Started on	Friday, 20 October 2017, 10:26 PM
State	Finished
Completed on	Friday, 20 October 2017, 10:36 PM
Time taken	10 mins 20 secs
Grade	**10.0** out of 10.0 (**100**%)

Question 1

Correct

Mark 2.0 out of 2.0

Which of the following is true for a PMOS FET?

Select one:

- a. The channel is formed by attracting electrons to the surface
- b. All of these
- c. The drain and source are doped P+ ✓
- d. The body is doped P-
- e. The threshold voltage is positive

The correct answer is: The drain and source are doped P+

Correct

Marks for this submission: 2.0/2.0.

Question 2

Correct

Mark 2.0 out of 2.0

When Vgs > Vt for an NMOS FET the silicon surface directly beneath the gate oxide changes from p-type to n-type as electrons are attracted to the surface.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 2.0/2.0.

Question 3

Correct

Mark 2.0 out of 2.0

If a MOSFET with W = 11.6 µm and L = 3.2 µm is biased in triode, what is the gate-to-source capacitance, Cgs, in femtofarads? Assume the gate dielectric is silicon dioxide with tox = 90.5 angstroms.

Answer: 70.84 ✓

The correct answer is: 70.8

Correct

Marks for this submission: 2.0/2.0.

Question 4

Correct

Mark 2.0 out of 2.0

As |Vds| is increased above |Vgs| – |Vt| for a saturated PMOS FET :

Select one:

- a. The depletion region around the drain gets narrower
- b. None of these
- c. The voltage across the channel increases
- d. The channel becomes “pinched-off” near the source
- e. The capacitance of the drain PN junction gets smaller ✓

The correct answer is: The capacitance of the drain PN junction gets smaller

Correct

Marks for this submission: 2.0/2.0.

Question 5

Correct

Mark 2.0 out of 2.0

The triode region of operation for a MOSFET is when |Vgs| > |Vt| so that the FET is turned on, and |Vds| < |Vgs| - |Vt| so that the channel connects the drain and the source.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 2.0/2.0.