

# Scobol Solo 2015

## Replacement Packet



1. Arthur Eddington tried to re-establish a conventional idea of this concept using either infinitesimal speeds or Einstein's light-signal definition. The impact of special relativity on this concept was demonstrated by Einstein's thought experiment with lightning strikes and two observers, one of whom is on the ground and another of whom is on a fast train. Einstein tried to reduced the complications caused by his theories by explaining how light signals could be used to synchronize two clocks despite the elimination of this concept. Name this idea altered by the postulate that the speed of light is constant because that postulate leads to disagreements as to which light signal arrives first.

Answer: simultaneity [or synchrony; accept answers containing simultaneous or descriptions of events occurring at the same time]

*Check the score.*

2. Four equivalents of this molecule are found in the calcium chelating ["key-late"-ing] agent E·D·T·A. A process that forms this substance uses an iridium-based catalyst to suppress the water-gas shift reaction. This substance is formed via the Cativa process, which made the Monsanto process obsolete. When this substance is highly concentrated, it is referred to as "glacial" because it forms ice-like crystals. A type of bacteria named for this compound can create it by the fermentation of ethanol. This compound's systematic IUPAC name is ethanoic acid. Name this weak acid with formula  $\text{HC}_2\text{H}_3\text{O}_2$  ["H, C two, H three, O two"], found in vinegar.

Answer: acetic acid [accept ethanoic acid before it is mentioned; accept  $\text{HC}_2\text{H}_3\text{O}_2$  or  $\text{CH}_3\text{COOH}$  before "HC<sub>2</sub>H<sub>3</sub>O<sub>2</sub>"]

*Check the score.*

3. This man intimated the possibility of Christopher Columbus discovering the land snail Cerion [SEER-ee-ahn] at San Salvador in one paper. This scientist and Richard Lewontin [luh-"WANT-in"] used the architectural term "spandrel" to describe the unused facets of the human brain. Cranio-metry [kray-nee-AH-mih-tree] and intelligence quotient were critiqued as biological determinants in this scientist's *The Mismeasure of Man*. Phyletic [fy-LET-ik] gradual-ism is contrasted with this man's most famous theory, which involves long periods of stasis [STAE-sis] and rapid evolutionary cladogenesis [KLAD-oh-"genesis"]. Identify this scientist who worked with Niles Eldredge to theorize punctuated equilibrium.

Answer: Stephen Jay Gould

*Check the score.*

4. These curves exist when the ratio of curvature to torsion equals the amplitude of two of its three coordinate equations divided by the coefficient of the coordinate with a linear equation. These three-dimensional curves can be expressed by setting  $x$  equal to the cosine of  $t$ ,  $y$  equal to the sine of  $t$ , and  $z$  equal to  $t$ . Their curvature equals their radius divided by the sum of the squares of the radius and the speed along the  $z$ -axis. Wires in this shape form solenoids. The angle named for this shape is used to describe screws, which have a ridge of this shape going around them. Name these shapes, two of which are wound together to form DNA.

Answer: helix [accept coil; accept double helix after “two”]

**Check the score.**

5. According to Marc Kuchner and Sara Seager, planets would form from mainly this element rather than oxygen around pulsars and some white dwarfs. R- and N-class stars have more of this element than oxygen and are in many ways similar to red giants. This element along with nitrogen and oxygen are used as catalysts to combine hydrogen to create helium in some stars. Carl Sagan claimed that humans have a chauvinism towards this element when looking for extraterrestrial life. Name this element found in high concentrations in petroleum, coal, and most known life forms, which can form into buckminsterfullerene and diamonds.

Answer: carbon

**Check the score.**

6. This person gained the nickname “Young Hercules” for his outspoken support for the War of 1812 as chair of the House Foreign Relations Committee. Soon after that, he served as James Monroe’s secretary of war. Daniel Webster, Henry Clay, and this man comprised the Great Triumvirate. He also served as Vice President under both John Quincy Adams and Andrew Jackson. His opposition to the Tariff of 1828, nicknamed the “tariff of abominations”, led him to develop a theory that a state could invalidate a federal law, leading to the nullification crisis. Name this politician from South Carolina.

Answer: John C(alldwell) Calhoun

**Check the score.**

7. George Vancouver worked for this explorer before leading his own expeditions. This explorer took astronomer Charles Green to Tahiti to observe a transit of Venus. This leader sailed the HMS *Resolution* and the HMS *Endeavour*, the latter of which was the first European ship in Botany Bay. Residents of the islands named after this Englishman are citizens of New Zealand, but those islands also make up an independent country. This person was the first European to explore the East coast of Australia and sail entirely around New Zealand. This person died while attempting to kidnap and ransom the King of Hawaii. Name this explorer who died in Hawaii a year after he discovered it.

Answer: James Cook

**Check the score.**

8. This country gave land to its southern neighbor in the Treaty of Ma·pa·sing·ue in 1860, but that treaty was nullified by President Gabriel Garcia Moreno. The institutional Catholicism that Garcia Moreno put in place was later reversed by Eloy Alfaro. When this country was young, power in it went back and forth between the rivals Vicente Roca fuerte [vee-SEN-tay roh-kah-FWAIR-tay] and Juan José Flores. In recent years, this country has been the most powerful country other than Venezuela to join the Bolivarian Alliance started by Hugo Chávez, thanks to the support for him by this country's president, Rafael Correa. Name this country whose history has featured a balance between the interests of Guayaquil ["guy"-ah-KEEL] and Quito [KEE-toh].

Answer: Ecuador

**Check the score.**

9. According to a probably false legend, this person once complained that his king could not translate words into actions and ordered the beheadings of the king's two favorite concubines. *Records of the Grand Historian* and *The Spring and Autumn Annals* disagree over this person's birthplace, and there is disagreement over whether he lived before or during the Warring States Period. This person encouraged deception, such as pretending to be disordered or inferior. He also stressed the importance of knowing your enemies and knowing when to fight. Name this general who served King Helu of Wu and wrote *The Art of War*.

Answer: Sun Tzu [or Changqing or Sun Wu or Sun Zi, prompt on Tzu]

**Check the score.**

10. In a story by this writer, the narrator's life is changed after the train car he is in gets left behind on the night of a blackout. In addition to that story, "Wakefield", this author wrote about the former slave Pearl and General Sherman in his novel *The March*. In another novel by this author, the title character develops a relationship with Drew Preston after watching mobsters he works for murder her boyfriend Bo Weinberg. Another novel by this author involves the vandalization of a Model T Ford belonging to Coalhouse Walker. Characters in that novel include Harry Houdini and Booker T. Washington. Name this author of *Billy Bathgate* and *Ragtime*.

Answer: E(dgar) L(awrence) Doctorow

**Check the score.**

11. This author wrote about a man given "a mouthful of common sense" by nature and "a bushful of learning" by a priest. That character, Rashleigh, is the cousin of one of this author's narrators, Frank Os·bald·i·stone. In another novel by this author, the Jewish woman Rebecca falls in love with the title character. Rebecca's father Isaac is threatened with torture by Reginald Front-de-Boeuf [frawn day byoof] unless he pays a thousand pounds of silver. After another woman refuses to marry Ath-el-stane, she marries the title character. In that novel, Locksley turns out to be Robin Hood. Name this author of *Rob Roy* who wrote about Rowena and Wilfred in his novel *Ivanhoe*.

Answer: (Sir) Walter Scott

**Check the score.**

12. In this play, a character says “Hark ye, young cut-purses, lend an ear” before demonstrating how to steal various items. In this play’s first act, the title character stands on a chair in a theater pit because he is upset of the casting of Montfleury [mawn-floo-ree] in that evening’s performance. The title character also injures his hand while fighting a hundred men sent by Comte de Guiche [kawm duh geesh]. This play’s title character writes love letters to help Baron Christian de Neuville [nyoo-vil-et]. Several men in this play, including Christian, fall in love with the title character’s cousin Roxane. Name this Edmond Rostand play about a man with a large nose.

Answer: Cyrano de Bergerac

**Check the score.**

13. This poem states “a poet could not but be gay, in such a jocund company.” The fourth and final stanza of this poem mentions the “bliss of solitude” that the narrator is able to experience while lying on his couch. Because the objects described in this poem are “along the margin of a bay”, they are compared to water, and they “outdid the sparkling waves in glee”. Those golden objects in this poem are beneath a tree, and they flutter and dance in the breeze. At the end of this poem, the narrator says that his heart dances with the flowers he remembers seeing. Name this William Wordsworth poem in which the narrator looks at daffodils.

Answer: I Wandered Lonely as a Cloud [accept The Daffodils before the end]

**Check the score.**

14. Because of recurring eye infections, many later works by this artist—such as *Steamboats in the Port of Rouen*—were painted by looking through hotel windows on upper floors. Other later works by this painter, some of which showed hay harvests, were set at Éragny [eh-rah-n-yee]. This artist’s study under Paul Signac [seen-yahk] and Georges Seurat [zhorz h soo-rah] led him to adapt some pointillist techniques in works such as *Children on a Farm*. He lived at Pontoise [pohn-twahss], the setting for his *White Frost* that was shown at the first Impressionist exhibition. Name this French Jewish painter who grew up on St. Thomas and who, before he became a Neo-Impressionist, was considered a father figure in the Impressionist movement.

Answer: Camille Pissarro

**Check the score.**

15. This composer called for four performers on seven instruments in his *Sonata for Two Pianos and Percussion*, and two of the performers at its premier were he and his second wife Ditta Pászatory. This composer was misdiagnosed with tuberculosis during World War II when he actually had leukemia. At that time, Serge Koussevitzky [SAIR-gay koo-say-VIT-skee] commissioned this composer’s last major piece, *Concerto for Orchestra*. A series of 153 piano pieces this composer wrote before the war is called *Mikrokosmos* [meek-roh-KOHSS-mohss]. Name this composer who wrote many pieces inspired by folk songs from Ukraine, Slovakia, Romania, and his native country, Hungary.

Answer: Bartók Béla [accept names in either order]

**Check the score.**

16. Popular transcriptions of this song start with two eighth notes, a half note, two eighth notes, a half note, two eighth notes, and five quarter notes. The lyrics to this song's second verse were originally written by Georg Scherer [GAY-awrk "sharer"] and ended with the line "Look into dream's paradise." The lyrics to its first verse came from the folk poems in *Des Knaben Wunderhorn* [dayss k'NAH-bin VOON-dur-horn]. Part of a collection called *Five Songs*, this song was created around the same time its composer wrote *A German Requiem*, about a decade before his *Academic Festival Overture*. Name this song originally called "Wiegenlied [VEE-gen-leed]", written by Johannes Brahms to celebrate the birth of a baby.

Answer: Brahms's Lullaby [or Cradle Song or Good evening, good night or Guten Abend, gute Nacht; accept Wiegenlied before it is mentioned]

**Check the score.**

17. This was the primary god worshiped in Nekhen during the Early Dynastic Period. The Abydos Passion Play ends with this god as king and is known as his "triumph". A ser-ekh appeared on pharaoh's coffins with a picture of this god on top of it and the name of the pharaoh connecting him to this god inside of it. The four sons of this god were pictured on canopic [kuh-NOH-pik] jars. This god was often pictured suckling from his mother, Isis. After a long rivalry with Set, this god used wood painted to look like stone to win a boat race. One of his eyes is the sun, and the other is the moon. Name this Egyptian god in the form of a falcon.

Answer: Horus

**Check the score.**

18. This writer criticized both biblical interpretations by Cardinal Bellarmine and the doctrine of purgatory in a book section titled "Of Spiritual Darkness From Misinterpretation of Scripture". His explanation of the English Civil Wars and the Long Parliament was titled *Behemoth*. This writer used the Latin phrase "bellum om-nium contra om-nes" in *De Cive* [day KEE-vay], and that quote is often translated as "the war of all against all". He also described the life of man as "solitary, poor, nasty, brutish, and short." Name this philosopher who supported an unaccountable ruler in his book *Leviathan* [lev-"EYE"-uh-thun].

Answer: Thomas Hobbes

**Check the score.**

19. This leader's wife Sara is being sued by former residence workers who claim that she gets verbally abusive when she drinks. This leader formed a new coalition government in 2015 that included the Shas and Kulanu [koo-LAH-noo] Parties. That new coalition was required following elections that were called after this leader dismissed the Minister of Finance Yair Lapid [ya-EER lah-PEED] and Minister of Justice Tzipi Livni [TSEE-pee LEEV-nee]. In the new government, the Minister of Diaspora Affairs is Naftali Bennett. Just before his re-election, this leader spoke to the U.S. Congress without President Obama's approval. Name this leader of the Likud [lee-KOOD] Party who is the Prime Minister of Israel.

Answer: Benjamin "Bibi" Netanyahu

**Check the score.**

20. A no-longer-extant group of people who shared their name with this body of water were called the Belle Glades; they lived along the Fish-eating Creek that feeds this body. This lake is surrounded by the Herbert Hoover Dike. The waterway that shares its name with this lake goes from Stuart to Fort Myers. Stuart is just south of Port St. Lucie. This lake is also fed by Kiss-im-mee River. It is the largest freshwater lake contained inside a single state. Though it has a large surface area, this lake is very shallow, and it shares much of its water with the Everglades. Name this large lake between Tampa and Miami in Florida.

Answer: Lake Okee-chobee

*This is the end of the packet.*