



**(I) Textbook:**

**A- Answer the following questions:**

- 1- How would the sky look if the earth had no atmosphere?
  - 2- What is the effect of applying heat to a substance?
  - 3- How do animals help plants?
  - 4- What is the difference between cast iron and wrought iron?
  - 5- Define: Melting – Food Chain
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**(II) Grammar and Structure:**

**A. Choose the correct answer;**

1. She (goes - go - went) to Alex last summer.
2. I usually (wake up - woke up - wakes up) early.
3. (Either - Neither - Both) fixed and variable resistors are made.
4. This e-mail (sends - sent - was sent) by my best friend.
5. Your stomach pain is the (effect – affect – effective) of over eating
6. (Although - But - And) Ahmed likes bananas; I don't like them at all.
7. I'm not going anywhere today (because - because of - so that) the rain.
8. The letter (being – is – is being) typed now by the secretary.
9. The instructor (will answer - answer - answers) the questions tomorrow.
10. In old days people (travel – traveled – travels) on horsebacks.
11. English (is speaking - speaks - is spoken) all over the world.
12. He looked (up - into - about - after) the new words in his dictionary.
13. The focus control is (for – to – on) focusing the electron lens.
14. If we had taken your advice, we (saved - would save - will save –would have saved) a lot of time.
15. (Unless - Because - Although) all metals are conductors, some metals do not conduct.

### **III- Reading Comprehension**

#### **Read the following passage then answer the questions:**

The resistance of metals varies with their temperature. When they get heated their resistance increases. When they cool, their resistance falls. The resistance of some metals and alloys steadily decreases as their temperature is lowered, then falls suddenly to a negligible value at temperatures a high degrees above absolute zero (-273C). in other words, these materials have almost no resistance to an electric current at very low temperatures. They become almost perfect conductors. This called superconductivity. It occurs only with certain materials, for example lead, and only at very low temperatures.

The practical applications of superconductivity are limited because of the very low temperatures required. A number of uses, however, have been proposed. If a current is induced by a magnetic field in a ring of superconducting material, it will continue to circulate when the magnetic field is removed. In theory this could be made use of in the memory cells of computers. Memory cells made of superconducting materials could store information indefinitely. Because of the zero resistivity of the cells, the information could be retrieved very quickly, as fast as 10 seconds.

Ninety per cent of the total losses in modern transformers is due to the resistance of the windings. Transformers could be made with windings cooled to the low temperatures at which superconductivity occurs. The resistance of the windings would be zero and the transformer would be almost ideal. Similarly a 100 efficient electric motor has been proposal using the magnetic field of superconducting coils.

#### **A. Choose the correct answer:**

**1- One of superconducting materials is .....**

- a. Lead                      b. copper                      c. carbon                      d. bronze

**2- Materials exhibit superconductivity at very ..... Temperature.**

- a. High                      b. certain                      c. low                      d. valuable

**3- Superconductivities at very low temperatures are perfect .....**

- a. Materials                      b. insulators                      c. conductors                      d. metals

#### **B. Answer the following questions:-**

1. What do we mean by Superconductivity?
  - 2-When the transformer would be almost ideal?
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### **IV- Writing a paragraph**

#### **Write a paragraph on only ONE of the following topics:-**

1. Electrical Engineering.
  2. Metals and its uses.
  3. Electricity and living systems.
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*Good Luck*



Faculty of Engineering  
Subject: English

Electrical Engineering  
1<sup>st</sup> year 2014  
Time: 2 hour

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**(I) Textbook:**

**A- Answer the following questions:**

- 1) If the earth had no atmosphere, the sky and the stars would appear at dead black sky.
- 2) Produce a rise in temperature – evaporation – melting – cause chemical actions.
- 3) It is necessary to reduce further the amount of carbon which the iron contains. This is done by heating the iron up again in e.g. a **Bessemer converter** or an electric-furnace.
- 4) Cast iron: is cheap but brittle and was unsuited for anything to undergo tension or bending. Wrought iron: soft iron or pure iron made from cast iron by a laborious process called puddling.
- 5) Iron ore – Coke – Limestone – Hot air.

**II- Grammar and Vocabulary**

**A. Choose the correct answer;**

- |               |               |             |                      |              |
|---------------|---------------|-------------|----------------------|--------------|
| 1) went       | 2) wake up    | 3) Both     | 4) was sent          | 5) effect    |
| 6) Although   | 7) because of | 8) is being | 9) will answer       | 10) traveled |
| 11) is spoken | 12) up        | 13) for     | 14) would have saved | 15) Although |

**III. Reading comprehension**

**A- Choose the correct answer :**

- 1- Lead.
- 2- Low.
- 3- Conductors.

**B. Answer the following questions:-**

- 1- Materials have almost no resistance to an electric current at very low temperatures. They become almost perfect conductors. This called superconductivity
- 2- The resistance of the windings would be zero and the transformer would be almost ideal.

**IV- Writing a paragraph**

Writing is assessed by the examiner.