(c) BJT BIASING AND STABILIZATION

1. The dc load line of transistor circuit
    (a) is a graph between I_C and V_{CE}
    (b) is a graph between I_C and I_B
    (c) does not contain the Q Point
    (d) is a curved line

2. The ac load line of a transistor circuit is steeper than its dc line because
    (a) ac signal sees less load resistance
    (b) I_C is higher
    (c) input signal varies in magnitude
    (d) none of the above

3. The maximum peak to peak output voltage swing is obtained when Q point of a circuit is located
    (a) near saturation point
    (b) near cutoff point
    (c) at the center of the load line
    (d) atleast on the load line

4. The positive part of the output signal in a transistor circuit starts clipping, if Q point of the circuit moves
    (a) toward the saturation point
    (b) toward the cutoff point
    (c) toward the center of the load line
    (d) none of the above

5. The negative part of the output signal in a transistor circuit starts clipping if the Q point of the circuit moves
    (a) toward the saturation point
    (b) toward the cutoff point
    (c) toward the center of the load line
    (d) none of the above

6. The Q-point in a voltage amplifier is selected in the middle of the active region because
    (a) it gives better stability
    (b) the circuit needs a small
    (c) the biasing circuit then need less number of resistors
    (d) it gives distortions less output

7. The biasing circuit that gives best stability to Q point is
    (a) base resistance biasing
    (b) feedback resistor biasing

(c) potential divider biasing   (d) emitter resistor biasing

8. The potential divider biasing is used in amplifiers to
    (a) limit the input ac signal going to the base
    (b) reduce dc base current
    (c) reduce the cost of the circuit by limiting the number of resistors
    (d) make the operating point almost independent of β

9. The ideal value of stability factor of a biasing circuit is
    (a) 1   (c) 10
    (b) 5   (d) 100

10. The universal bias stabilization circuit is the most popular because
    (a) I_C does not depend on transistor characteristic
    (b) its β sensitivity is low
    (c) voltage divider is heavily loaded by transistor base
    (d) I_C equals to I_E

11. Improper biasing of the transistor circuit leads to
    (a) excessive heat production at collector terminal
    (b) distortion in output signal
    (c) faulty location of load line
    (d) heavy loading of emitter terminal

12. The voltage divider biasing circuit is used in amplifiers quite often because it
    (a) limits the ac signal going to base
    (b) makes the operating point almost independent of β
    (c) reduces the dc base current
    (d) reduces the cost of the circuit

13. For a transistor amplifier with self- biasing network, the following components are used:
    $R_1 = 4K\Omega$, $R_2 = 4K\Omega$ and $R_E = 1K\Omega$, the approximate value of stability factor will be
    (a) 4   (c) 2
    (b) 3   (d) 1.5

14. Which of the following components are used for bias compensation in transistor circuit
    (a) resistors
    (c) thermistors
    (b) rectifier diodes
    (d) both (b) and (c) above

Answers

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