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https://www.100test.com/kao_ti2020/645/2021_2022_2010_E5_B9_B4_E8_81_8C_c91_645856.htm Sugar Power for Cell Phones Using enzymes commonly found in living cells , a new type of fuel cell produces small amounts of electricity from sugar.If the technology is able to succeed in mass production , you may some day share your sweet drinks with your cell phone. In fuel cells , chemical reactions generate electrical currents.The process usually relies on precious metals , such as platinum.In living cells , enzymes perform a similar job , breaking down sugars to obtain electrons and produce energy. When researchers previously used enzymes in fuel cells , they had trouble keeping them active , says Shelley D.Minteer of St Louis University¹.Whereas biological cells continually produce fresh enzymes , there ' s no mechanism in fuel cells to replace enzymes as they quickly degrade. Minteer and Tamara Klotzbach , also of St Louis University , have now developed polymers that wrap around an enzyme and preserve it in a microscopic pocket. “ We tailor these pockets to provide the ideal microenvironment ” for the enzyme , Minteer says.The polymers keep the enzyme active for months instead of days.来源：考试大 In the new fuel Cell , tiny polymer bags of enzyme are embedded in a membrane that coats one of the electrodes.When glucose from a sugary liquid gets into a pocket , the enzyme oxidizes it , releasing electrons and protons.The electrons cross the membrane and enter a wire through which they travel to the other electrode , where they react with.oxygen in the

atmosphere to produce water. The flow of electrons through the wire constitutes an electrical current that can generate power. So far, the new fuel cells don't produce much power, but the fact that they work at all is exciting, says Paul Kenis, a chemical engineer at the University of Illinois² at Urbana-Champaign³. "Just getting it to work," Kenis says, "is a major accomplishment." Sugar-eating fuel cells could be an efficient way to make electricity. Sugar is easy to find. And the new fuel cells that run on it are biodegradable, so the technology wouldn't hurt the environment. The scientists are now trying to use different enzymes that will get more power from sugar. They predict that popular products may be using the new technology in as little as 3 years.

词汇：enzyme/5enzaim/n. 酶
electrode/15lektrEjd/n. 电极
platinum/5plAtinEm/n. 铂，白金
membrane/5membrein/n. 膜，薄膜
electron/15lektrRn/n. 电子
oxidize/5Cksi7daiz/v. 氧化
degrade/di5reid/v. 降解
glucose/5lu:kEus/n. 葡萄糖
polymer/5pClimE/n. 聚合物
biodegradable/7baiEudi5reidEbl/adj. 能进行生物降解的
microenvironment n. 微环境
embed/im5bed/v. 埋置，插入
proton/5prEutCn/n. 质子

试题 1. According to the first paragraph, when can we share our sweet drinks with our cell phones? A When enzymes can be commonly found in living cells. B When the technology of producing a new type of fuel cell appears. C When the technology of a new type of fuel cell is suitable for mass production. D When the technology of mass producing cell phones appears.

2. What trouble did Minter and Klotzsch have in their research? A They had trouble keeping enzymes in fuel cells active. B They had

trouble keeping biological cells active. C They had trouble producing fresh enzymes. D They had trouble finding mechanism for producing enzymes.

3. According to Paragraph 5 , electrons are released A when bags of enzyme are embedded in the new fuel cell. B when glucose from a sugary liquid goes through the enzyme. C when the enzyme oxidizes the glucose from a sugary liquid that goes through a pocket. D when the enzyme oxidizes the sugary liquid that goes through a pocket.

4. What is exciting about the new fuel cells? A Their limitless power generation capacity is amazing. B Their limited power generation capacity is a good beginning. C Their limited power generation capacity is the result of great efforts. D Their limitless power generation capacity is a major accomplishment,

5. According to the last paragraph , what is NOT true of the new fuel cells? A The new fuel cells run on sugar that is easy to find. B The new fuel cells are environment friendly. C The new fuel cells are biologically degradable, D It will take some time before the new fuel cells can be used in popular products.

答案与题解：采集者退散

1. C A和D明显不是正确答案。B不是正确选择，因为只有当这种新的燃料电池被大规模生产时，才有可能实现用甜饮料给手机提供电能。

2. A 文章第三段的第一句是问题的答案。

3. C 该段第二句“ When glucose from a sugary liquid penetrates a pocket , the enzyme oxidizes it , releasing electrons and proton ”中的it指代glucose，而不是a sugary liquid，因此C是正确选择。

4. B 第六段的大意是，尽管这种新型燃料电池还不能产生很多电能，但是，它能够产生电能的事实就已经是很大的成就了。因而激动人心。所以只有B是正确答案。

5. D 文章的最

后一段指出了这种新型燃料电池的优点，即A、B、C所述内容。最后一句说，科学家预计，在不到三年的时间里这种新技术便可在大众的流行产品中使用。所以D是正确选择 编辑推荐：为帮助广大学员有效备考，我们特推出了职称英语2010年网络辅导课程,相信会让大家有耳目一新的视听感受。2009年职称英语通过率近100%，为答谢数十万用户厚爱，百考试题环球网校 100Test 下载频道开通，各类考试题目直接下载。详细请访问 www.100test.com