

QP Code: D141275		Total Pages: 1	Name: 761763
		Register No.	
SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2026			
APPLIED PHYSICS / PHYSICS			
APH2CJ101 / PHY2CJ101: Electronics I			
2024 Admission onwards			
Maximum Time :2 Hours		Maximum Marks :70	
Section A			
All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)			
1	What do you understand by extrinsic and intrinsic semiconductors?		
2	What are the limitations in the operating conditions of PN junction?		
3	What are the different types of filter circuits used in rectifiers?		
4	Define ripple factor? What is its value in the case of a full wave rectifier?		
5	What do you mean by knee voltage?		
6	Which are the most commonly used semiconductors and why?		
7	What is a LED?		
8	What are the specialties of a Zener diode?		
9	Differentiate between Analog and Digital Signals ?		
10	Explain BCD ?		
Section B			
All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)			
11	A half wave rectifier uses a transformer of a turn ratio 6:1. The load resistance is 800 Ω . If the primary voltage in rms is 240 V, find the DC output voltage and peak inverse voltage ?		
12	With a neat circuit diagram, Draw the input and output characteristics of a BJT in CE configuration		
13	Calculate the peak voltage across each half of a center-tapped transformer used in a full wave rectifier that has an average output voltage of 110 V ?		
14	Define β and derive a relation between α and β ?		
15	Explain the meaning of faithful amplification with necessary diagrams?		
16	(i)Convert $(25)_{10}$ to Binary (ii)Convert $(45)_{10}$ to Binary (iii)Convert $(2A)_{16}$ to Decimal (iv) Convert $(3F7)_{16}$ to Decimal		
17	Draw the circuit diagram of a voltage doubler and explain the working ?		
18	In a common base connection, the current amplification factor is 0.9. if the emitter current is 1mA, find the value of the base current. ?		
Section C			
Answer any ONE . Each Question carries 10 marks (1x10=10 Marks)			
19	Draw neat sketches of a half wave and a full wave rectifier and explain working?		
20	What do you mean by biasing of a transistor ? Describe any two methods for transistor biasing ?		