

Physics - 12th Class Physics Chapter 7 Short Questions Preparation

Q1. How is the XOR gate so called?

Ans 1: One of its most commonly used applications is as a basic logic comparator which produce a logic "1" output when its two inputs bits are not equal. Because of the ,the XOR gate has an inequality status being known as an odd functions.

Q2. What is photodiode? Write down its two main applications.

Ans 1: Photodiode is used for the detection of light. It is used in reverse biased state. Reverse current increase with the intensity of incident light. When no light incidents then reverse current will be negligible. It is used as

1. Detection of both visible and and invisible radiations
2. Automatic switching

Q3. Define Open Loop gain of operational amplifier.

Ans 1: The ratio of output voltage to voltage difference between non -inverting and inverting inputs ,when there is no external connection between the input and output is called open loop gain of operational amplifier.

Q4. What is principle of virtual ground?

Ans 1: In an operational amplifier ,if the non inverting terminal is grounded by the concept of virtual ground the inverting terminal is also at ground potential though there is no physical connection between the inverting terminal and the ground, This is the principle of virtual ground.

Q5. Why the biasing requirement of the junction of a transistor for its normal operation?

Ans 1: For the normal operation the base emitter junction of transistor is forward biased and collector base junction is reverse biased.

Q6. Explain why an ordinary Silicon diode does not emit light.

Ans 1: Ordinary silicon is opaque to light, So it does not emit visible light. It emits infrared light. To emit light ,gallium arsenide or gallium arsenide photodiode are used as semiconductor.

Q7. Why is the photodiode operated in reverse biased state?

Ans 1: Photodiode is used for the detection of light. So it is used in reverse biased state. Reverse current increase with the intensity of incident light. When no light incidents, then reverse current will be negligible.

Q8. What is AND Gate?

Ans 1: It is a logic gate that implements the truth table of AND operations. It has two or more input and single output.

Q9. What is semiconductor diode?

Ans 1: p-n junction is called semiconductor diode.

Q10. Give any two characteristics of operational amplifier.

Ans 1: Input Resistance: It is the resistance between the + and - input of the amplifier, whose value is of the order of several mega ohms.
Output resistance: It is the resistance between the output terminal and ground. Its value is only a few ohms.
