

## B.Sc. Sem-I Examination

## CC 3 Paper-101

## Electronics

July 2021

Time : 2-00 Hours]

[Max. Marks : 50

Instructions:		
1) All questions in <b>section I</b> carry equal marks. 2) Attempt any <b>THREE Questions</b> in <b>Section -I</b> 3) Question <b>-IX</b> in <b>section -II</b> is compulsory		
Section -I		
Q-I (A)	Why we used resistor in electronics circuit? Explain various types of fixed resistor.	07
(B)	Draw the Family tree of the Capacitor and Explain fixed and variable capacitor in detail	07
Q-II(A)	Briefly Explain (1) Switches (2) Relay	07
(B)	Explain DC ammeter with circuit diagram in detail	07
Q-III(A)	Explain Positive and Negative clipper circuit in detail with suitable figure.	07
(B)	Discuss working of Clamping circuit with suitable circuit diagram	07
Q-IV(A)	Write short notes on voltage Doubler	07
(B)	Briefly explain (1) LED (2) Photo Diode	07
Q-V(A)	Discuss concept of an amplifier and Explain (1) Voltage gain (2) Current gain(3) Power gain	07
(B)	What is harmonic distortion? Discuss three point method of calculating harmonic distortion.	07
Q-VI(A)	Explain term "Decibels" and derive the necessary equation for decibel computation	07
(B)	Explain use of a voltmeter as decibel indicator and also discuss voltmeter range correction factors.	07
Q-VII(A)	What is number system ? Explain Binary and Octal number system with suitable two examples	07
(B)	Explain (1) Gray Code (2) Excess-3 code with suitable example	07
Q-VIII(A)	What is 1's Complement? Explain binary subtraction with help of 2's complement with at least one example.	07
(B)	Convert (1) $(256)_{10}$ to Binary (2) $(0.58)_{10}$ to Binary (3) $(111.111)_2$ to Decimal (4) $(888)_{10}$ to Octal (5) $(0.1376)_8$ to Decimal (6) $(1234)_{10}$ to Hexadecimal (7) $(90BF)_{16}$ to Binary	07
Section -II		
Q-IX	Attempt any eight	08
(A)	Colour Code of $47K\Omega \pm 5\%$ resistor is _____	
(B)	Resistor mainly Classified into two types _____ and _____	
(C)	Full form of PCB= _____	
(D)	Full Form of SPDT switch is _____	
(E)	Full form of LED = _____	

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(F)	Full form of LASER=	
(G)	_____ semiconductor material produce Blue light in LED	
(H)	The combination of a biased _____ clipper and biased _____ clipper is called Combinational Clipper	
(I)	In amplifier notation $V_s$ =	
(J)	The ratio of power delivered to the load to power delivered to the amplifier is _____	
(K)	Equation for Number of decibels =	
(L)	Amplifier band width $\Delta f$ =	
(M)	Conversion $(5555)_{10}$ to Binary =	
(N)	Conversion of $(101011)_2$ to gray code is =	
(O)	Encode excess-3 code value of 999 decimal number is =	
(P)	$A+1$ = _____ in OR operation	