EDA 2 INGLÉS TÉCNICO 2 Tec. Web- Móviles 2627-3003

LEA EL SIGUIENTE TEXTO Y CONTESTE LAS PREGUNTAS A CONTINUACIÓN

Stretchable Electronics

The idea of stretchable electronics isn't new. In fact, the dream of flexible electronic equipment in everyday applications like clothing is nearly as old as electronics itself. Although it's easy for science fiction writers to fantasize about a Jestson's-style integration of circuitry, the reality is far trickier.
The challenges of a truly flexible circuit-board have perplexed electrical engineers for decades. Synthesizing materials that are flexible, durable, and conductive is not as easy as it seems. However, material and electrical engineers have made significant headway with developments in a variety of substances that allow for malleability and conductivity. The primary advances that have opened the door to a wider stretchable electronics market are material synthesis, circuitry design, and fabrication methods.

Substrate: Replacing the circuit board

At their core, stretchable electronics are similar to traditional electronics as far as key components are concerned. All circuitry is made of both an active layer (the conductors that perform the electrical function of the device), and the substrate (the insulating material that the active layer is built on). Since the dawn of electrical engineering, conductors and electrodes have been fabricated into rigid substrates made out of a variety of materials. The first challenge to conquering stretchable electronics is to make the classic circuit board flexible. Therefore, researchers at MIT developed remote epitaxy, known as the "peel and stack" method. The key to this process is the near magical material known as graphene, a substance made of pure carbon that is over 200 times stronger than steel. Despite its durability, graphene is still incredibly flexible so it lends itself perfectly to the stretchable electronics movement. In the "peel and stack" method, engineers "grow" the graphene material around the circuitry components.

Active Layer: Flexible Conductors

For the active layer, researchers experimented with a variety of materials such as metal nanowires, conductive carbon nanomaterials, and conductive polymers. Moreover, they've engineered circuitry into a variety of configurations. The shape of the conductive layer can vary depending on the application, with some circuitry taking on fractal designs, wavy configuration, or a horseshoe shaped planar structure. For most applications the final circuitry must be able to operate at full capacity with up to 25% malleability. Chinese

researchers have developed a method which differs from the “peel and stack” because it involves using liquid metal alternatives to traditional conductors (copper, silver, and gold). In this material, referred to as metal-polymer conductor (MPC), a gallium and indium “syrup” is encased in a silicone-based polymer. As a result, this method allows for “printable” circuitry with very promising potential in the field of biotech.

...

Puntos: 0/20

1. En la oración “All circuitry is made of both an active layer (the conductors that perform the electrical function of the device), and the substrate (the insulating material that the active layer is built on).” hay un ejemplo de *
(-/1 puntos)

- a. Conjunción coordinante
- b. Conjunción correlativa
- c. Conjunción subordinante
- d. Comparación con forma comparativa de adjetivo

2. En la oración: “Synthesizing materials that are flexible, durable, and conductive is not as easy as it seems.” hay un ejemplo de *
(-/1 puntos)

- a. Conjunción subordinante
- b. Comparación con forma comparativa de adjetivo
- c. Comparación de similitud
- d. Comparación de contraste

3. En la oración: “The key to this process is the near magical material known as graphene, a substance made of pure carbon that is over 200 times stronger than steel.” hay un ejemplo de *
(-/1 puntos)

- [x] a. Comparación con forma comparativa de adjetivo
- [ ] b. Comparación de similitud
- [ ] c. Comparación de contraste
- [ ] d. Conjunción coordinante

4. En la oración “Chinese researchers have developed a method which differs from the “peel and stack” hay un ejemplo de: *
(-/1 puntos)

- [ ] a. Comparación con forma comparativa de adjetivo
- [ ] b. Comparación de similitud
- [x] c. Comparación de contraste
- [ ] d. Conjunción correlativa

5. En la oración “The primary advances that have opened the door to a wider stretchable electronics market are material synthesis, circuitry design, and fabrication methods.” hay un ejemplo de *
(-/1 puntos)

- [x] a. Conjunción coordinante
- [ ] b. Conjunción correlativa
- [ ] c. Conjunción subordinante
- [ ] d. Comparación de contraste

6. En “Although it’s easy for science fiction writers to fantasize about a Jestson’s-style integration of circuitry, the reality is far trickier.” hay un ejemplo de conector de *
(-/1 puntos)

- [ ] a. Adición
- [x] b. Contraste

- c. Razón
- d. Resultado
- e. Condición
- f. Tiempo

7. En el segundo párrafo del texto, la palabra "However" es un conector de * (-/1 puntos)

- a. Adición
- b. Contraste
- c. Razón
- d. Resultado
- e. Condición
- f. Tiempo

8. En el segundo párrafo del texto, los fragmentos que une "However" son * (-/1 puntos)

- a. is not as easy/// as it seems.
- b. Synthesizing materials that are flexible, durable, and conductive is not as easy as it seems/// material and electrical engineers have made significant headway with developments in a variety of substances that allow for malleability and conductivity
- c. material and electrical engineers have made significant headway with developments in a variety of substances/// that allow for malleability and conductivity
- d. The challenges of a truly flexible circuit-board have perplexed electrical engineers for decades///a variety of substances that allow for malleability and conductivity

9. En el subtítulo "Substrate: Replacing the circuit board" el conector "Therefore" es un conector de *
(-/1 puntos)

- a. Adición
- b. Contraste
- c. Razón
- d. Resultado
- e. Condición
- f. Tiempo

10. En el subtítulo "Substrate: Replacing the circuit board" los fragmentos que une el conector “Therefore” son *
(-/1 puntos)

- a. The first challenge to conquering stretchable electronics is to make the classic circuit board flexible /// researchers at MIT developed remote epitaxy, known as the “peel and stack” method
- b. researchers at MIT developed remote epitaxy, known as the “peel and stack” method/// The key to this process is the near magical material known as graphene, a substance made of pure carbon that is over 200 times stronger than steel
- c. to make the classic circuit board flexible/// researchers at MIT
- d. The first challenge/// researchers at MIT developed remote epitaxy

11. En el subtítulo “Active Layer: Flexible Conductors” la palabra “moreover” es un conector de : *
(-/1 puntos)

- a. Adición
- b. Contraste
- c. Razón
- d. Resultado
- e. Condición
- f. Tiempo

12. En el subtítulo “Active Layer: Flexible Conductors” los fragmentos que une “moreover” son *
(-/1 puntos)

- a. For the active layer/// a variety of configurations
- b. they’ve engineered circuitry into a variety of configurations/// The shape of the conductive layer can vary depending on the application
- c. conductive polymers/// they’ve engineered circuitry into a variety of configurations
- d. For the active layer, researchers experimented with a variety of materials such as metal nanowires, conductive carbon nanomaterials, and conductive polymers /// they’ve engineered circuitry into a variety of configurations

13. La frase “The industry applications for flexible circuitry are enormous. ----------, advances in the production methods have reduced the cost of flexible electronics enough to allow for mainstream adoption amongst general consumers.” no está en el texto, pero formaría parte de su conclusión.

Para completar esta frase, el conector correcto sería: *
(-/2 puntos)

- a. Moreover
- b. However
- c. Despite
- d. Because

14. La frase: “The cost barrier is now minimized ---------- it’s only a matter of time before flexible circuits find their way into clothing and personal accessories to help athletes monitor performance and individuals with medical conditions monitor key vital signs.” no está en el texto, pero formaría parte de su conclusión.
Para completar esta frase, el conector correcto sería *
(-/2 puntos)

- a. therefore
- b. as a result

c. so

d. then

15. Para la oración: “The Chinese method differs from the “peel and stack”method because it involves using liquid metal alternatives to traditional conductors (copper, silver, and gold).”
Formule en inglés, una pregunta de información (wh-) cuya respuesta sea: “because it involves using liquid metal alternatives to traditional conductors (copper, silver, and gold)” *
(-/2 puntos)

Why is the Chinese method different from "Peel and Stack"?

16. Traduzca al español la oración: “Since the dawn of electrical engineering, conductors and electrodes have been fabricated into rigid substrates made out of a variety of materials.” *
(-/2 puntos)

Desde los principios de la ingenieria electrica, los conductores y electrodos se han fabricado en sustratos rigidos hechos de una variedad de materiales

17. Escriba su APELLIDO, NOMBRE (en ese orden) *

Alonso Leandro

18. Escriba su DNI (sin puntos, sólo números) *

41693526