BRAC University
Dept. of Computer Science and Engineering

Assessment: **Quiz 3**
Full Marks: 10
SET **A**

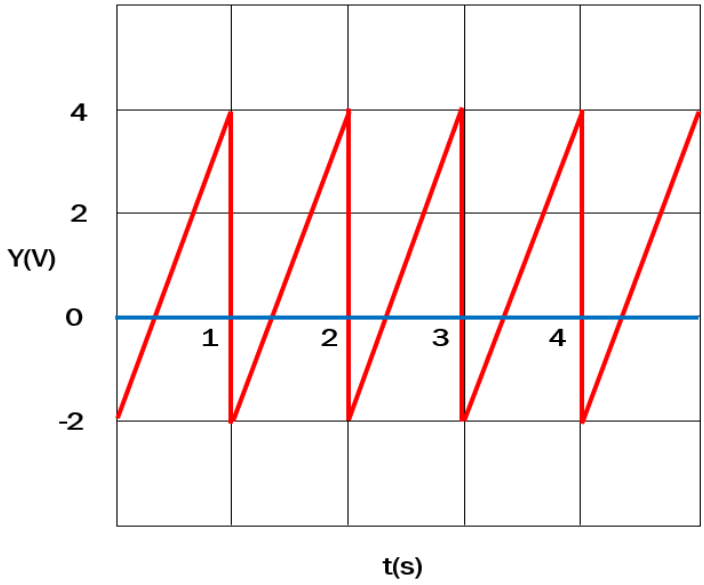
Semester: Fall 2023
Course Code: CSE251
Section: **15**
Course Name: **Electronic Devices and Circuits**

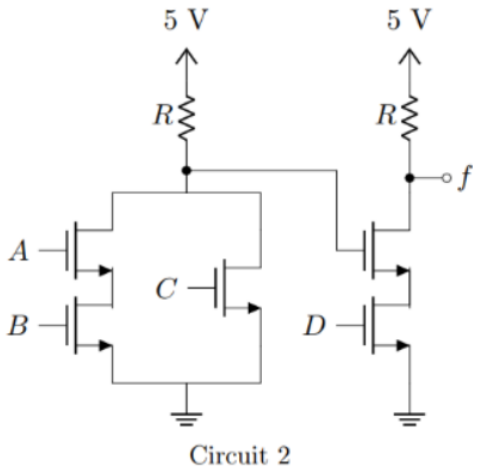
Name: _____

Student ID: _____

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ At the end of the exam, the **exam script** must be returned to the invigilator.
- ✓ Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room for an answer, please continue on the back of the page".
- ✓ Symbols have their usual meanings.

Question 1: 10 Marks





Circuit 2

The input of a **Half-wave rectifier** is exhibited in the Figure above and output load resistance is R = 5 kΩ. Silicon diodes are used in this circuit for which the forward drop is $V_{D0} = 0.7$ V.

i. Show the input and output waveforms. [2.5]
ii. Draw the VTC curve [2.5]
iii. Calculate input and output frequency [2.5]
iv. Write down the logic function f of **Circuit 2**. [2.5]

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Assessment: **Quiz 4**
Full Marks: 10
SET **A**

Semester: Fall 2023
Course Code: CSE251
Section: **15**
Course Name: **Electronic Devices and Circuits**

Name: _____

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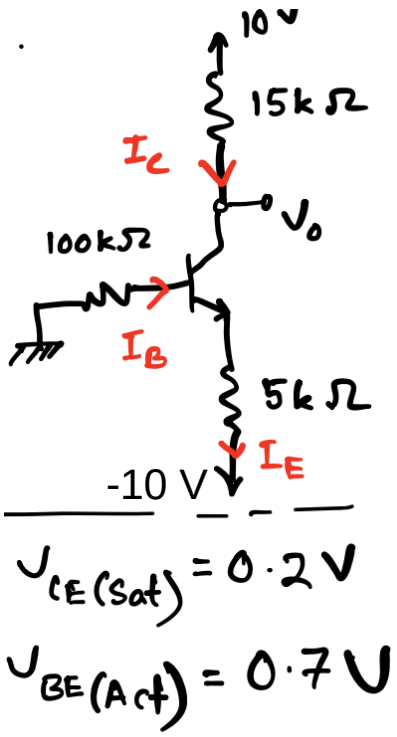
- ✓ Symbols have their usual meanings.

Question 1: [CO2] 10 Marks

The BJT in the adjacent figure has a $V_0 = -4.7$ V and $I_B = 0.042$ mA. and B = 100

i. Determine the operating mode of the BJT. [4]

ii. Find V_E, I_C and I_E [6]