The Questions Concerning Technology
By WB
Round 2

1. **Sylvan Goldman, who owned the Humpty Dumpty grocery store chain in this city, invented the shopping cart for use in his stores. For reasons that are beyond anyone's comprehension, the International Gymnastics Hall of Fame is located in this city's science museum. In 1948, Captain Robert C. Miller issued the first real tornado forecast from this city. As a part of the effort to build a supersonic passenger jet, in 1964 this city was subjected to a series of sonic boom tests. Carl C. Magee invented the** parking meter here and consequently the first parking meter was installed in this city. One of the lesser airports of this city is named for the first person to fly around the world solo. That man's name is Wiley Post and he died in a plane crash with Will Rogers, for whom this city's primary airport is named. This city is home to a company that was formerly run by Aubrey McClendon, natural gas giant Chesapeake Energy. For 10 points, name this city that on April 15, 1995 experienced the detonation of a fertilizer bomb set by Timothy McVeigh.
ANSWER: **Oklahoma City**

2. **One of the largest Roman example of these constructions was built by Nero at Subiaco, while Shapur I used Roman prisoners of wars to construct one of these called the Band-i-Kaisar. Depending on who you ask, the oldest known one of these is either located at Jawa in Jordan or at Sadd el-Kafara. John Frederick LaTrobe Bateman used these objects to regulate a series of five related constructs as a part of his Longdendale project. They are not buildings, but they can be reinforced by** buttresses and less material is generally required to form the curved arch type. A temporary type used to construct other structures is a coffer. Large amounts of concrete is need for the construction of the gravity type of these devices used in flood control. For 10 points, name these constructions, one of which on the Colorado River is named for Herbert Hoover.
ANSWER: **dam** [prompt on **reservoir**]

3. **The Peachy worm spread through this medium. One abandoned successor to this format was called Mars. This specification includes the JBIG2Decode filter. Two versions of this format are codified in the ISO /X and /A specifications. This format is probably the main use of the XML Forms architecture. One open source library for reading these files is** Poppler. One feature of this format that allows for byte serving of particular parts of the encoded file and is called Fast Web View. These files can be created by a distiller and this format is partially based on postscript. A popular Windows program for reading these files is FoxIt. These files can have embedded fonts and they are used to have layouts appear the same across different computers and printers. For 10 points, name this file format read by Adobe Acrobat.
ANSWER: **P**ortable **D**ocument **F**ormat

4. **The inventor of this device was a Mormon Fundamentalist who created "Polygamy Alley" and financially backed John T. Clark, who claimed to be the "one mighty and strong." The Omega Investment Corporation was setup by that inventor and his polygamous friends, but that effort landed him in jail for mail fraud. The Razer Tiamat is a somewhat bulky one of these devices equipped with 10** drivers. The P5 is one of these devices made by Bowers and Wilkins. Sony's products of this type are in the MDR series and HD 800 is a model of these that is made by Sennheiser. A line of these that have noise canceling technology is made by Bose and Beats by Dre is one annoying popular take on this item. For 10 points, name this device worn on the head that delivers screeches and squaks straight to the ears.
ANSWER: **headphone**s [or **headset**s; prompt on loud**speaker**]

5. **This former owner of a snapping turtle named Gonzo gave a 1988 Seattle Times interview in which he ranted about the "inscrutable, slanty Korean eyes of Korean shop owners." His most notable "invention" was created with the help of Anthony D'Agostino. He is thought to have written a newsletter that included the sentence "Even if you could, what a bore it would be to hang around for a few hundred years, not doing much of anything except watching the niggers make basketballs and sneakers out of Jew skins." He invented the Kiyoga Agent M5 whose sales raised money for the Aryan Nation. He was the mastermind behind the pet hermit crab craze. One of his products' manuals claims that the product "can be hypnotized, play baseball and rise from the dead." He claimed to do 303 million pages of advertising in comic books a year. That advertising included claims of "instant life" from one of his wares. For 15 points, name this racist creator of X-Ray Spex and Sea Monkeys.**
ANSWER: Harold **von Braunhut**

6. **One of these two companies hired Steve Lait to attack the other. One of these two companies is depicted as Moses on top of a mountain proclaiming the law to an empty plain in the first of a series of comics created by the other company. One of these two companies hopes to compete with the other with its Project Denver, but changes to that project had to be made when certain patents from the other company were not secured. In early 2011, a 1.5 billion dollar settlement between these two companies was reached over a cross licensing agreement that among other things dealt with the ability of one of these companies to make compatible** motherboards. The aforementioned series of comics depicts the target company as doing actions like sitting on a ticking time bomb labeled Larabee and preparing to chop off the head of a Turkey that is saying "Who's going to Sponsor my Tomorrow?" The smaller of these two companies uses its Optimus technology to allow its products to work together with the products of the second company. In March 2012, CEO Jen-Hsun Huan called on the other company to open its fabrication facilities to for the manufacture of the Tegra product of Huan's company. For 10 points, name these two companies whose respective low end GeForce models and integrated graphics of the Core processors are competing products.
ANSWER: **Nvidia** and **Intel**

7. **One of the first documented descriptions of this technology was in a book on city planning by Donn Fichter. In the 1990s, Raytheon was going to build one of these systems in that concrete hell, Rosemont Illinois, but costs made the project uneconomical. International examples of these systems include the Japanese CVS and the French Aramis. Masdar City near Abu Dhabi, was going to implement on of these as a part of its zero-carbon initiative, but only the prototype was built. The Alden** staRRcarr was a design of these systems and the staRRcar was used as the basis for one of these systems installed in Morgantown West Virginia. For 10 points, name these networks of small pods on tracks that provide taxi like service to small groups of passengers.
ANSWER: **P**ersonal **R**apid **T**ransit [prompt on **people mover**]

8. **This framework can be extended to multiple class situations by Kesler's construction. Cybenko and Lippman showed how to create instances of a generalized type of these constructs that approximate arbitrary continuous functions. One influential paper about these structures showed that the basic type of these cannot solve connectedness problems such as** XOR since they are only effective on linearly separable vectors. This framework is a real valued generalization of the McCulloch–Pitts model. Early models of this contained a starting retina layer followed by an output layer and did not contain a hidden layer. This model was first proposed by Frank Rosenblatt. Backpropagation networks are also known as multilayer this. In this model, an output signal is generated if a weighted sum of the inputs exceeds a threshold. For 10 points, name this basic feed-forward neural network and classifier.
ANSWER: single layer **perceptron** [or multilayer **perceptron** before connectedness]

9. **One of Peter Hudson's creations of this type is a seven ton structure that includes a rowing skeleton. That construct of this type is *Charon*. Bill Brand created a modern version of this device in the abandoned Myrtle Avenue subway station in NYC.** This device was invented by the creator of a method for iteratively evaluating a polynomial that only requires n addition and n multiplication steps for a polynomial of degree n. Charles Reynaud improved upon this device by adding arranged mirrors. This entertainment device was invented by William Horner who originally called it the daedalum, or Devil's wheel. This device consisted of a movable drum with slits positioned around the exterior. Unlike a device invented by Eadweard Muybridge, it did not project images. For 10 points, name this 19th century "wheel of life" that would display primitive animation by means of a spinning strip.
ANSWER: **zoetrope**

10. **One edition of this software, includes the messages "YOU WILL RESPECT THE RECTANGLES" and "LAST BUT NOT LEAST BUT ALSO NOT COMPRESSED HAM", while another version includes a room with pictures and names like Andre Needham on the wall. A recent version of this program added features like OLAP Write-back support and Slicers. In addition to the Hall of Tortured Souls and Dev Hunter, this program at one point included a** flight simulator. Its predecessor was Multiplan. This program includes the Analysis TookPak and the Solver Add-in. Once upon a time, this program's rival was Loutus 1-2-3. While it is not the only program with this feature, this is the most commonly used program that can make PivotTables. Recent versions of this software have supported up to 16,384 columns and 1,048,576 rows. For 10 points, name this spreadsheet program from Microsoft.
ANSWER: Microsoft **Excel** [prompt on Microsoft Office]

11. **This technology was developed by the Delta and Pine Land company. One version of this technology is**

based around the oxidation of D-amino acids by DAAO. One variant of this technology uses the barnase/barstar duo. This technology has V and T forms. One version of this technology contains a toxin gene linked to a blocker and a promoter that is activated during LEA and that toxin gene is often Indole Acetomide Hydrolase. Perhaps due to its controversial nature, this technology is not used commercially, even by Monsanto. For 10 points, name this technology that prevents genetically engineered crops from reproducing.
ANSWER: **terminator** genes[or **suicide** genes; Genetic **U**se **R**estriction **T**echnology]

12. **Wikipedia claims this technology will someday be updated to use i-Maximum Likelihood Sequence Estimation. The most basic implementation of this technology is the Grace Period Profile. Like a less popular technology, interfacing with this technology requires a** UDF version 2.5 implementation. SlySoft was the first company to produce unofficial software for using one aspect of this specification. Interactive MHP-GEM applications of this technology written in Java can be created using this technology through a standard called this dash J. This is the most widespread technology that uses AACS and this software uses a virtual machine based "plus" technology for protection. Strangely, this technology skipped from version 2, which mandates an Internet connection for some content, to version 5 which adds 3D playback. This technology supports H.264 and it is based around a 405 nm laser. The media used in this technology can hold at least 25 gigabytes. For 10 points, name this disc technology that defeated HD-DVD to become the high def successor to DVDs.
ANSWER: **Blu-ray** disc [or **BD**]

13. **CASAGRAS is a European group that hopes to bring this concept into reality. Cosm, formerly known as Pachube, is a platform for building one of these entities. This term was coined by Kevin Ashton. One hypothetical object that falls under this general concept is the spime. The main development alliance for this concept is made up of EPCglobal and Auto-ID labs. 6LoWPAN is an effort to bring lower** powered devices into this entity. This concept is based around tagging lots of objects with RFID and deploying many connected sensor systems. For 10 points, name this ill-defined dream where everyday doodads become addressable and wirelessly networked together.
ANSWER: **I**nternet **o**f **T**hings [I profess to being bamboozled by this as well, but they will not shut up about it]

14. **The case of *Rocknel v United States* resulted from the US Customs service classifying one of Rocknel's products as one of these items instead of a related construct for tariff purposes. The key structure behind these objects' utility is described in ISO 68-1. These objects were produced by and named a type of lathe pioneered by Henry Maudslay during the Industrial Revolution.** Teks is a trademarked type of these objects that "self" produce their matching part. Twinfast examples of these objects have shorter installation times. Many of these objects have a bugle head. These objects are usually described by their size, head design, and thread style. Unlike a related object, their official definition DOES NOT require the use of a nut. For 10 points, name these fasteners that are installed using their "drivers."
ANSWER: **screw**s [prompt on **fastener**; do not prompt or accept bolt]

15. **Liang-Hsuan Lu invented a microscale version of this technology out of gold and copper for use in chip based applications. This device was invented by Arthur Rosinger. While the Bel-Art company make many non-machine products, this is the main device produced by Bel-Art. One component of this device is sometimes called the** flea. The most common structure for that aforementioned component is an eight sided structure with a central pivot ring. Many of these machines also have a hotplate feature. A certain white oblong object used in these devices can be retrieved by a wand. By setting the RPM control on these machines to a high enough value, a vortex can be formed. For 10 points, name these devices used to mix solutions in laboratories that employ a bar with a certain property that is described by the Ising model.
ANSWER: **magnetic stir**rer [or **spin bar**; or **magnetic stir** bar]

16. **Leutenegger introduced a recursive sorting algorithm for preprocessing a batch of data to be inserted in these data structures. One better performing version of this data structure imposes "forced reinsertion" on nodes that have too many objects. Different pickSeeds approaches differentiate the quadratic and linear splitting methods for inserting objects into full nodes in this data structure. One data structure whose name implies that it is a variant of this structure is actually an adaptation of a** B+-tree that chooses the insertion path based on Hilbert values. Each node in this data structure devised by Antonin Guttman contains a list of objects with their respective MBR. These data structures are useful in GIS. For 10 points, name these trees that use quadrilaterals and other shapes to store spatial information.
ANSWER: **R** tree

17. **One example of this class of weapon uses the COMBATSS-21 electronic system and Griffin B platform will probably be mounted on these. Upcoming members of this program include** *Sioux City and Milwaukee,* **but the next example of this ship type will be the** *Gabrielle Giffords*. One subtype of these vessels will have to be equipped with a Impressed Current Cathodic Protection System in order to deal with galvanic corrosion of the aluminum hull. Current examples include the *USS Freedom* and *USS Independence*. Controversially, the Navy is building two different designs of this type, built by two different companies. This type of ship is intended to neutralize mines and fight small boats among other things. For 10 points, name this type of multipurpose ship that the Navy wants to use to in operations close to the shore.
ANSWER: **Littoral Combat** Ship

18. **Until 2011, there was a McDonalds in Edina, Minnesota whose feature that distinguished it from other McDonald's was the use of this technology. Lawrence Edwards, a former engineer at Lockhead-Martin, proposed building a variant on these systems on the East Coast as a part of a high speed transportation network. The first attempt at a New York City** subway system, designed by Alfred Beach, was based on this technology. In the late 19th and early 20th centuries, large cities like Chicago and Paris used a network based on this technology to distribute the mail. For 10 points, name this technology sometimes employed at bank drive through where air pressure transports objects through a network of cylindrical paths.
ANSWER: **pneumatic tube**

19. **One of these devices called Dubba is advertised as requiring no "jerky strings" or "silly remotes" and is made by a company named for the Platte River. Toysmith sells one of these for children designed by Middlesex University. Though it is not actually one of these machines, Gaurav Sukhatm of USC created a device named for these machines that monitors King Harbor. ABC News once did a report about Rebecca Dmytryk's use of these devices for pedagogical purposes. That report shows people chasing these with a net. In one novel, an embellished version of one historical example of these** hunts the French Chef Armand Allegre. Voltaire once claimed that without one example of these devices "there would be nothing to remind us of the glory of France." The most famous of these devices would eat grain and then take a shit. That "digesting" type was created by Vaucanson. For 10 points, name these man made objects that despite possibly walking or talking like their natural inspiration, are not real birds.
ANSWER: **mechanical duck** [or **robo**tic duck; accept anything describing an **artificial duck**]

20. **The question's dreamer-uper once received a certificate from the Goochland School Board for participating in a pilot project involving Hyperstudio and this product. While in development, it was known as "Vitamin C". Steve Gibson maintained a large FAQ about this product including his claim that his Trouble in Paradise and SpinRite programs could help find and fix an issue associated with it. During one episode of** *The Screensavers***, David Hellier, an executive at the company that made it, claimed they would offer a full refund for this, but then the offer was retracted. At one point,** Sega had planned to release a version of this product as an attachment for the Dreamcast. It was proceeded by a product called Bernoulli. A pocket version of it was known as Clik! which was ironic as its makers were sued over this device's "click of death" problem. Other products by the company that made it included Ditto and Jazz. This product initially had a capacity of 100 megabytes. For 10 points, name this storage device created by Iomega.
ANSWER: **Zip** Drive [or **Zip** Disk]

Tiebreaker:
The muffle type of this device was historically used to produce salt cake. The reverbatory type of these objects use radiant energy transfer as opposed to direct contact. In some designs of these, air travels inside via tuyeres. A cylindrical shaped example of these devices with sand at the bottom is the Cupola. The Ladle type of these device use electric arcs to treat the loaded material. Successive layers of metals and fuels are past through the blast type in steelmaking. For 10 points, name these enclosed devices used for the intense heating of metal or other materials.
ANSWER: **furnace** [prompt on **oven**]