

**Bulldog High School Academic Tournament XXII (2013): *Praxis*? We Talkin' Bout *Praxis*, Man**  
**By Yale Student Academic Competitions**  
**Edited by Matt Jackson and Ashvin Srivatsa, with Kevin Koai and Spencer Weinreich**  
**Special Thanks to John Lawrence and Mike Cheyne**

**Round Fourteen Tossups**

1. In one work by this composer, one central character's recitatives are usually accompanied by sustained strings, an effect known as that character's "halo." That work opens with the double chorus *Kommt, ihr Töchter*. A piece by this composer that serves as the basis for Charles Gounod's *Ave Maria* appears in his collection of preludes and fugues in every major and minor key. "Jesu, Joy of Man's Desiring" is a movement from one of his 209 cantatas, and a G-major aria serves as the basis for thirty variations in one harpsichord work. For 10 points, name this German Baroque composer of the *Saint Matthew Passion*, *The Well-Tempered Clavier*, and the Goldberg Variations.  
ANSWER: Johann Sebastian Bach <KK>

2. This author wrote an unfinished novel about a murderers' agency which turns on its founder, *The Assassination Bureau, Limited*, and Professor Smith survives an outbreak that begins in 2013 in his "The Scarlet Plague." This author also wrote a novel in which the Everhard Manuscript depicts America's fall to an oligarchical regime, called *The Iron Heel*. He depicted Humphrey van Weyden's adventures aboard the ship *Ghost*, a man suffering from extreme cold on the Yukon trail, and an animal who kills Yeehat Indians after pulling a sled. For 10 points, name this American author of "To Build a Fire" and *The Sea-Wolf*, who wrote of the dog Buck in *The Call of the Wild*.  
ANSWER: John Griffith "Jack" London <AT>

3. A Viennese one of these objects is depicted by an E-flat major theme in Zoltan Kodaly's *Hary Janos* suite. The "chemical" type of them includes the bromine-dependent B-Z reaction and an iodine-dependent color-changing reaction. A bassoon and string ostinato pattern represents this title object of Haydn's 101st symphony. In *Great Expectations*, these objects are disabled and display equally in Miss Havisham's house. Ancient China used a type of these objects which used a flow of water to run. A CPU's processing rate is named after, for 10 points, what object connected to a bell in London's Big Ben tower which, in Orwell's *1984*, can strike thirteen?  
ANSWER: clocks [prompt on "oscillators" or "pendulums"] <MJ>

4. A certain characteristic property of these systems can be expressed using a distribution ratio, which determines the efficiency of liquid-liquid extraction. When one of these includes a perfect electrolyte, a factor denoted *i* will be an integer. That factor, named for van 't Hoff, is one factor that determines the extent to which freezing-point depression and other colligative properties exist in these substances. Henry's law describes the composition of these substances as a function of gas pressure. When the heat of formation for one of these is nonzero, deviations from Raoult's law are observed. For 10 points, name these homogeneous mixtures that consist of a solute in a solvent.  
ANSWER: solutions [generously prompt on "solvents" until "colligative" is read, but do not prompt or accept afterwards] <AS>

5. During one of this country's defeats, the opposing commander claimed, "Now we have them in the mousetrap"; this country formed the Government of National Defence in response to their loss at that battle. This country's forces tortured members of the FLN and outnumbered, but still lost to, Ignacio Zaragoza's army at Puebla. This nation's army mortally wounded James Wolfe in a battle they later surrendered on the Plains of Abraham. A guerrilla army, under Vo Nguyen Giap, made this colonial power leave Asia at Dien Bien Phu. For 10 points, name this European military power whose loss at Sedan left it unable to defend Paris.  
ANSWER: France [or French Second Empire; or French Fourth Republic] <AT>

6. This academic put forth the “fundamental rule” that “One must consider social facts as things.” His study of animism and totemism argued that religions were instances of abstract society worship, and focused on the sacred/profane dichotomy. This author of *Elementary Forms of Religious Life* wrote a dissertation on the shift from “mechanical” to “organic” solidarity, *The Division of Labor in Society*. He described egoistic, fatalistic, and altruistic deaths in a study which included a state of disconnect from social norms, or *anomie*, among four causes of *Suicide*. For 10 points, name this pioneering French sociologist.

ANSWER: Émile Durkheim [or David Émile Durkheim] <IP>

7. This work referenced “blood drawn by lash, and blood drawn by sword” in quick succession, and noted that the “forces of fascism and communism” couldn’t have been beaten by muskets and militias. Rives Miller Gorgan climbed up a 40-foot tree to heckle continuously during this address, in which five consecutive sentences used the phrase “Our journey is not complete.” Senators Lamar Alexander and Chuck Schumer spoke before this speech, which said “A decade of war is ending, and economic recovery has begun.” For 10 points, name this speech which referred to “our gay brothers and sisters,” delivered on January 21 by the newest second-term President.

ANSWER: Barack Hussein Obama II’s second inaugural address [accept word forms of inaugural] <MJ>

8. One character in this book stops himself from “methodically [knocking] people’s hats off” in the street when he gets grim; its other characters include Dough-Boy. Father Mapple’s sermon is in this book, in which a foreigner gets himself a coffin. Its 135th chapter includes the quote “From hell’s heart I stab at thee.” Pip goes crazy after Stubb leaves in this book, in which a death is foretold by the “Parsee” Fedallah. In this novel, Tashtego is denied a gold doubloon nailed to a mast. Starbuck and the harpooner Queequeg serve on the *Pequod* under the peg-legged Captain Ahab in this novel. For 10 points, name this novel about the hunt for a white whale, by Herman Melville.

ANSWER: Moby-Dick; or *The Whale* <JW/MJ>

9. BPG allosterically induces this protein to unbind from its primary ligand, which is incorporated into one of four octahedral complexes, and which has a sigmoidal binding curve due to cooperative binding, as observed by the elder Bohr. The unusual pigmentation of jaundice patients is due to bilirubin, produced when this protein is catabolized. A pathological glutamic acid-to-valine point mutation in the sixth residue of this protein’s porphyrin-containing beta-globin will cause it to form fibers; when that happens, the cells that transport it are deformed into a sickle shape, resulting in a form of anemia. For 10 points, name this iron-containing protein that carries oxygen in the blood.

ANSWER: hemoglobin <AS>

10. This particular region of the solid earth contains the Conrad discontinuity, above which lies felsic sial. Ophiolites are foreign bodies that may be emplaced here at fore-arcs. Collisional orogenies only occur here. Broad areas of it that have undergone little tectonic modification are called cratons or shields, and often contain exposed Precambrian basement rock. This part of the lithosphere, which was mostly formed about 3 billion years ago, is characterized by decreased maficity and hence decreased basalt content. Because it is relatively low-density, it cannot be subducted. For 10 points, name this part of the crust that is generally exposed to the atmosphere

ANSWER: continental crust [prompt on “crust”] <AS>

11. This deity is revived with water of life by Asushunamir. In a prominent myth, this deity’s visit to Irkalla’s queen Ereshkigal is halted by gatekeepers who each require the removal of an article of clothing; that visit got this deity trapped in the underworld while trying to rescue Tammuz, her lover. This counterpart of the Semitic Astarte and the Sumerian Inanna sends Anu’s Bull of Heaven after being rejected by Gilgamesh. For 10 points, name this Assyrio-Babylonian goddess of war and love.

ANSWER: Ishtar [accept Inanna until “Semitic” is read] <AT>

12. One document that led to this event was denounced as illegitimate by John Ross, and many of its victims died under Mantle Rock while waiting for John Berry's overpriced ferry. The Supreme Court tried to prevent this event by its ruling in *Worcester v. Georgia*. After the signing of the Treaty of New Echota, internment camps to prepare for this event were set up in Tennessee by Winfield Scott. It caused over four thousand deaths during Martin Van Buren's presidency after its victims gave up all land east of the Mississippi. For 10 points, name this forced relocation of tribes such as the Cherokee to Indian Territory in present-day Oklahoma.

ANSWER: **Trail of Tears** [or **Nunna daul Isunyi**; or **Nu-No-Du-Na-Tlo-Hi-Lu**; or **Trail Where They Cried**; prompt "Indian removal," "removal of the Cherokees," or other less-specific answers] <GL>

13. The Lepsius list catalogues 67 of these structures, including an unfinished one at Meidum and a "Headless" one rediscovered in 2008. Six of these structures are in a complex where the Dream Stela was displayed. Their evolution from *mastabas* is demonstrated by one at Saqqara, and one of them dedicated to Menkaure has had its limestone covering stolen off of it. The "Bent" and "Step" ones are smaller than those ordered by Khufu and Khafre. For 10 points each: name these buildings which inspired I.M. Pei's addition to the Louvre, burial structures whose "Great" example in Giza is the last remaining Wonder of the Ancient World.

ANSWER: Egyptian **pyramids** [do not accept "pyramids of Giza"] <BS>

14. This race of beings built red mechs called Warhounds, which are not playable due to outrage in beta testing. Players controlling this race see the image of an adjutant, a robot in female form. In one game, these users of the widow mine suffer an assault on their capital world Tarsonis, a 500-damage suicide attack is done by "infested" ones, and their basic infantry spawn with the phrase "You want a piece of me, boy?" This race's SCVs harvest vespene gas to fight the Protoss and Zerg. For 10 points, name this race of beings exemplified by Jim Raynor in *Starcraft II*, which expanded into space after evolving from apes on planet Earth.

ANSWER: **terrans** [or **humans**; or **people**; or **Homo sapiens**, or other answers referring to the species that you presumably are] <DL/MJ>

15. This is the number of possible arrangements of a pair of identical bosons in a two-level system. A DC circuit that exhibits damped harmonic oscillation must contain at least this many passive elements. This is the smallest nonexistent multipole moment. Any gravitating system with at least this many bodies is not analytically integrable. The electron's charge is this number times the down quark charge. The thermodynamic law of this number isn't really a law, and describes the entropy of ideal crystals in a certain limit. There are this many generations of quarks. For 10 points, give this number that is also the number of observable spatial dimensions in the universe.

ANSWER: **three** [accept **tripole**] <AS>

16. This leader inherited an army weakened by five of the enemy's Encirclement Campaigns. This ruler's thought inspires the Bengali Naxalites. Decades after leading the Autumn Harvest uprising, he triggered a locust plague by encouraging his countrymen to kill sparrows. This former librarian argued that the peasantry was its own vanguard, and emerged as a leader during a 6000-mile retreat from the Kuomintang called the Long March. This man's army defeated that of Nationalist Chiang Kai-shek, who escaped to Taiwan. For 10 points, name this leader whose sayings are collected in the Little Red Book, the first Chairman of Communist China.

ANSWER: **Mao** Zedong [or **Mao** Tse-tung; or Chairman **Mao**] <BS>

17. In one of this author's books, wind during a funeral keeps blowing the hat off the Clevis family's patriarch. This author wrote about Ludvik Jahn, who puts the message "Optimism is the opium of the people!" on a postcard. He wrote how the idea of eternal recurrence makes life "heavy" in a novel where one woman marks her submissiveness with her grandfather's bowler hat. This author of *The Joke* and *The Book of Laughter and Forgetting* described the death of the dog Karenin in a book where Sabina engages in an affair with Tereza's surgeon husband Tomáš. For 10 points, name this author who set *The Unbearable Lightness of Being* in his native Czechoslovakia.

ANSWER: Milan Kundera <MJ>

18. This man was born in a year when plague killed every member of an army invading his hometown, including that army's leading elephant. This man rode a winged steed westward to a holy building where he went up and down the seven heavens during the Night Journey, and he established the first protections for People of the Book. At age forty, he started making trips to a cave in Mount Hira. This man's authoritative statements are called *hadith*, and the archangel Gabriel revealed 114 *suras* to this "seal of the prophets". For 10 points, name this man who fled Mecca after receiving the Qur'an and founding Islam.

ANSWER: Muhammad [or Mohammed; or Mahomet] <MJ>

19. This ruler's navy was victorious at the battle of Gangut, and this ruler's army put down the Bulavin rebellion in Astrakhan. This ruler, who suppressed a rebellion of a guard called the Streltsy, replaced a chief religious figure of his empire with the Holy Synod, and created a merit-based advancement system called the Table of Ranks. This leader went on a "Grand Embassy" to the rest of Europe and defeated Charles XII of Sweden at Poltava, ending the Great Northern War. For 10 points, identify this 6-foot-8 Russian tsar, whose program of modernization included the founding of a new capital at Saint Petersburg.

ANSWER: Peter I [or Peter the Great; or Pyotr I; or Pyotr Veliki; or Pyotr Alexeyevich Romanov; prompt partial answers] <BS>

20. This poet included the cry "I am weary, weary; I would that I were dead!" in a poem inspired by *Measure for Measure*. He described "Long fields of barley and of rye / That clothe the wold and meet the sky" in another poem, and had a mythical narrator complain that "after many a summer dies the swan." This author of "Marianna," "Tithonus," and "The Lady of Shalott" wrote of an old king who still wants "to strive, to seek, to find, and not to yield" despite having returned home. For 10 points, name this Victorian author of "Ulysses," who described the "noble six hundred" in "The Charge of the Light Brigade."

ANSWER: Alfred, Lord Tennyson <GL>

### [STOP HERE]

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. This leader is erroneously attributed a horse named "Ellen Edenberg" by many websites because a Stanford student named Ellen Edenberg once asked online about his horse's name. An author named after this leader set *Les Grandissimes* and *Old Creole Days* in New Orleans. This man was painted by the artist of *The Skater* in the Lansdowne portrait, and had several myths about him fabricated by Parson Weems. This man, who allegedly threw a silver dollar a mile across the Potomac, is the eponym an African-American food scientist who popularized the peanut, and camped his own troops at Valley Forge. For 10 points, name this first U.S. President.

ANSWER: George Washington <MJ>

### Bonuses

1. Andrew Wiles's proof of this theorem relies on the Taniyama-Shimura conjecture. For 10 points each:

[10] Name this theorem that was stated, but not proven, in the margin of *Arithmetica*. It states that there are no integer solutions to the equation "*a* to the *n*, plus *b* to the *n*, equals *c* to the *n*" if *n* is greater than 2.

ANSWER: Fermat's last theorem [prompt on partial answer]

[10] This other very difficult problem was first posed in 1900, and only solved in 2003 by Grigori Perelman. It states that every three-dimensional space where all loops can be contracted to a point is homeomorphic to the three-sphere.

ANSWER: Poincaré conjecture

[10] In the Poincaré conjecture and elsewhere, a homeomorphism is a function with this property whose inverse also has this property. A function with this property is equal to its limit everywhere.

ANSWER: continuous [or word forms] <BH>

2. This country's modern literature includes *The True Story of Ah Q* and *Soul Mountain*. For 10 points each:

[10] Name this country, whose native authors include Lu Xun ["Shun"] and Gao Xingjian ["Shing-jan"].

ANSWER: China [or Zhongguo]

[10] This historical novel by Luo Guanzhong is among China's "Four Great Classical Novels". It recounts the clashes of the title polities of Wei, Shu, and Wu and warlords such as Liu Bei and Dong Zhuo.

ANSWER: Romance of the Three Kingdoms [or Sanguozhi Tong Shu Yan Yi]

[10] This king of Wei is portrayed as a major villain in *Romance of the Three Kingdoms*. He declares himself chancellor and uses Emperor Xian ["Shee-an"] as a puppet.

ANSWER: Cao Cao [pronounced "Tsao Tsao," but accept "Cow Cow"; accept Mengde] <SJW>

3. This composition's first movement is a fugue based around the note A that ends with the fugue subject and its inversion played simultaneously. For 10 points each:

[10] Name this work whose third movement exemplifies its composer's "night music" style and contains a timpani glissando. It was composed by Béla Bartók.

ANSWER: Music for Strings, Percussion, and Celesta

[10] Bartók lends his name to a version of this technique in which the string rebounds off of the fingerboard. More generally, this term refers to plucking a bowed string instrument and is the opposite of arco.

ANSWER: pizzicato

[10] With Zoltán Kodály, Bartók collected folk music from this country, his home. Another composer from here, Franz Liszt, adapted its gypsy music in nineteen "rhapsodies" named for it.

ANSWER: Hungary <KK>

4. A "Provisional" group which took up this name often clashed with the Royal Ulster Constabulary police force during "the Troubles." For 10 points each:

[10] Name this pro-independence, pro-unity fighting force first commended by Michael Collins and organized by Eamon de Valera after the Easter Rising.

ANSWER: IRA [or Irish Republican Army [or Óglaigh na hÉireann]

[10] In the Brighton hotel bombing, the Provisional IRA attempted to assassinate this female British Prime Minister. She previously resisted a hunger strike led by imprisoned IRA member Bobby Sands.

ANSWER: Margaret Hilda Thatcher, Baroness Thatcher

[10] This 1972 incident spurred the Provisional IRA to further action. During it, a British Army parachute regiment shot 26 unarmed protestors in Derry.

ANSWER: "Bloody Sunday" <SJW>

5. In frontier orbital theory, this molecular orbital would be the LUMO of a carbon-carbon single bond. For 10 points each:

[10] Name this antibonding molecular orbital, formed from the head-on overlap of two atomic orbitals, which could be s orbitals.

ANSWER: sigma (2s) star [accept equivalents for star like asterisk]

[10] This type of substance is characterized by having a low-energy LUMO, since that corresponds to being a good electron-pair acceptor. Boron trifluoride is one example of them.

ANSWER: Lewis acid [prompt on "acids"]

[10] On the periodic table, boron is classified as one of these elements. They fall along the dividing line between the transition metals and the nonmetals, and often are good semiconductors. Arsenic and antimony are also of this type.

ANSWER: **metalloids** <AS>

6. The protagonist of this novel spends several days wandering around New York after being expelled from Pencey Prep. For ten points each:

[10] Name this novel, in which Holden Caulfield thinking about saving children from falling off a metaphorical cliff.

ANSWER: **The Catcher in the Rye**

[10] This reclusive author of *Franny and Zooey* and “A Perfect Day for Bananafish” wrote *The Catcher in the Rye*.

ANSWER: Jerome David **Salinger**

[10] This old friend of Holden's goes on a date with Stradlater at the beginning of the novel. Holden mentions that when playing checkers, she keeps all her kings in the back row.

ANSWER: **Jane Gallagher** [accept either name alone] <DS>

7. The shrinkage of this body of water was accelerated by Soviet-era drainage of the Syr Darya and Amu Darya rivers for failed irrigation projects, and split it into a north and south side. For 10 points each:

[10] Name this large Central Asian body of water which is now ten percent of its original size.

ANSWER: **Aral Sea**

[10] The Aral Sea is north of of this former Soviet Republic and south of Kazakhstan, which relies on the Aral Sea for cotton irrigation. Islam Karimov orders that dissidents be thrown into hot oil in its capital, Tashkent.

ANSWER: **Uzbekistan**

[10] This other city of Uzbekistan was a crucial Silk Road stop due west of Samarkand. It was the capital of a namesake Khanate which was finally absorbed into the Soviet Union in 1920.

ANSWER: **Bukhara** <BH>

8. This character was described after a lawyer in a crowd asked “Who is my neighbor?” in the Gospel of Luke, and he belonged to a splinter sect that drew revulsion from Roman-era Jews. For 10 points each:

[10] Name this New Testament figure who helped a beaten and robbed Jewish man after that victim was ignored by a Levite and a Priest.

ANSWER: the **good Samaritan**

[10] The good Samaritan is the subject of one of these short anecdotes related by Jesus to illustrate his teachings.

ANSWER: **parables**

[10] This other parable from the three synoptic Gospels likens the kingdom of Heaven to a tiny object which is hard to see at first but is destined to become massive in size.

ANSWER: parable of the **mustard seed** [teams must have both halves to get points; prompt “seed” since there are other parables involving less specific seeds] <SSp>

9. This empire’s founder, Sundiata Keita, is praised in an epic sung by bards called griots (“gree-OHZ”). For 10 points each:

[10] Name this Islamic empire which succeeded Ghana as the trade center in West Africa. Its most powerful leader, Mansa Musa, had a royal palace in Timbuktu.

ANSWER: **Mali** Empire [or **Manden** Kurufa; or **Mandinka**]

[10] In imperial West Africa, these two minerals were traded at equal weights. Typically, one was obtained at Taghaza in the north, and the king claimed ownership of all solid pieces of the other within Mali.

ANSWER: **salt** AND **gold** dust

[10] This Berber man criticized the nudity of the mansa’s female servants in his account of Mali. He recorded decades of travel after his dream of an eagle inspired his extended hajj.

ANSWER: **ibn Battuta** [or Abu Abdullah Muhammad **Ibn Battuta**; or **Shams ad-Din**] <MJ>

10. A 2010 project restored a quarter of this film, including many shots of Freder, to the surviving cuts for the first time. For 10 points each:

[10] Name this 1927 silent film in which a bronze female robot leads a workers' uprising. Its director, Fritz Lang, set it in a dystopian future city where the workers toil underground.

ANSWER: Metropolis

[10] This European country was home to Fritz Lang, who directed *Metropolis* and *M*, during the free Weimar era. Today, its "New" namesake "cinema" is headlined by Werner Herzog ("VEIR-neir HERR-tzog").

ANSWER: Federal Republic of Germany [or Deutschland]

[10] This German documentary opens with an airplane's shadow flying over a rally in Nuremberg. Its female director, Leni Riefenstahl, made it to glorify Hitler.

ANSWER: Triumph of the Will [or Triumph des Willens] <MJ>

11. Lady Catherine de Bourgh is Georgiana's aunt in this book. For 10 points each:

[10] Name this novel in which Mr. Bingley courts Jane and Mr. Collins marries Charlotte Lucas. Elizabeth Bennet, one of five sisters, is the protagonist of this novel by Jane Austen.

ANSWER: Pride and Prejudice

[10] This aristocratic friend of Mr. Bingley and brother of Georgiana owns the estate Pemberley. Disdainful at first, he writes to Elizabeth and ends up marrying her.

ANSWER: Fitzwilliam Darcy [or Mr. Darcy; prompt on "Fitzwilliam"; do NOT accept or prompt on "Colonel Fitzwilliam"]

[10] Along with his wife, this uncle to the Bennet sisters hosts Jane in London. Aided by Mr. Darcy, this businessman and father of four helps them find Lydia after she elopes with Wickham.

ANSWER: Edward Gardiner [accept either underlined part; or Uncle Gardiner; or Mr. Gardiner] <JW>

12. Hippomenes threw three golden apples to startle this woman while competing with her. For 10 points each:

[10] Name this mortal Greek huntress who promised to marry any suitor who could outrun her in a footrace and killed all the suitors who failed.

ANSWER: Atalanta

[10] Atalanta's son Parthenopaeus joined this small group of warriors, which sought to capture a city shortly after Oedipus's self-exile. Aeschylus wrote about its members, such as Oedipus's son Polynices.

ANSWER: the Seven against Thebes [or Hepta epi Thēbas; or Septem contra Thebas]

[10] In some versions, this goddess turned Athena and her husband Hippomenes into lions for defiling her temple. This Phrygian earth goddess had a castrated lover named Attis.

ANSWER: Cybele [or Kybele; prompt "Magna Mater"; prompt "Rhea" due to syncretism] <MJ>

13. Epizelus fell blind in the midst of this battle. For 10 points each:

[10] Name this 490 BCE battle, at which Datis and Artaphernes were defeated by Athenians who halted the first Persian invasion of Greece. Pheidippides allegedly died after running twenty-six miles to report on this battle.

ANSWER: Battle of Marathon [or Mache tu Marathonos]

[10] According to Herodotus, this Achaemenid successor of Cambyses II became king of Persia and launched the invasion which lost at Marathon in revenge for the Ionian Revolt.

ANSWER: Darius I [or Darius the Great; or Daravavahush I; or Daryavush I; prompt partial answers]

[10] This general, the father of Cimon, invaded Paros after leading the Athenians at Marathon alongside the polemarch Callimachus.

ANSWER: Miltiades the Younger [or Miltiades o Neoteros] <JW>

14. Answer these questions about the 1986 World Cup, for 10 points each.

[10] This nation won the 1986 World Cup after its irreverent player Diego Maradona was accused of cheating. It has an intercontinental rivalry with England.

ANSWER: República **Argentina** [or **Argentine** Republic]

[10] In particular, Maradona was accused of using this game-breaking offense, which is punishable by a direct free kick, to score the winning goal. Maradona attributed the goal to God tongue-in-cheek to defend himself.

ANSWER: **handballing** [or using one's **arms**; or using one's **hands**][*He called it the "mano de Dios" or "Hand of God."*]

[10] The top scorer at the '86 World Cup, Gary Lineker, played for this Premier League club from 1989 to '92. This club with dark blue uniforms plays in White Hart Lane and is the crosstown rival of Arsenal.

ANSWER: **Tottenham Hotspur** F.C. [prompt "Spurs"] <MJ/MPG>

15. These neutrally charged leptons interact only via the weak and gravitational forces. For 10 points each:

[10] Name these subatomic particles, which were theorized by Pauli in 1930 to conserve momentum and energy in a certain atomic phenomenon. They are quite hard to detect.

ANSWER: **neutrinos**

[10] The solar neutrino problem was resolved when it was observed that neutrinos undergo this process, in which the flavor of a neutrino can change over time. The PMNS matrix quantifies this process.

ANSWER: neutrino **oscillation** [or neutrino **mixing**]

[10] In 2011, the OPERA collaboration incorrectly claimed that it had seen neutrinos with this property. Of course, since neutrinos have positive mass, they could not have had this property based on our knowledge of relativity.

ANSWER: they traveled **faster than light** [or obvious equivalents; or were **superluminal**; or were **Lorentz-violating**; or word forms] <BH/AS>

16. He painted a Napoleonic officer pivoting while on his reared horse in *The Charging Chasseur*. For 10 points each:

[10] Name this artist who studied dead bodies for a painting that shocked the 1819 Salon, in which a man on a pyramid of bodies waves a rag towards a tiny ship on the horizon.

ANSWER: Théodore **Géricault** [or Jean-Louis André Théodore **Géricault**]

[10] This Frenchman was inspired by Géricault's *Raft of the Medusa* to paint Greek corpses in *The Massacre at Chios*. He showed an allegorical woman waving a French flag in *Liberty Leading the People*.

ANSWER: Eugène **Delacroix** [(de-luh-KWAH); or Ferdinand Victor Eugène **Delacroix**]

[10] This German Romantic painter depicted monks carrying a coffin in *Abbey in the Oakwood*, and showed a man with a cane in his *Wanderer Above the Sea of Fog*.

ANSWER: Caspar David **Friedrich** <BS>

17. This book pseudonymously written by Johannes de Silentio. For 10 points each:

[10] Name this book which asks "Is there a teleological suspension of the ethical?" In basic terms, it asks whether any individual, such as Abraham sacrificing Isaac, can stand above ethics to carry out a divinely-ordained goal.

ANSWER: ***Fear and Trembling*** [or ***Frygt og Bæven***]

[10] Give the real name of the author of *Fear and Trembling* and *The Sickness unto Death*. This Christian proto-existentialist is the only Danish philosopher of note.

ANSWER: Søren **Kierkegaard**

[10] De Silentio gives Abraham as an example of this type of person. This type of person, whose status cannot be verified by others, can sacrifice everything while still believing that all will be returned to him by virtue of the absurd.

ANSWER: a **knight of faith** <DS>



18. This man wrote about his childhood in *Evenings on a Farm near Dikanka*, and in one of his short stories, the title character goes to war against Poland with his sons Andriy and Ostap. For 10 points each:

[10] Name this author of *Taras Bulba* who was exiled for critiquing his empire's corrupt governance.

ANSWER: Nikolai Vasilevich Gogol

[10] According to Dostoevsky, "we all come from" this Gogol story. Its central character, Akaky Akakievich Bashmakin, becomes a ghost and steals the title garment from passersby to avenge his mugging.

ANSWER: "The Overcoat" [or "The Cloak;" or Shinel]

[10] Gogol titled one short story after one of these body parts which detaches from its owner. Cyrano de Bergerac had an oversized one of these body parts.

ANSWER: noses <DL>

19. These diagrams are used to predict the outcome of breeding experiments in which the genes in question follow rules of Mendelian inheritance. For 10 points each:

[10] Name these eponymous quadrilateral diagrams.

ANSWER: Punnett squares [prompt on partial answer]

[10] Suppose you cross two parents that are heterozygous for a given allele which displays ordinary dominance. What fraction of the offspring will display a dominant phenotype?

ANSWER: three-fourths [or 75%; or 0.75; or a 3 to 1 ratio; or numerical equivalents]

[10] Mendel's rules don't describe the ABO blood group system, in which the A and B alleles have this relationship to one another. In this relationship, each allele affects an organism's phenotype in separate, distinguishable ways.

ANSWER: codominance [or word forms; do not accept anything else] <AS>

20. Answer these questions about U.S. involvement in the Second World War, for 10 points each.

[10] This President represented the United States at the Potsdam Conference before making the decision to drop two atomic bombs on Japan.

ANSWER: Harry S. Truman

[10] Before entering the war, FDR met with Churchill in Newfoundland to draft this document. It set out Allied war aims, including a censure of territorial aggrandizement and freedom of the seas.

ANSWER: Atlantic Charter

[10] The Lend-Lease program replaced this earlier US policy of supplying Britain, Russia, and other Allied powers with war materials, so long as they transported the materials back home themselves.

ANSWER: cash and carry <SJW>

21. This character blows so hard on an oliphant horn that his temples burst. For 10 points each:

[10] Name this paladin of Charlemagne who fights the Saracens at Roncesvaux Pass. He is the title character of an Old French poem called his "song."

ANSWER: Roland

[10] This Italian epic's title character is actually the same person as Roland. Ludovico Ariosto wrote this epic, whose title knight goes mad over the infidelity of Angelica.

ANSWER: Orlando Furioso

[10] In *Orlando Furioso*, this place is a sort of cosmic lost-and-found for lost objects or concepts such as Orlando's wits. Astolpho journeys here in a fiery chariot, though Jules Verne characters find it more efficient to use a cannon.

ANSWER: the moon [or Luna] <MJ>