LAGOS CITY POLYTECHNIC, IKEJA

SCHOOL OF ENGINEERING AND APPLIED SCIENCE

DEPARTMENT OF ELECT/ELECT AND COMPUTER ENGINEERING

2018/2019 SEMESTER EXAMINATION

COURSE TITLE: ANALOGUE ELECTRONICS III NO OF QUESTIONS : 6
COURSE CODE: EEC 315/EEE 314 TIME ALLOWED: 2HRS
FOR WHOM: HN YR I CE, EE PT INSTRUCTIONS: ANSWER FOUR ANY QUESTIONS.

1. (a) Compare Class A, B and C amplifiers
   (b) Differentiate between Amplifier and Oscillator
2. (a) Complete the table below:

Devices	Symbols	No of Terminals	No of Layers	Application
(i) FET				
(ii) BJT				
(iii) SCR				
(iv) Thermistor				
(v) DIAC				

   (b) Explain the term thermal runaway
3. (a) A transistor used in CE arrangement has the following set of h parameters when the d.c operating poingt is V_{CE} =10volts and I_c = 1mA = h_{ie} = 2000Ω; h_{oe} = 10^{-4}mho; $h_{re} = 10^{-3}$, h_{fe} = 50.
   Determine :
   (i) input impedance
   (ii) current gain
   (iii) voltage gain
   If the load seen by the transistor is r_L = 600Ω. What will be approximate values using reasonable approximations.
4. (a) What do you understand by Optoisolator?
   (b) Give two(2) examples of photo devices and draw their symbols, starting also their application
   (c) State two(2) applications of UJT (unijunction transistor).
5. (a) A JFET has drain current of 5mA.
   If I_{DSS} = 10 mA and $V_{GS(off)}$ = 6v, find the values of:
   (i) $V_{GS} = V_p$
   (b) What are the limitation of class C amplifier
6. (a) What will be the value of drain current (I_D) if in a JFET, I_{DSS} = 32 mA; $V_{GS(off)}$ = -8V and V_{GS} = -4.5V.
   (b) Differentiate between Inverter and Oscillator
   (c) State three(3) characteristics of Semiconductors.