**科技翻译\_第1-3节（5G发展史\_5G技术原理\_5G应用场景）课后作业说明**

请完成以下几个语段的**中英互译**，其中第1部分为重点突破部分，第2部分为拓展练习部分，要求译文排版与原文基本一致，格式整齐。

**提交格式：word格式的原文-译文对照版本（在原文语段下方附译文）。**

1. **重点突破**

E-C

原文：

Mobile radio telephone known as zero generation was started in 1940s, but the journey actually started many years ago when Alexander Graham Bell invented and patented wired telephones in 1876 and even before that when telegraph was used in the 17th century.

被称作“0G”的无线移动电话最早可以追溯到二十世纪40年代，但实际上“0G”在更多年之前就已经开始使用了，当时亚历山大-格雷厄姆-贝尔发明了有线电话申请了专利，甚至在更早的17世纪，人们就已经在使用电报了。

1. C

原文：

The technology behind 0G is push-to-talk. You press a button to speak and leave that button to listen to the other side. The telephones were too big to carry normally by people. They were mounted on cars, putting the antennas transceivers at the back and the phone on the front side.

0G之后的技术是“一键通”。既按下按钮后给对方讲话，松开后收听对方内容。这种电话的体积太过庞大以至于人们无法正常携带。因此通常被安置在汽车上，其天线收发器被放在车后，电话在前。

C-E

原文：

5G 是目前正在开发的一代，目的是实现更快的数据传输速率、更高的连接密度和更低的时延。5G 的一些计划包括设备到设备的通信、更少的电池消耗和更广泛的无线覆盖范围（coverge）。5G 的最高速度可达到 35.46 Gbps，比 4G 快 了35 倍多。

5G a generation being developed aims to achieve more data, higher connection density and lower latency. Some plans of 5G include device-to-device communication, less battery consumption and wider wireless coverage. The max speed of 5G can reach 35.46 Gbps, which is over 35 times than 4g.

E-C

原文：

The IoT trends suggest the number of connected devices worldwide will rise to 75 billion by 2025. The increasing number of objects （that interconnect generates an unprecedented volume of data ）that the city can analyze locally in order to make more informed decisions about what changes or new projects will most benefit residents.

物联网趋势表明，到2025年，全球范围内的联网设备将会上升到750亿. 不断增加的互联设备产生了前所未有的数据，城市可以通过本地分析这些数据来做出更明智的决策，以确定哪些改变或新项目会使居民利益最大化。

E-C

原文：

Healthcare continues to be at the cusp of innovation, using new technologies to improve care and push the boundaries. The welfare of both healthcare professionals and patients is directly tied to the industry’s ability to make advances in innovative care.

医疗保健依旧处于创新的分口浪尖，通过新技术来提升护理水平并不断突破极限。医疗行业提升健康护理的能力直接关系到了医疗人员和患者的福祉。

1. **拓展练习**

E-C

原文：

1G

The 1980s brought the first generation of networks with voice-only, analog service. The top speed of data transmission on a 1G network reached around 2.4kbps.

2G

The 2G network began in Finland in 1991, allowing cell phones to move into the digital world. 2G allowed for call and send massages or SMS, picture messaging and MMS. The maximum speed for 2G was about 50kbps.

1G

在20世纪80年代，出现了仅限语音和模拟通信的1G网络。其数据传输速率峰值可以达到2.4kbps左右。

2G

2G网络1991年开始与芬兰，自此蜂窝手机进入了数字时代。2G网络支持通话，发送信息，图片及彩信。其速率峰值约为50kbps。

1. E

原文：

5G带来的利益

对于许多最终用户而言，5G升级完全是关于速度。预计5G速度高达10Gbps，新网络的速度将比其之前的快100倍。对于工业、农业和商业用例，5G的最大优势是高容量和低时延。

凭借5倍于4G 的速度，5G将催生新的生产和分销方法。早期测试还表明，5G可能会将网络延迟减少一半。

The benefits of 5G

For many end-users, 5G upgrade is all about speed(5G speed is expected to be as high as 10Gbps, the new network will be 100 times faster than its predecessor). For industrial, agricultural and commercial use cases, the biggest advantages of 5G are high capacity and low latency. 5G will give rise to new methods of production and distribution. Early tests also suggest that 5G may cut network latency in half, with speeds 5 times faster than 4G.

C-E

原文：

什么是智慧城市？

智慧城市是指一个利用数字和电信技术使传统网络和服务更加有效的地方，居民和企业可从中受益很多。普及和应用新技术是把一个城市转变为智慧城市的必要条件，有助于达到城市可持续发展的高水平，提高市民的生活质量。

What’s a smart city?

The smart city is a place where digital and telecommunication technologies are used to get more efficient traditional networks and services, from which residents and businesses can benefit a lot. The popularization and application of new technologies is necessary to transform a city into a smart city, helping to reach a high level of sustainable urban development and improving the quality of life of its citizens.

1. C

原文：

How Does 5G work?

All four previous generations of mobile networks used macro cell towers of hundreds of feet tall, requiring huge power expenditure for long-distance transmission. 5G works a bit differently. This upgraded mobile network uses a combination of frequencies from multiple frequency bands in order to maximize throughput. In addition to traditional macro cell towers, 5G also uses a large number of much smaller micro cells for new millimeter wave frequency bands to create the ultra high-speed network coverage.

5G是如何工作的？

前四代移动网络都使用数百英尺高的宏蜂窝塔，其需要大量电力来以支持长距离传输。5G的工作方式有点不同。这种升级的移动网络使用多个频段的频率组合，可以最大限度地提高数据吞吐量。为了建造超高速的网络覆盖范围，除了传统的宏蜂窝塔外，5G还将大量小蜂窝塔了用于新的毫米波频段。

C-E

原文：

4G网络主要是为了加强移动数据服务，然而仍然受到了许多限制。这些限制包括不足以支持同时连接，以及高耗能。通过解决和克服这些问题，5G有望释放物联网的潜力，成为智慧城市的推动力。

4G networks are primarily designed to enhance mobile data services, yet still suffer from many limitations. These limitations include insufficient support for simultaneous connections, and high energy consumption. By addressing and overcoming these issues, 5G is expected to unlock the potential of the Internet of Things and become a driving force for smart cities.

C-E

原文：

媒体和娱乐

终端用户能在接入5G网络的设备上享受流畅的4K视频流、身临其境的虚拟现实 (VR) 体验和反应超快的游戏体验，为内容创作者、云服务提供商和通信服务提供商带来更多的创收机会。

Media and Entertainment

End-users will be able to enjoy smooth 4K videos, immersive virtual reality (VR) experiences and ultra-responsive game experiences on devices connected to 5G networks, leading to more revenue-generating opportunities for content creators, cloud service providers and communications service providers.

E-C

原文：

To achieve a vision in which millions of devices are connected, the IoT standard must ensure both scalability and versatility, offering enough capacity and network efficiency to connect millions of devices while also providing some advanced features—such as longer battery life and a wider coverage area—to facilitate the expansion of new use cases.

为了达到百万级设备连接的愿景，物联网标准必须确保可拓展及多功能性，除了为百万级设备的连接提供足够的容量和网络效率外，同时也要提供一些更有远见的功能（比如更长电池寿命及更广泛的覆盖区域）以促进新用例的扩展。

E-C

原文：

The use of 5G networks in healthcare brings more than improved data transfer, security, broadband access, and advancements in technology, adding up to an improved quality of care for telemedicine providers, and most importantly, patients. The increased bandwidth and low latency of 5G connectivity allows for higher resolution video and images, increasing the quality and value of virtual interaction.

5G给医疗领域带来的不仅仅是提升了数据传输、安全性，宽带接入及技术的进步，更多的是为远程医疗服务提供者，以及最重要的是为患者带来了医疗质量的提高。5G连接的带宽增加和低时延提供了更好的视频和图像的分辨率，进而提升了虚拟互动的质量和价值。

C-E

原文：

现场活动可以通过无线高清视频播放,可在移动设备上访问高清电视频道，而且还不会受到任何干扰。娱乐行业可从 5G 无线网络中受益匪浅。

On-site activities can be played by Wireless HD Videos, and be accessed on mobile devices without any interference. So the entertainment industry can enjoyed the great benefit of 5G wireless networks.