FEDERAL UNIVERSITY OF TECHNOLOGY OWERRI.
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
HARMATTAN SEMESTER EXAMINATION 2019/2020 SESSION
ECE 505 – ELECTRONICS AND COMPUTER ENGINEERING LABORATORY
INSTRUCTION: ANSWER SECTION A AND ANY OTHER THREE. TIME ALLOWED: 2 HRS

SECTION A

1. As a computer boots, it checks its own critical components [A] True [B] false
2. RAM is not highly sensitive to Electrostatic discharge [A] True [B] false
3. Optical drives are accessed from the front of the case [A] True [B] false
4. Due to their cooling systems, modern video cards take [A] more space [B] less space inside the case. Therefore we should be very careful during installation process.
5. Motherboards also relay power to components and adapter cards. [A] True [B] false
6. Some internal drives accept different power connectors for compatibility [A] True [B] false
7. The front panel cables that must be connected to the motherboard include all but one: power button, reset button. cooling systems, status LEDs and the speakers: .....
8. All motherboards need a firmware to operate. [A] True [B] false
9. All but one are examples of adapter cards: video, Ethernet and wireless network, sound, TV tuner, video capture Optical drives: .....
10. Examining the computer on a regular schedule is a good corrective maintenance practice [A] True [B] false

SECTION B

QUESTION 1.

(a) Write on Industrial and Engineering design as dimensions of electronic product design. [4 marks]
(b) List the six major levels in process design [6 marks]
(c) What is CAD? [2 Marks]
(d) Differentiate between CAD and CAM [8 Marks]

QUESTION 2

(a) For a TCP/IP model, match the port numbers to the application it supports assuming reliable connections

Port Numbers	Application
21	
25	
80	
110	
443	

(b) Explain the following;
   i. Network
   ii. DNS
   iii. Ipv4 address
   iv. Packet
   v. WAN
   vi. LAN

QUESTION 3

(a) Define protocols and compare the OSI model to the TCP/IP Model structure.
(b) what are the network address, broadcast address and valid host addresses for the following IP addresses
   i. 192.168.20.67/27
   ii. 10.0.0.6/16
   3. A Class C network has an ip address of 204.15.5.0. Subnet the network in order to accommodate 28 hos and 5 subnets. What is the new subnet mask and describe the subnetting process?

QUESTION 4

(a) mention the 3 types of electronic boards
(b) Define PCB and list the 3 types of PCB?
(c) What are the steps involved in PCB design.
(d) List the Fabrication processes of PCB.