Quiz 7
Deadline: June 8, 2020.

Part 1: Circle the right answers

1. The MOSFET combines the areas of
a) field effect & MOS technology
b) semiconductor & TTL
c) mos technology & CMOS technology
d) none of the mentioned

2. Which of the following terminals does not belong to the MOSFET?
a) Drain
b) Gate
c) Base
d) Source

3. Choose the correct statement
a) MOSFET is a uncontrolled device
b) MOSFET is a voltage controlled device
c) MOSFET is a current controlled device
d) MOSFET is a temperature controlled device

4. Choose the correct statement(s)
i) The gate circuit impedance of MOSFET is higher than that of a BJT
ii) The gate circuit impedance of MOSFET is lower than that of a BJT
iii) The MOSFET has higher switching losses than that of a BJT
iv) The MOSFET has lower switching losses than that of a BJT
a) Both i & ii
b) Both ii & iv
c) Both i & iv
d) Only ii

5. Choose the correct statement
a) MOSFET is a unipolar, voltage controlled, two terminal device
b) MOSFET is a bipolar, current controlled, three terminal device
c) MOSFET is a unipolar, voltage controlled, three terminal device
d) MOSFET is a bipolar, current controlled, two terminal device

6. The controlling parameter in MOSFET is
a) Vds
b) Ig
c) Vgs
d) Is

7. In the transfer characteristics of a MOSFET, the threshold voltage is the measure of the
a) minimum voltage to induce a n-channel/p-channel for conduction
b) minimum voltage till which temperature is constant
c) minimum voltage to turn off the device
d) none of the above mentioned is true

Part 2:

8. Find the ratio W/L of a MOSFET N-channel if $\mu_n C_{ox} = 0.2mA/V^2$, effective voltage = 1V and drain current in saturation mode of 0.1mA.

9. The parameters of a MOSFET N-channel are W/L = 2, $\mu_n C_{ox} = 0.1mA/V^2$ and $V_t = 1.5V$. Determine V_{GS} to create the drain current in saturation mode of 1mA.