

المادة: ELECTRONIC/1
المرحلة: الأولى
الزمن: ثلاث ساعات
الممتحن: م.م بشير يوسف
تاريخ الامتحان: 2018/6/10

نموذج (A)



وزارة التعليم العالي والبحث العلمي
الجامعة التقنية الوسطى
الكلية التقنية الهندسية / بغداد
قسم هندسة التقنيات الميكاترونيكية

للعام الدراسي 2017-2018

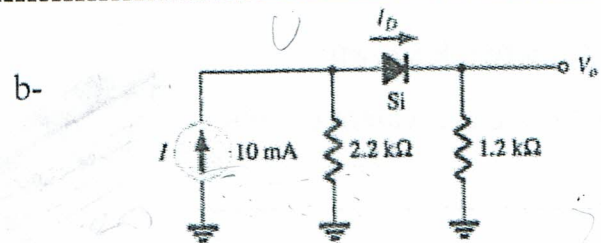
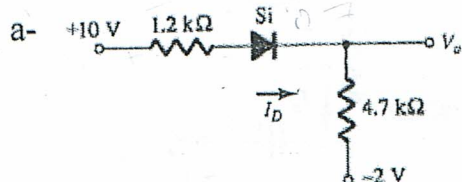
الامتحانات النهائية \ الدور

ملاحظة: الأجابة على ستة اسئلة فقط والدرجة موزعة بالتساوي

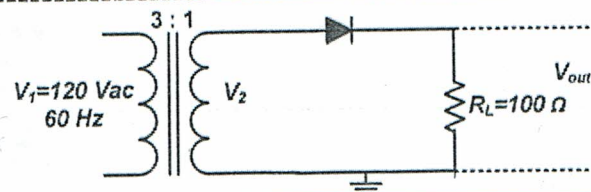
Q1- Chose the correct answer.

- 1- A pure semiconductor is often referred to as a(n)
 - a. extrinsic semiconductor.
 - b. intrinsic semiconductor.
 - c. doped semiconductor.
 - d. none of the above.
- 2- In a *p*-type semiconductor, the majority current carriers are
 - a. free electrons.
 - b. valence electrons.
 - c. protons.
 - d. holes.
- 3- The energy band in which free electrons exist is the
 - (a) first band
 - (b) second band
 - (c) conduction band
 - (d) valence band
- 4- What is the dc output voltage of an unfiltered half-wave rectifier whose peak output voltage is 9.8 V?
 - a. 6.23 V.
 - b. 19.6 V.
 - c. 9.8 V.
 - d. 3.1 V.
- 5- For a transistor to function as an amplifier,
 - a. both the EB and CB junctions must be forward-biased.
 - b. both the EB and CB junctions must be reverse-biased.
 - c. the EB junction must be forward-biased and the CB junction must be reverse-biased.
 - d. the CB junction must be forward-biased and the EB junction must be reverse-biased.

Q2- Determine V_O and I_D for the networks shown.

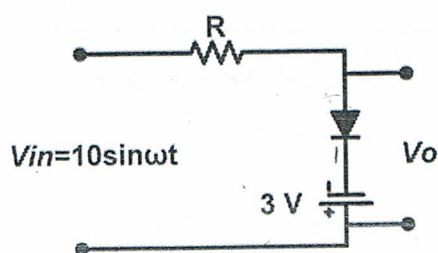


Q3-For the circuit shown, calculate;
 $V_2, V_{out}, I_L, PIV, f_{out}$. Draw V_2 and V_{out} .

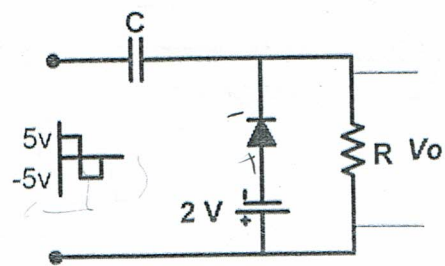


Q4-Draw V_O for the networks shown:

(A)

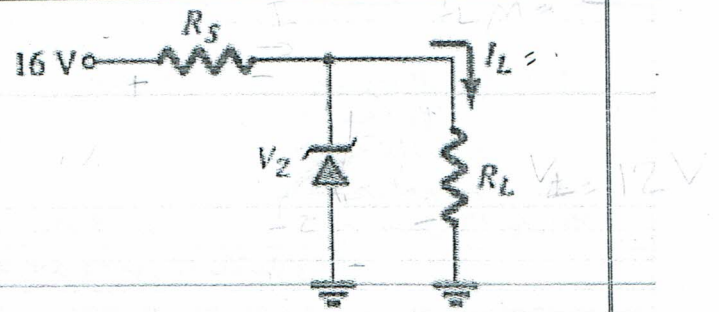


(B)



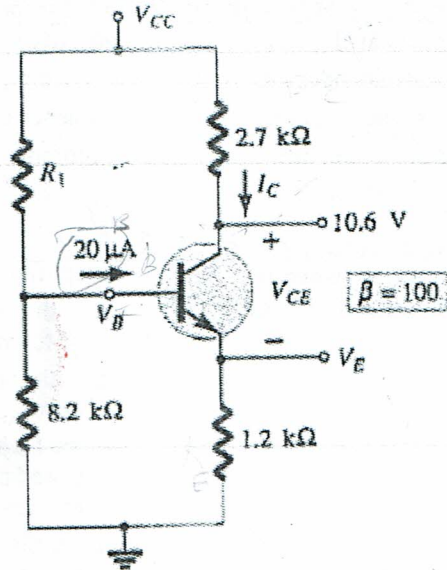
يتبع

Q5-Design the network of fig. shown to maintain V_L at 12V for a load variation (I_L) from 0 mA to 200mA. That is to determine R_S and V_Z .



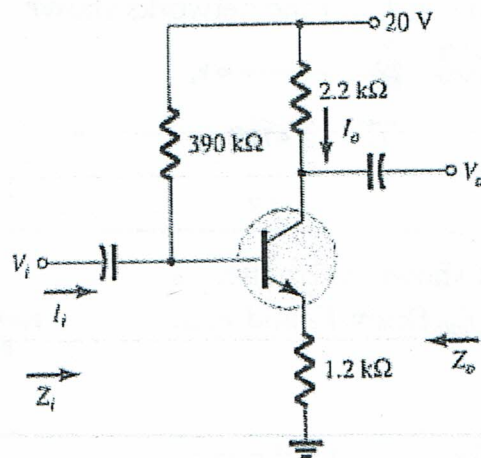
Q6- For the circuit shown:

Determine ($I_C, V_E, V_{CC}, V_{CE}, V_B, R_1$)



Q7- For the network shown:

Draw the a.c equivalent circuit.



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