

# Scobol Solo 2016

## Championship IV (Phase IV: Questions 51-60)



51. The Kapustinskii [“CAP”-oost-IN-skee] equation allows an extremely simplified calculation of this quantity. A repulsive term containing the Born exponent is found in an equation for calculating this quantity that relies on the geometry-dependent Ma-de-lung constant. This quantity can be calculated from the final step of the Born-Haber cycle, which begins with gaseous ions, and ends with a solid crystal. This quantity is effectively the net attraction and repulsion from all ions in a crystal structure. Name this quantity, the energy of formation of a crystal.

Answer: lattice energy [or lattice enthalpy; prompt on energy]

52. This person’s grandfather, who shared his name, destroyed Kirrha in the First Sacred War and ruled Sicyon [SISH-ee-ahn]. This person gained power soon after being exiled due to a backlash against an alliance between Isagoras [“eye”-sah-GOR-uss] and the Spartans. Those events occurred soon after this person’s family convinced Sparta to drive Hippias from Athens. This person divided Attica into three regions. Aristotle claimed that this person introduced ostracism as a policy. Name this leader who reformed the boule [boo-LEE] created by Solon so that voting was based on the deme [deem] people lived in, earning him the nickname “the father of Athenian democracy.”

Answer: Cleisthenes [KLYSS-thuh-nee] (of Athens)

53. This character became known as a “pocket Merlin” after playing characters such as the ape in *Tarzan*. This character once claimed that his father left him in chains in the basement, and he was fed raw field peas by a passing farmer until he escaped and got a job washing a camel. Though he was from Meridian, Mississippi, he often spent summers in Alabama. This character explained his friend’s missing pants by saying he won the pants in strip poker, a lie that prevented the admission that he was at Boo Radley’s house with Jem. Name this character from *To Kill A Mockingbird* who introduces himself as Charles Baker Harris.

Answer: (Charles Baker) “Dill” Harris [accept either underlined part of Charles Baker Harris before “Charles”]

54. Peter Maxwell Davies wrote *Four Voluntaries* based on the work of this composer. This composer taught William Byrd, who wrote *Ye Sacred Muses* as an elegy to this man. Pieces known as this composer's ordinal and his canon come from a set of nine songs collectively known as *Tunes for Archbishop Parker's Psalter* ["SALT"-ur]. Eight choirs of five voices each are used to perform this composer's *Spem in alium*. The last pieces he wrote may be his *Lamentations of Jeremiah the Prophet* from the 1560s. Name this composer who wrote a theme that inspired a fantasia written in 1910 by Ralph [rayf] Vaughan Williams.

Answer: Thomas Tallis

55. This province contains the Petitcodiac [pay-tee-KOH-dee-ak] River, which due to its large amounts of mud is commonly called the Chocolate River. Jackie Vautour has gained national attention from this province for fighting his eviction to make way for Kouchibouguac [koo-shee-boo-gak] National Park. This province's Miscou Island is near its extension into the Gulf of St. Lawrence, which is across from Quebec's Gaspé Peninsula. The Isthmus of Chignecto [sheeg-"NECK-toe"] connects this province to Nova Scotia. Its most populous urban area is around Moncton, but its most populous city is St. John. Name this maritime province whose capital is Fredericton.

Answer: New Brunswick

### ***Check the score.***

56. When preceded by the word "low", this adjective describes a hydrogen bond that is shorter and stronger than usual. In parallel computing, this adjective describes the synchronization method and associated functions that wait for a set of tasks to finish before the next task begins, in a setup contrasted with locks and semaphores. This adjective also describes the flats facing lagoons that often have pools of water, and islands made of sand that run parallel to a coast. Give this term for reefs separated from land, such as the "Great" one in the Coral Sea near Queensland, Australia.

Answer: barrier

57. Hans Kundt was a commander leading up to this war, but his poor knowledge of the terrain and insistence on frontal assaults led to losses at the First and Second Battles of Nanawa. Kundt was replaced with Enrique Peña-randa ["PAIN"-yah-RAHN-dah], who ended up leading a coup when there was an attempt to replace him. On the other side of this war, José Félix Esti-garr-ibia [hoh-SAY FAY-leeks ESS-tee-garr-EE-bee-ah] had overwhelming success at the Campo Vía pocket. Soon after this war, President Eusebio Ayala [yoo-SAY-bee-oh "eye"-AH-lah] was overthrown despite his victory, and Daniel Sala-manca was overthrown during this war. Name this 1930s war during which Bolivia lost land to Paraguay.

Answer: Gran Chaco War [or Guerra del Chaco]

58. In one novel by this author, Walter Hargrave is able to join his sister Milicent despite Ralph blocking a door, because there was another way out that causes Walter to go past Benson, the butler at Grassdale Manor. That novel by this author about Helen and her son Arthur is narrated by Gilbert Markham. This author also wrote a novel about a woman who finds it difficult to care for the Bloomfield and Murray children, and who develops a rivalry with Rosalie Murray for the love of the parson Edward Weston. Name this woman who wrote *The Tenant of Wildfell Hall* and *Agnes Grey*.

Answer: Anne Brontë [accept Acton Bell; prompt on Brontë or Bell]

59. This person wrote “Each thing, as far as it can by its own power, strives to persevere in being.” This person also wrote that God is “a being of whom all or infinite attributes are predicated”. The statement “All things that are, are either in themselves or in something else” is the first of this thinker’s seven axioms, and the statement “Substance is by nature prior to its affections,” is the first of his eight propositions. This writer of *A Short Treatise on God, Man and His Well-Being* was accused of pan-theism a hundred years after he died by Friedrich Heinrich Jacobi [FREED-rik “HIGH”n-rik YAH-koh-bee]. Name this Dutch philosopher with a Jewish background, who wrote *Ethics*.

Answer: Baruch Spinoza or Benedict (de) Spinoza [or Benedito de Espinosa]

60. This person, and another scientist with a last name that sounds the same, independently discovered the relationship between the index of refraction and polarizability. This person’s theory about the composition of atoms and propagation of light was able to explain his former student’s discovery of the splitting of spectral lines by a magnetic field, the Zeeman [ZEH-mahn] effect. The “factor” named for this person equals the reciprocal of the square root of the quantity 1 minus speed squared over the speed of light squared. Name this Dutch physicist whose transformation equations were used to develop special relativity.

Answer: Hendrik Lorentz

***This is the end of the packet.***