diagram.**	**C01**	**6**
B)	**Explain A stable and Monostable multivibrator.**	**CO2**	**6**
C)	**Write short note on "SMPS"**	**C03**	**6**