

## Midterm control 2 (Electronics)

- 1 When a transistor amplifier is operating, the current in any branch is...
  - a- sum of a.c. and d.c.
  - b- a.c. only
  - c- d.c. only
  - d- difference of a.c. and d.c.
  
- 2 The purpose of capacitors in a transistor amplifier is to...
  - a – protect the transistor
  - b – cool the transistor
  - c – couple or bypass a.c. component
  - d – provide biasing
  
- 3 In the d.c. equivalent circuit of a transistor amplifier, the capacitors are considered...
  - a – short
  - b – open
  - c – partially short
  - d – none of the above
  
- 4 A radio receiver has...of amplification
  - a – one stage
  - b – two stage
  - c – three stage
  - d – more than three stage
  
- 5 The noise factor of an ideal amplifier expressed in *db* is ...
  - a – 0
  - b – 1
  - c – 0.1
  - d – 10
  
- 6 As the temperature of a transistor goes up, the base-emitter resistance...
  - a – decreases
  - b – increases
  - c – remains the same
  - d – none of the above
  
- 7 The voltage gain of a transistor connected in common collector arrangement is...
  - a – equal to 1
  - b more than 10
  - c- more than 100
  - d – less than 1
  
- 8 The phase difference between the input and output voltage of a transistor connected in common collector arrangement is...
  - a – 180°
  - b – 0°
  - c – 90°
  - d – 270°
  
- 9  $I_C = \beta \cdot I_B + \dots$ 
  - a –  $I_{CBO}$

- b –  $I_C$
- c –  $I_{CEO}$
- d –  $\alpha I_E$

- 10 The leakage current in CE arrangement is ...that is CB arrangement
- a – more than
  - b – less than
  - c – the same as
  - d – none of the above
- 11 A heat sink is generally used with a transistor to...
- a – increase the forward current
  - b – decrease the forward current
  - c – compensate for excessive doping
  - d – prevent excessive temperature rise
- 12 The ratio of output to input impedance of a CE amplifier is...
- a – about 1
  - b – low
  - c – high
  - d – moderate
- 13 If a transistor amplifier feeds a load of low resistance (e.g. speaker), then voltage gain will be...
- a – high
  - b – very high
  - c – moderate
  - d – low
- 14 If the input capacitor of a transistor amplifier is short-circuited, then...
- a – transistor will be destroyed
  - b – biasing conditions will change
  - c – signal will not reach the base
  - d – none of the above
- 15 The collector – base junction in a transistor has...
- a – forward bias at all times
  - b – reverse bias at all times
  - c – low resistance
  - d – none of the above
- 16 RC coupling is used for ...amplification
- a – voltage
  - b – current
  - c – power
  - d – none of the above
- 17 BC 147 transistor indicates that it is made of...
- a – germanium
  - b – silicon
  - c – carbon
  - d – none of the above

- 18 An ideal value of stability factor is...
- a – 100
  - b – 200
  - c – more than 200
  - d – 1
- 19 If the maximum collector current due to signal alone is 3 mA, then zero signal collector current should be atleast equal to...
- a – 6 mA
  - b – 1.5 mA
  - c – 3 mA
  - d – 1 mA
- 20  $I_{CE0} = (\dots)I_{CB0}$
- a –  $\beta$
  - b –  $1+\alpha$
  - c –  $1+\beta$
  - d – none of the above