

**LAGOS CITY POLYTECHNIC, IKEJA**  
**SCHOOL OF ENGINEERING AND APPLIED SCIENCE**  
**DEPARTMENT OF ELECT/ELECT COMPUTER ENGINEERING**  
**2015/2016 SEMESTER EXAMINATION**

<b>COURSE TITLE:</b>	ELECTRONICS II	<b>NO OF QUESTIONS :</b>	6
<b>COURSE CODE:</b>	EEC 234	<b>TIME ALLOWED:</b>	2HRS
<b>FOR WHOM:</b>	ND YR II EE, CE	<b>INSTRUCTIONS:</b>	ANSWER ANY

**FOUR**

**QUESTIONS**

1. (a) With the aid of appropriate circuit diagram explain the output characteristics of Field Effect Transistor (FET) electronic device.  
 (b) Distinguish between Active electronic device and passive device.  
 (b) Explain how to measure AC voltage and D. C voltage.
2. (a) Mention and explain 4 application of FET  
 (b) Differentiate between a BJT and FET device  
 (c) Explain with diagram biasing procedure for a rectifier diode.
3. (a) With and of diagram, draw 3 circuit configurations for Transistor amplifier.  
 (b) Explain how a FET can be used as Amplifier  
 (c) Explain biasing procedures for PNP transistor using appropriate block diagram.
4. (a) Using schematic symbolic diagram representation differentiate between the following:
  - (i) Rectifier diode and zener diode
  - (ii) Fix value resistor and variable value resistor
  - (iii) NPN transistor and PNP transistor
  - (iv) N-channel FET and p-channel FET
 (b) Design a 15v DC power supply to power a public Address system (PAS)
5. (a) Explain how common Emitter (CE) transistor circuit configuration can be used as amplifier  
 (b) Mention and define types of Amplifier circuit gains  
 (c) Describe an electronic Oscillator and give example.
6. (a) Distinguish between voltage controlled device (VCD) and current controlled device (CCD)  
 (b) Differentiate between Analog System and Digital System.  
 (c) Given  $I_{DSS} = 32\text{mA}$ ,  $V_{GS}(\text{off}) = 8\text{v}$ ,  $V_{GS} = 4.5\text{V}$ . Parameters of a FET device. Calculate the drain current ( $I_D$ )  
 (d) Mention and explain 6 applications of an oscillator  
 (e) Explain reason why crystal oscillator is widely used in electronic communication systems.