NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute)
Affiliated to Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow
B.Tech
FIRST YEAR (SEMESTER-II) THEORY EXAMINATION   (2020-2021)
(Subjective Type)

Subject Code: ACSBS0202   **Max. Mks. : 20**
Subject: Principles of Electronics   **Time   : 50 Minutes**

General Instructions:

All questions are compulsory.

Question No. 1 to 15 are subjective type question carrying 2 marks each. Attempt any 10 out of 15 questions.

Q.No	Question Content	Question Image	Category	Sub Category	Marks	Options Randomization	Type	Difficulty
1	Why intrinsic semiconductors behave like insulators at low temperature?		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
2	Define the term : Diffusion current and Drift current		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Smart
3	Define recombination with reference to semiconductor.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Smart
4	Draw full wave rectifier circuit with center tapped transformer. Draw the waveforms also.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
5	Compare Zener and Avalanche breakdowns.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
6	Explain transition capacitance with reference to p-n junction diode.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
7	Define stability factor of biasing circuit.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
8	Derive expression $\alpha = \beta/\beta+1$ in reference to BJT .		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
9	A common emitter transistor amplifier has a gain of 150.The output voltage is measured as 2V, Calculate the input voltage .		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant

Q.No	Question Content	Question Image	Category	Sub Category	Marks	Options Randomization	Type	Difficulty
10	Compare JFET and DMOSFET.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Smart
11	How many NOT gates are required for the construction of a 4-to-1 multiplexer? Draw the appropriate circuit of 4-to-1 multiplexer.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Smart
12	A certain JFET data sheet gives VGS(off) = -4 V. What will be the pinch off voltage?		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
13	Explain the concept of virtual ground and virtual short.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant
14	What are the characteristics of Ideal OP-AMP?		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Smart
15	Write down the features of voltage follower circuit.		Attempt any 10 questions	10 X 2 = 20	2		Subjective	Brilliant