

**D.N.R COLLEGE OF ENGINEERING & TECHNOLOGY**  
**Department of Electronics and Communication Engineering**  
**Academic Year: 2019- 2020 (Odd Semester)**  
**Innovative Teaching Method**

**B-Tech, Semester& Branch:** II/ II Semester ECE

**Title:** Pulse And Digital Circuits

**Name of the Faculty member:** K.S.Satish Kumar

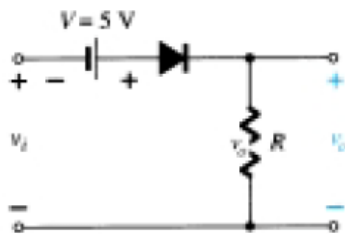
**Name of the Topic:** Diode clippers

**Name of the Innovative Practice:** Discussed GATE related questions

**Date& Duration:**10.02.2020 &50 Minutes

**Previous Gate Question on Diode Clippers:**

1. What is the circuit in the given diagram called?

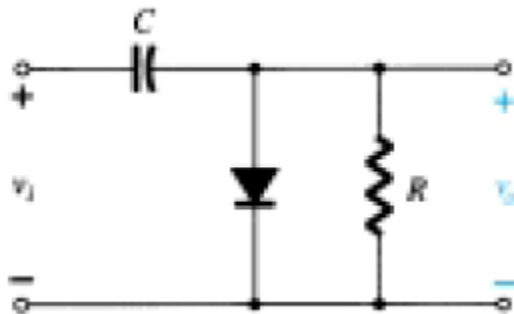


- a) Clipper
- b) Clamper
- c) Half wave rectifier
- d) Full wave rectifier

Answer: a

Explanation: The circuit given above is a clipper. The diode conducts when it is forward biased, i.e, whenever the input  $v_i$  is greater than 5V (for ideal diode). For lower voltages, the diode does not conduct and the output is zero.

2. What is the circuit in the given diagram called?

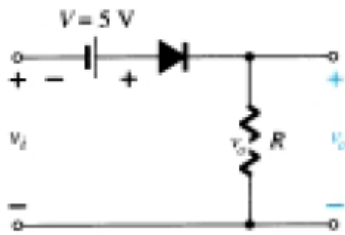


- a) Clipper
- b) Clamper
- c) Half wave rectifier
- d) Full wave rectifier

Answer: b

Explanation: During the positive half cycle, the diode is forward biased and no signal appears across the output. The capacitor holds the charge in that state. During negative cycle, diode is reverse biased and diode does not conduct. The charge in capacitor is released and is obtained at the output.

3. For the given circuit for a  $20\text{ V}_{\text{peak}}$  sinusoidal input  $v_i$ , what is the value of  $v_i$  at which the clipping begins?

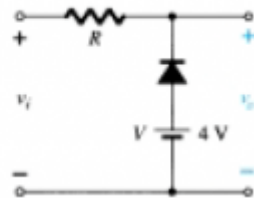
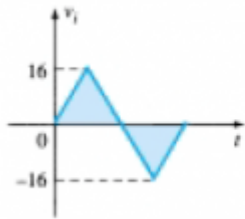


- a) 5 V
- b) 0 V
- c) -5 V
- d) Clipping doesn't occur

Answer: c

Explanation: Considering the connection of diode, it is evident that the diode becomes reverse biased when  $v_i < -5\text{ V}$ . Hence, clipping starts at  $-5\text{ V}$ .

4. For the given input waveform to the given circuit, what is the minimum value of the output waveform?



- a) 4 V
- b) 16 V
- c) 12 V
- d) 0 V

Answer: a

Explanation: The circuit above is a parallel clipper. When the input is less than  $4\text{V}$ , then diode is forward biased and thus output voltage is  $4\text{V}$ . When input increases above  $4\text{V}$ , the diode is reverse biased and output is equal to the input. Hence, minimum output is  $4\text{V}$ .

**D.N.R COLLEGE OF ENGINEERING & TECHNOLOGY**  
**Department of Electronics and Communication Engineering**  
**Academic Year: 2019- 2020 (Even Semester)**  
**Innovative Teaching Method**

**B-Tech, Semester& Branch:** II/ II Semester ECE

**Title:** Electronic Measurements And Instrumentation

**Name of the Faculty member:** K.S.Satish Kumar

**Name of the Topic:** Random noise

**Name of the Innovative Practice:** Flipped Classroom

**Date& Duration:**17.03.2020 &30 Minutes

**Description:**

A flipped classroom is an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It moves activities, including those that may have traditionally been considered homework, into the classroom.

**Goals (Learning Outcomes):**

The students will be able to understand the concepts of SONET/SDH and its frame structure and its usage in practical applications.

**Use of appropriate methods:**

**Justification for choosing the topic using flipped class room activity:**

The students were given assignment on the particular topic some few days back and they were asked to discuss the same topic inside the class room. They could be able to deliver more concepts. Since the assignment was given some days back, they got time to prepare and discuss efficiently in the class room.

**REFERENCES :**

1. Electronic Instrumentation & Measurements - David A. Bell, PHI, 2nd Edition, 2003.
2. Electronic Test Instruments, Analog and Digital Measurements - Robert A.Witte, Pearson Education, 2nd Ed., 2004.
3. Electronic Measurements & Instrumentations by K. Lal Kishore, Pearson Education - 2005.