METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR

(MOSFET)

1. Input impedance of MOSSFET is
   a. less than of FET but more than BJT
   b. more than that of FET and BJT
   c. more than that of FET but less than BJT
   d. less than that of FET and BJT

2. MOSFET uses the electric field of
   a. gate capacitance to control the channel current
   b. barrier potential of p-n junction to control the channel current
   c. both a and b
   d. none of these

3. In MOSFET devices the N-channel type is better the P-channel type in the following respects
   a. it has better noise immunity
   b. it is faster
   c. it is TTL compatible
   d. it has better drive capability

   [GATE-1988]

4. In a MOSFET, the polarity of the inversion layer is the same as that of the
   a. charge on the gate electrode
   b. minority carriers in the drain
   c. majority carries in the substrate
   d. majority carries in the source

   [GATE-1989]

5. IGFET is a
   a. Square-law device
   b. Half-power device
   c. 3/2 power-low device
   d. Linear device

6. A depletion MOSFET differs from a JFET in the sense that it has no
   a. channel
   b. gate
   c. P-N junction
   d. Substrate

7. The extremely high input impedance of a MOSFET is primarily due to the
   a. absence of its channel
   b. negative gate-source voltage
   c. depletion of current carriers
   d. extremely small leakage current of its gate capacitor

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

9. CMOS stands for
   a. Common MOS
   b. Active-load switching
   c. p-channel and n-channel devices
   d. complementary MOS

10. A D-MOSFET is considered to be a
    a. Normally off device
    b. Normally on device
    c. Current controlled device
    d. High-power switch

11. CMOS devices use
    a. Bipolar transistors
    b. Complementary E-MOSFETs
    c. Class A operation
    d. DMOS devices

12. Most small-signal E-MOSFETs are found in
    a. Heavy-current applications
    b. Discrete circuits
    c. Disk drives
    d. Integrated circuit

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

14. The main factor which makes a MOSFET likely to breakdown during the normal handling
    a. very low gate capacitance
    b. high leakage current

    c.   high input resistance   d.   both (a) and (c)

15. In an E only MOSFET, drain current starts only when V_{GS} (th) is
    a.   positive   c.   zero
    b.   negative   d.   greater than V_{GS} (th)

16. The transit time of the current carriers through the channel of a JFET decides it's ………..
characteristics
    a.   source   c.   GATE
    b.   drain   d.   source and drain

[GATE-1994]

17. channel current is reduces on application of a more positive voltage to the GATE of the depletion mode n-channel MOSFET (true/false)

[GATE-1994]

18. Which of the following effects can be caused by a rise in temperature
    a.   Increase in MOSFET current (I_{DS})
    b.   Increase in BJT current (I_C)
    c.   Decrease in MOSFET current (I_{DS})
    d.   Decrease in BJT current (I_C)

[GATE-1990]

Answers

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