MOSFET Amplifiers

1. In case of Enhancement n-channel MOSFETs
   a. $V_{GS}$ has positive polarity and $V_{DS}$ has negative polarity.
   b. $V_{GS}$ & $V_{DS}$ have positive polarity.
   c. Both $V_{GS}$ and $V_{DS}$ have negative polarity.
   d. $V_{GS}$ has negative polarity and $V_{DS}$ has positive polarity.

2. Which of the following semiconductor device is most insensitive to temperature effects.
   a. BJT
   b. JFET
   c. MOSFET
   d. None of above

3. In Enhancement n-channel MOSFET, an induced n type channel can be produced between the source and the drain if
   a. $V_{GS} = 0$
   b. $V_{GS}$ is positive
   c. $V_{GS}$ is negative
   d. None of these

4. The threshold voltage of an n-channel enhancement mode MOSFET is 0.5V when the device is biased at gate voltage of 3V, pinch off would occur at the drain voltage of
   a. 1.5V
   b. 2.5V
   c. 3.5V
   d. 4.5V

5. The term $I_{DSS}$ is not used in
   a. D-MOSFET
   b. E-MOSFET
   c. JFET
   d. BJT

6. The expression $I_D = K\left[V_{GS} - V_{GS(th)}\right]^2$ can be used only for
   a. BJT
   b. E-MOSFET
   c. D-MOSFET
   d. JFET

7. The polarity of $V_{GS}$ for E only MOSFET is
   a. Positive
   b. Negative
   c. Zero
   d. Depends on P or N channel
8. Self-bias cannot be used in
   a. BJT circuits
   b. JFET biasing
   c. E-MOSFET
   d. Depletion mode operation

9. Input impedance of MOSFET is
   a. Less than FET but more than BJT
   b. More than BJT and FET
   c. More than FET but less than BJT
   d. Less than that of FET and BJT

10. A D-MOSFET can operate in the
    a. Depletion mode only
    b. Enhancement mode only
    c. Depletion mode or enhancement mode
    d. Low impedance mode

11. When an n-channel D-MOSFET has $I_D > I_{DSS}$ it
    a. Will be destroyed
    b. Is operating in depletion mode
    c. Is forward biased
    d. Is operating in the enhancement mode

12. Which of the following device has revolutionized the computer industry
    a. JFET
    b. D-MOSFET
    c. E-MOSFET
    d. Power FET

13. A MOSFET differs from JFET mainly because
    a. of power rating
    b. the MOSFET has two gates
    c. the JFET has a p-n junction
    d. none of the above

14. A certain p-channel E-MOSFET has $V_{GS(th)} = -2V$. If $V_{GS} = 0V$, the drain current is
    a. 0 mA
    b. $I_{D(on)}$
    c. Maximum
    d. $I_{DSS}$
15. The $V_{GS(on)}$ of an N channel E-MOSFET is
   a. Less than threshold voltage
   b. Equal to gate source cutoff voltage
   c. Greater than $V_{DS(on)}$
   d. Greater than $V_{GS(th)}$

16. An E-MOSFET that operates at the cutoff or in the ohmic region is an example of
   a. Current source
   b. An active load
   c. A passive load
   d. A switching device

17. C-MOS stands for
   a. Common MOS
   b. Active load switching
   c. P channel and n channel devices
   d. Complementary MOS

18. The main advantage of C-MOS is its
   a. High power rating
   b. Small signal operation
   c. Switching capability
   d. Low power consumption

Answers
1. (b)  2. (b)  3. (b)  4. (b)  
5. (b)  6. (b)  7. (d)  8. (c)  
9. (b)  10. (c)  11. (d)  12. (c)  
13. (c)  14. (a)  15. (d)  16. (d)  
17. (d)  18. (d)