Enrolment No/Seat No.: _____

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT

(An Autonomous College U/s UGC Act 1956)

B.VOC SEMESTER-I, SEMESTER END EXAMINATION – SUMMER 2025

Subject Code: 1SRE102 **Date: 04-06-2025**

Subject Name: FUNDAMENTAL OF ANALOG ELECTRONICS

Time: 11:00 AM to 01:00 PM **Total Marks: 50**

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Attempt all questions in the question paper.
3. The figures to the right of each question indicate full marks. Make suitable assumptions with proper justification wherever required.
4. Simple, non-programmable scientific calculators are permitted.
5. BL - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A-Application, N-Analyze, E-Evaluate, C-Create), CO - Course Outcomes.

		Marks	BL	CO
Q.1	**Multiple-Choice Questions**	**[05]**		
(a)	What is the primary characteristic of an insulator?	**1**	**R**	**1**
	(i) High electrical conductivity **(ii)** Low electrical conductivity			
	(iii) High thermal conductivity **(iv)** Low thermal conductivity			
(b)	Zener diode is used as	**1**	**U**	**2**
	(i) Voltage regulator **(ii)** Switch			
	(iii) Amplifier **(iv)** Oscillator			
(c)	BJT is	**1**	**U**	**3**
	(i) Voltage controlled device **(ii)** Power controlled device			
	(iii) Current controlled device **(iv)** None of above			
(d)	Input Impedance of JFET is	**1**	**R**	**4**
	(i) Higher than BJT **(ii)** Lower than BJT			
	(iii) Equall to BJT **(iv)** None of above			
(e)	IC 7805 gives	**1**	**A**	**5**
	(i) -5 Volt DC **(ii)** -12 Volt DC			

(iii) +12 Volt DC **(iv)** +5 Volt DC

Q.2	**Attempt Any Three**	**[15]**		
	(a) Explain Conductor, Insulator and Semiconductor material with its example.	**5**	**U**	**1**
	(b) Explain Forward & Reverse biasing of PN junction diode.	**5**	**U**	**1**
	(c) Explain Zener diode with its characteristics.	**5**	**U**	**2**
	(d) Explain seven segment display with its type.	**5**	**A**	**2**
Q.3	**Attempt Any Three**	**[15]**		
	(a) Explain Full wave bridge rectifier with waveforms.	**5**	**A**	**1**
	(b) Define α & β, derive relationship between them.	**5**	**R**	**3**
	(c) Compare CB, CE & CC configurations of Transistor.	**5**	**R**	**3**
	(d) Draw & explain output characteristics of common emitter NPN Transistor.	**5**	**U**	**3**
Q.4	**Attempt Any Three**	**[15]**		
	(a) Differentiate between BJT & FET.	**5**	**R**	**4**
	(b) Explain N Channel MOSFET with necessary Circuit & characteristics.	**5**	**U**	**4**
	(c) Draw & Explain Block diagram of SMPS.	**5**	**R**	**5**
	(d) Explain Working of Voltage regulator IC 7805.	**5**	**A**	**5**

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