Enrolment No/Seat No.: _____

Date: 13-12-2024

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT (An Autonomous College U/s UGC Act 1956)

B. Voc. SEMESTER-I, SEMESTER END EXAMINATION - WINTER 2024

Subject Name: FUNDAMENTAL OF ANALOG ELECTRONICS

Subject Code: 1SRE102

Time: 11:00 AM to 01:00 PM		Total Marks: 50			
Instructions					
1. It is compulsory for students to write Enro	olment No. /Seat No. on the question paper.				
2. Attempt all questions in the question paper.			• . •		
3. The figures to the right of each question instification wherever required	on indicate full marks. Make suitable as	sumption	s with	n propei	
4. Simple, non-programmable scientific calcu	lators are permitted.				
5. BL - Bloom's Taxonomy Levels (R-Reme	mber, U-Understanding, A-Application, N-	Analyze, l	E-Eva	luate, C-	
Create), CO - Course Outcomes.					
		Mark	s BL	СО	
Q.1 Objective-Type Questions		[05]			
(a) In a p-type semiconductor, the majori	ity carriers are	1	R	1	
(i) Electrons	(ii) Holes				
(iii) Protons	(iv) Neutrons				
(b) Which diode is used as voltage regulator		1	U	2	
(i) PN Junction Diode	(ii) LED				
(iii) Zener Diode	(iv) None of Above				
(c) Which configuration of transistor is used as an Amplifier		1	U	3	
(i) Common Emitter	(ii) Common Base				
(iii) Common Collector	(iv) None of Above				
(d) Full form of MOSFET is		1	R	4	
(i) Metal offset semiconductor FET	(ii) Main oxide semiconductor FET				
(iii) Metal oxide sheet FET	(iv) Metal oxide semiconductor FE	Г			
(e) IC 7805 Provides		1	U	5	
(i) +5 Volts	(ii) -5 Volts				
(iii) +/- 5 Volts	(iv) +10 Volts				

Attempt Any Three	[15]		
(a) Explain energy band diagram of Conductor, Insulator and Semiconductor.	5	R	1
(b) Explain half wave rectifier with waveforms.	5	U	1
(c) Explain Zener Diode with its symbol & V-I Characteristics.	5	R	2
(d) Explain Seven Segment Display.	5	R	2
Attempt Any Three	[15]		
(a) Draw symbols of PNP & NPN transistor. Show Biasing of NPN transistor in Active region.	5	U	3
(b) Explain Common Emitter transistor configuration.	5	U	3
(c) Explain voltage divider bias for transistor.	5	R	3
(d) Give Difference between BJT & JFET.	5	U	4
Attempt Any Three	[15]		
(a) Explain N channel JFET with its V-I Characteristics.	5	U	4
(b) Explain N channel E-MOSFET with its V-I Characteristics.		U	4
(c) Write short note on Voltage regulator IC 78xx	5	R	5
(d) Draw & Explain block diagram of SMPS	5	A	5
	Attempt Any Three(a) Explain energy band diagram of Conductor, Insulator and Semiconductor.(b) Explain half wave rectifier with waveforms.(c) Explain Zener Diode with its symbol & V-I Characteristics.(d) Explain Seven Segment Display.Attempt Any Three(a) Draw symbols of PNP & NPN transistor. Show Biasing of NPN transistor in Active region.(b) Explain Common Emitter transistor configuration.(c) Explain voltage divider bias for transistor.(d) Give Difference between BJT & JFET.Attempt Any Three(a) Explain N channel JFET with its V-I Characteristics.(b) Explain N channel IFET with its V-I Characteristics.(c) Write short note on Voltage regulator IC 78xx(d) Draw & Explain block diagram of SMPS	Attempt Any Three[15](a) Explain energy band diagram of Conductor, Insulator and Semiconductor.5(b) Explain half wave rectifier with waveforms.5(c) Explain Zener Diode with its symbol & V-I Characteristics.5(d) Explain Seven Segment Display.5Attempt Any Three[15](a) Draw symbols of PNP & NPN transistor. Show Biasing of NPN transistor in Active region.5(b) Explain Common Emitter transistor configuration.5(c) Explain voltage divider bias for transistor.5(d) Give Difference between BJT & JFET.5Attempt Any Three[15](a) Explain N channel JFET with its V-I Characteristics.5(b) Explain N channel E-MOSFET with its V-I Characteristics.5(c) Write short note on Voltage regulator IC 78xx5(d) Draw & Explain block diagram of SMPS5	Attempt Any Three[15](a) Explain energy band diagram of Conductor, Insulator and Semiconductor.5R(b) Explain half wave rectifier with waveforms.5R(c) Explain Zener Diode with its symbol & V-I Characteristics.5R(d) Explain Seven Segment Display.5RAttempt Any Three[15](a) Draw symbols of PNP & NPN transistor. Show Biasing of NPN transistor in Active region.5U(b) Explain Common Emitter transistor configuration.5R(c) Explain voltage divider bias for transistor.5U(d) Give Difference between BJT & JFET.5U(a) Explain N channel JFET with its V-I Characteristics.5U(b) Explain N channel JFET with its V-I Characteristics.5U(c) Write short note on Voltage regulator IC 78xx5R(d) Draw & Explain block diagram of SMPS5A
