

Scobol Solo 2015

Championship Tiebreakers



11. This country's towns Gor-ou-mo and Pao-ua have been destroyed within the past decade by government attacks. Those towns were in the northwest part of this country, near the Ou-ham River. Wildlife in this country is protected in the Dzanga-Sangha Special Reserve and Manovo-Gounda St. Floris National Park. Before entering Chad, the Chari River starts in this country. This country is between Cameroon and South Sudan, and its capital is near the Ubangi River, which separates it from the Democratic Republic of the Congo. Its government has been unstable since the 2011 election of François Bozizé. Name this landlocked country whose capital is Bang·ui.

Answer: Central African Republic [or CAR; or Kodorosese ti Beafrika; or Republique centrafricaine]

12. This law is used to find the 260/280 ratio for determining nucleic acid purities. The Bradford assay relies on the use of this law after adding Coomassie Blue to a solution of protein. This law concerns a value which is equal to 2 minus the base-10 logarithm of transmittance. A term in this law is sometimes called the extinction coefficient and is represented as epsilon. Another term found in this law is the path length, which typically corresponds to the edge length of a cuvette. Name this law central to UV-vis spectroscopy, which gives a linear relationship between concentration and absorption.

Answer: Beer's Law [accept Beer-Lambert law]

13. In 2012, Nick Hilscher replaced Gary Tole as the director of the orchestra named for this person. This musician and his orchestra were in the movies *Sun Valley Serenade* and *Orchestra Wives*, and their vocals were often sung by Paula Kelly and The Modernaires. One of his hits was an instrumental version of Joseph Winner's drinking song "Little Brown Jug." This bandleader had hits with "Moonlight Serenade" and "In the Mood", and he popularized a song about traveling on "Track 29", "Chattanooga Choo Choo". Name this trombonist and bandleader who was on an airplane that disappeared in December 1944.

Answer: (Alton) Glenn Miller

14. According to legend, this scientist burst a barrel by pouring water into it through a tall tube. This scientist convinced his brother-in-law to test the effect of increasing altitude on a barometer. The principle named for this person uses the product of density times gravitational field strength times height to find the difference in hydrostatic pressure between two points. That principle is equivalent to the fact that pressure applied to a fluid is transmitted in all directions through the fluid. The name of this person is used for the SI unit of pressure. Identify this Frenchman who is also the namesake of an arrangement of all binomial coefficients into a triangle with a one at the top and more ones going down the sides.

Answer: Blaise Pascal

21. A novella by this writer is about a speech given by a fictional writer at Appleton College in Massachusetts about vegetarianism; that character, who this author later made the title character of one of his works, is Elizabeth Costello. In another novel by this author, a gardener picks up his mother at Somerset Hospital and decides that “he had been brought into the world to look after his mother.” That character decides to bring his mother’s ashes to the farm where she grew up. This author also wrote about the resignation of Professor David Lurie. Name this South African author of *Life & Times of Michael K* and *Disgrace*.

Answer: J(ohn) M(axwell) Coetzee [kuut-SEE]

22. This disease involves the formation of hepta-metric pre-pores by protective antigen 63. The Sterne strain of this disease lacks a characteristic poly-glutamic [“poly”-gloo-TAM-ik] acid capsule. The enzymes of the toxin that causes this disease are lethal factor and edema [eh-DEE-muh] factor, and its most common strain is called Ames. Louis Pasteur used Jean Joseph Toussaint’s [zhahn zhoh-sef too-sawn’z] potassium di-chromate [“die”-KROH-mayt] oxidation technique to develop a vaccine against this disease. The germ theory of disease was bolstered when Robert Koch demonstrated that this disease is caused by bacteria spores. After his chicken cholera vaccine, Pasteur developed the vaccine against this disease to save cattle. Name this disease used in a series of 2001 terror attacks.

Answer: anthrax

23. After Anatoly Marchenko died in prison, this non-U.S. leader made spy exchanges for Natan Sha-ran-sky and Yuri Orlov, and he allowed Andrei Sakh-a-rov to return home. This leader started the Congress of People’s Deputies, which gave some power to voters and took power away from the Communist Party. This person replaced Andrei Gro-my-ko, who was nicknamed “Mr. Nyet”, as Minister of Foreign Affairs with Eduard She-vard-nad-ze. In addition to restructuring the government, this person increased freedom of speech. Ronald Reagan told this person to “tear down” the Berlin Wall. Name this final leader of the Soviet Union, who propounded policies of *glasnost* and *perestroika*.

Answer: Mikhail Gorbachev

31. A recent book by this person and Katie Davis refers to today’s youth as *The App Generation*. This person is directing the Good Project and is the Senior Director of Harvard Project Zero. In one of his books, he used the adjectives “disciplinary”, “synthesizing”, “creating”, “respectful”, and “ethical” to describe *Five Minds for the Future*. This person’s book *Frames of Mind* used human intellectual competences to improve the concept of IQ. Those competences included bodily-kinesthetic [kin-iss-THET-ik] intelligence and logical-mathematical intelligence. Name this developmental psychologist who developed the theory of multiple intelligences.

Answer: Howard (Earl) Gardner

32. Five years after writing *Four Movements for Two Pianos*, this composer wrote *Two Movements for Four Pianos*. His second violin concerto, which does not explicitly state the order of the movements, is called *The American Four Seasons*. That work is not part of his Concerto Project, which begins with *Concerto for Cello and Orchestra* and *Concerto Fantasy for Two Timpanists and Orchestra*. This composer made music for a film trilogy by Godfrey Reggio that starts with *Koyaanisqatsi* [*koh-yah-niss-KAHT-see*], and he also wrote the soundtrack for *The Hours*. Name this minimalist composer of the operas *Akhnaten*, *Satyagraha*, and *Einstein on the Beach*.

Answer: Philip (Morris) Glass

33. One of these statements about intersection points is used to demonstrate the conditions necessary for Cramer's theorem to define a curve. A class of these statements named for the librarian G.G. Berry was used in a recent proof of Gödel's [*"girdle's"*] first incompleteness theorem. Another of these statements addressing trends in combined data sets is named for Edward Simpson. The veridical [*veh-RIH-dih-kul*] type of this statement can be demonstrated by a question about dehydrating potatoes or by the Monty Hall problem, where a solution that at first seems wrong is in fact correct. One example of these statements is the claim "I am a liar." Name these statements that are or seem self-contradictory.

Answer: paradoxes

This is the end of the packet.