

Scobol Solo 2016

Packet 14 (Round 14)



1. A pair of constants describing the kinetics of these compounds are known as K_m ["K sub m"] and V_{max} ["V max"], and are at the intercepts of a double-reciprocal plot named for Lineweaver and Burk. Shifts in those plots describing the activity of these compounds can determine whether these compounds are inhibited competitively, uncompetitively, or allosterically [al-oh-"STARE"-ik-lee]. These compounds can be described by the Michaelis-Menten equation, and are better modeled by the induced-fit model than by the lock-and-key model. Name these biological catalysts.

Answer: enzymes [prompt on catalysts before the end]

2. The grounds of Fort Lawton were given to this city, and now make up Discovery Park west of its Woodland Park Zoo. This city includes a museum called the Center for Wooden Boats at the southern end of its Lake Union, and Portage Bay at the eastern end of that lake. This city is located on Elliott Bay near Bainbridge Island. Mercer Island is just east of this city, near the city of Bellevue. It hosted the 1962 World's Fair, for which its Center Monorail and Space Needle were built. This city is just west of Redmond and northeast of Tacoma. Name this major city on Puget [PYOO-jet] Sound, just south of Vancouver in Washington state.

Answer: Seattle, Washington

3. This poet wrote about a creature who "in roaring... shall rise and on the surface die". This author of "The Kraken" lamented "the days that are no more" in "Tears, Idle Tears". This poet wrote of one group "theirs not to make reply, theirs not to reason why, theirs but to do and die" in a poem that begins "half a league, half a league, half a league onward" and is about a group of 600 soldiers who died during the Crimean War. This poet also wrote the line "to strive, to seek, to find, and not to yield" in his poem "Ulysses". Name this British poet who wrote "The Charge of the Light Brigade".

Answer: Alfred, Lord Tennyson

4. When this person's second wife was captured, she said under torture "You could kill me as you like", and was then shot in front of their son. In an editorial titled "Toward A New Golden Age", this person wrote "The world is ours, the nation is ours, society is ours." As a leader, this person persecuted his critics during the Anti-Rightist Movement, which followed and strongly contradicted his Hundred Flowers Campaign. This leader's attempt to increase steel production in a move away from agriculture caused a great famine, and was called the Great Leap Forward. Name this man who led Communist China from 1949 until his death in 1976.

Answer: Mao Zedong [or Mao Tse-tung; prompt on Zedong or Tse-tung]

5. This city's philharmonic concert hall, which has a yellow color and arches upward, was designed by Hans Scharoun [shah-ROON]. The reconstruction of this city's palace is publicized by a futuristic five-story structure, the Humboldt Box. This city's Museum Island includes the Pergamon Museum, which contains the reconstructed Ishtar Gate. This city's largest palace is Charlott-en-burg, which was used by the Hohen-zollerns. A government building in this city was badly damaged in a 1933 fire but restored in the early 1990s. Name this city that contains the Reichstag [RYKE-shtahg] building and the Brandenburg Gate, and which was split into east and west parts during the Cold War.

Answer: Berlin, Germany

Check the score.

6. Loki was forced to fill the corpse of Ótr [OH-tur] with this substance produced by the And·vara·naut. Youth-preserving food that resembled this substance was managed by Iðunn [EE-thun]. The desire for this substance causes the dwarf Fafnir to kill his father Hreidmar ["RIDE-mar"] and transform into a dragon. An object made of this substance was guarded by a dragon that never slept, whose teeth could turn into soldiers. A food made of this substance labelled "for the most beautiful" led to a competition between Hera, Athena, and Aphrodite. Name this precious metal that objects changed into when they were touched by King Midas.

Answer: gold

7. These shapes are classified as major if they measure greater than 180 degrees or minor if they measure less. Subtracting the measures of two of these entities and then dividing by two is used to find the measure of an angle outside the shape they are on. Half the measure of one of these shapes equals the measure of the angle between a tangent line and a chord. The measure of one of these shapes equals half the measure of an inscribed angle that subtends it, while the measure of one of these is the same as the measure of the central angle that subtends it. A sector of a circle is bounded by two radii and this kind of shape. What is the name for a portion of the circumference of a circle?

Answer: arcs

8. During the reign of this king, Pierre-Paul Riquet [ree-kay] oversaw the connecting of Toulouse ["too-loose"] to the Mediterranean through the construction of the Canal du Midi [doo mee-dee]. The Academy of Sciences and Paris Observatory were started under this king thanks in large part to the work of his Minister of Finances Jean-Baptiste Colbert ["coal-bear"], who gained favor with this king after the death of Cardinal Mazarin [mah-zar-an]. This king was able to make his grandson Philip V the King of Spain, leading to the War of the Spanish Succession. Name this king who ruled France for 72 years and was known as the "Sun King".

Answer: Louis XIV [14] [accept Louis the Great; prompt on Louis]

9. The title character of this novel is addressed as “my little Friend Gildrig” at one point and is told that humans are “the most pernicious Race of little odious Vermin that Nature ever suffered to crawl upon the Surface of the Earth”. This novel then follows the title character and Glum·dal·clitch until the title character is carried to the sea in a box by an eagle. Characters in this novel that dig through mud for pretty stones are called Yahoos, and they are ruled by horse-like creatures called Houyhnhnms [WIN-imz]. Name this novel that includes large people in Brob·ding·nag and little people in Lilliput, written by Jonathan Swift.

Answer: *Gulliver’s Travels* [or *Travels into Several Remote Nations of the World. In Four Parts. By Lemuel Gulliver, First a Surgeon, and then a Captain of Several Ships*]

10. Amedeo Modigliani [ah-meh-DAY-oh moh-deel-YAH-nee] painted a reclining nude with a cushion of this color. Mark Rothko’s *Number 61* is rust and this color, and his *Number 1* is royal red and this color. Raphael painted Mary wearing a diadem of this color in one painting, and he and other artists often showed her wearing a robe of this color because it — like white — represents purity. Jonathan Buttall wears this color in a painting by Thomas Gainsborough. A guitarist with his head and instrument pointing almost straight down painted in 1904 was emblematic of the period in the work of Pablo Picasso named for what color?

Answer: blue

Check the score.

11. This quantity becomes large during avalanche breakdown, which occurs in materials where this value usually is low. In the Biot-Savart [bee-oh sah-var] law, this quantity is multiplied by the cross product of a differential length element and a unit vector to show how this phenomenon generates a magnetic field. Inductance is multiplied by the derivative of this quantity with respect to time to calculate the potential difference across an inductor. This quantity times potential difference gives the power of a circuit. This quantity equals electric potential difference divided by resistance according to Ohm’s law. Name this quantity representing the flow of charge per unit time, measured in amperes [“am-peers”].

Answer: electric current

12. William Rowe described the natural form of this concept in his Bambi case, and the moral form in his Sue case; he also wrote a book titled *The Evidential Argument from* this concept. This is the last word in the main title of a Friedrich Nietzsche book subtitled *Prelude to a Philosophy of the Future* that follows *Thus Spoke Zaratustra*. Hannah Arendt’s [uh-“RENT’S”] book on Adolf Eichmann [“IKE”-mun] was subtitled for the “banality of” this concept. Edmund Burke said “The only thing necessary for the triumph of” this concept “is for good men to do nothing.” Charles Baudelaire titled his poetry collection *The Flowers of* this concept. Name this concept contrasted with good.

Answer: evil(ness) (The Nietzsche book referenced in the second sentence is *Beyond Good and Evil*.)

13. This writer's dislike of Islam can be seen in his play in which Mahomet orders a suicide attack to assassinate Zopir in Mecca. In a novel by this writer, the title character becomes a slave to Sétoc after fleeing Babylonia, where he was prime minister. That character eventually returns to Babylonia, marries Astarté [ahss-tar-tay], and becomes king. This author of *Zadig* wrote about a man who kills Don Issachar and the Grand Inquisitor of Portugal, and decides "we must cultivate our garden." That character is earlier taught that we live in "the best of all possible worlds" by Doctor Pangloss. Name this French satirist who wrote *Candide*.

Answer: Voltaire [or François-Marie Arouet]

14. This key signature was used for the only symphony by the English composer George Dyson, the father of Freeman Dyson. This is also the key signature of Wolfgang Mozart's 13th serenade, *Eine kleine Nachtmusik* ["EYE"-nuh KLY-nuh NAHKT-moo-zeek]. This is also the major key of a very popular minuet that was included in the *Notebook for Anna Magdalena Bach* but has recently been attributed to Christian Petzold. This key is the relative major of E minor, and the chord built on its tonic has B and D as the major third and perfect fifth. Name this major key in which the leading tone, F sharp, is the only sharp.

Answer: G major [after "major", accept just G, and prompt thereon thereafter]

15. This person's theories gained popularity shortly after his death due to papers written by Stanislao Cannizzaro [stah-NEES-lao kah-nee-ZAR-oh]. Recent attempts to measure the constant named for this person have used silicon spheres made of cubic crystals of eight atoms each. That constant named for this person is multiplied by the Boltzmann constant to give the ideal gas constant. The law named for this person states that ideal gases with the same temperature and pressure contain the same number of particles per liter. Identify this scientist who lived in what is now Italy, the namesake of the number of atoms in a mole.

Answer: (Lorenzo Romano) Amedeo (Carlo) Avogadro (di Quaregna e di Cerreto)

Check the score.

16. In this war, the Valley of Tears Battle was won despite inferior numbers by Avigdor Ben-Gal. This war began with surprisingly easy advances by Operation Badr led by Ahmad Ismail Ali at the same time as Mount Hermon was being captured. Two months after his supposed retirement, Ariel Sharon [shah-ROHN] tried to warn about this war, and he ended up with a major role in it. After the Soviet Union supplied arms to Egypt and Syria in this war, Richard Nixon agreed to supply arms to Israel. Soon after this war, Israel gave up slices of the Golan Heights and Sinai Peninsula. Name this 1973 war that began during a major Jewish holiday.

Answer: Yom Kippur War [or October War or Ramadan War or Fourth Arab-Israeli War; accept 1973 Arab-Israeli War before "1973"; prompt on Arab-Israeli War]

17. At the beginning of the second half of this novel, a woman says that Prue got drunk and died in the cellar; earlier, Prue had expressed a death wish to the cook Dinah. In this novel, Prue's experience impacts the views of a girl from Vermont called Miss Ophelia. This novel ends with Cassy being reunited with her daughter Eliza, and it begins in Kentucky with a deal between Mr. Haley and Arthur Shelby. The author of this novel was described as "the little lady who started this great war" by Abraham Lincoln. Name this novel in which Simon Legree mistreats his slaves, written by Harriet Beecher Stowe.

Answer: Uncle Tom's Cabin

18. This country's Senate police chief was detained in 2016 as part of a massive money-laundering operation in its oil industry, nicknamed Operation Car Wash. This country's new government is being investigated due to former Transpetro leader Sérgio Machado's [SER-zhoh mah-SHAH-doh'z] testimony about illegal campaign contributions. In August 2016, this country's senate determined that its then-president had broken budgetary laws, and it removed her from office. Name this country now headed by Michel Temer [mee-"SHELL" TEM-er] following the impeachment of Dilma Rousseff [JEEL-mah ROO-sef].

Answer: (Federative Republic of) Brazil [or (República Federativa do) Brasil]

19. These phenomena are detected using Project DART, which uses a series of bottom pressure recording systems connected to surface buoys that have antennas. The monitoring is overseen by the National Oceanic and Atmospheric Administration's Pacific Marine Environmental Laboratory. The tracking system in the Pacific Ocean underwent major improvements just before an enormous series of these phenomena occurred in the Indian Ocean. Over 200,000 people died from a series of these events in December 2004. This word means "harbor wave" in Japanese. Name these large waves caused by disturbances such as earthquakes.

Answer: tsunamis [prompt on tidal waves]

20. The text of this document is given in *Mourt's Relation*, which was primarily written by Edward Winslow. People who signed this document agreed to "combine our selves together into a civil body politic." The first person to sign it was Governor John Carver, who had written it and who died the next year, being succeeded as governor by the second person to sign this document, William Bradford. It was also signed by Captain Myles Standish. Though this document mentions Virginia, it was signed on a boat in Cape Cod. Name this document signed in 1620 by Pilgrims and named for their ship.

Answer: Mayflower Compact

This is the end of regulation. Check the score. If it is tied, proceed to overtime tossups. If it is not tied, the game is over.

- ^{TB}21. This person was described by his servant Einhard as having a height seven times the length of his foot. This leader protected Pope Leo III in Paderborn after a group in Rome tried to pull out Leo's tongue and eyes. Fardulf exposed an attempt by this man's hunchbacked son to revolt. An earlier revolt against this person by Thuringian [thur-IN-jee-un] noblemen was led by Hardrad. This leader at first shared power with his brother Carloman after the death of their father Pepin the Short. He had a cathedral built in his home of Aix-la-Chapelle ["ex" la shah-pel], which is now called Aachen [AH-kun]. Name this Frankish king who in 800 became the first Holy Roman Emperor.

Answer: Charlemagne [or Charles the Great or Charles I or Karolus Magnus; prompt on Charles]

If the score is still tied, continue. If it is not tied, the game is over.

- ^{TB}22. A form of nuclear magnetic resonance spectroscopy that analyzes this element has typical chemical shifts between 0 and 200 ppm ["P-P-M"]. The stereo-chemistry of an atom of this element is inverted in an *SN*2 ["S N two"] reaction which, unlike an *SN*1 reaction, does not have an intermediate in which one of these atoms has a positive charge. A single atom of this element is found in a methyl [METH-ul] group. Hydrogen and this element are the only ones found in alkenes [AL-keenz] and alkanes [AL-"canes"]. Name this element central to organic chemistry.

Answer: carbon [accept C]

If the score is still tied, continue. If it is not tied, the game is over.

- ^{TB}23. In many mammals, this body part is surrounded by the rhinarium ["rye"-NAIR-ee-um]. The turbinate is a bone that protrudes into this body part. People in bad moods are said to have this body part "out of joint", while people who work hard are said to keep it to the grindstone. Name this organ used for smelling.

Answer: nose

There are no more overtime questions available. If the score is still tied, contact the control room for further instructions. If it is not tied, the game is over.