

## **Feedback for EEE\*\*\* Session: 2010-2011**

**Feedback:** Please write simple statements about how well students addressed the exam paper in general and each individual question in particular including common problems/mistakes and areas of concern in the boxes provided below. Increase row height if necessary.

### **General Comments:**

Most people did OK in this paper. There were one or two bits that people found tricky, but otherwise was a good attempt by most students.

### **Question 1:**

- (a) – most people did well but for sometimes getting the sign wrong.
- (b) (i) was easy, as was (iii). However (ii) seemed to get some people confused.
- (c) Only a few did this properly. In addition to the worked solution, some people did a ratio of temperatures to get a particular value for  $n_i$ , and that was also acceptable. Anyone who stated what was required also got marks.
- (d) Virtually no one got this correct. I didn't specify how much below RT – some assumed that I was talking about 0K.

### **Question 2:**

- (a) – some got the I-V part wrong (drawing a photoconductor response) but generally easy.
- (b) Most got this correct for (i) and (ii) but some seemed to be confused by what was required for (iii)
- (c) (i) all got this correct. (ii) most people got quite a long way into this and got marks even if the final number was wrong.
- (d) Mostly OK but some seemed to get confused.

### **Question 3:**

- (a) – many lost 1 mark for drawing the gate inaccurately.
- (b) Very straightforward it appears – most got full marks.
- (c) Very few got  $V_d$  correct – some gave me the supply voltage on the other side of the resistor. Getting  $g_m$  also proved difficult for some.
- (d) Due to the error in  $V_d$  in (c) very few got full marks for this, but provided the working was clear, they only lost 1-2 marks.

### **Question 4:**

- (a) – very few did this properly, using the information given. Several used the energy of an electron in a vacuum, so only got a couple of marks.
- (b) (i) was straightforward for many people. (ii) however seemed to confuse people – it was very straightforward if you look at the solution.
- (c) Very easy – most people got full marks, perhaps losing 1-2 marks for poor explanation of the recombination in indirect Eg.

### **Question 5:**

**Question 6:**

**Question 7:**

**Question 8:**