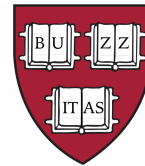


Harvard Fall Tournament XII

Edited by Raynor Kuang

Questions by Raynor Kuang, Jiho Park, Robert Chu, Alex Cohen, Michael Yue, Erik Owen, Jonathan Suh, Roger Jin, Michael Horton, Sriram Pendyala, and Josh Xiong



Finals 2

Tossups

1. *Homage to the Square* artist Josef Albers wrote a seminal treatise about these features named for their “Interaction.” A unique one of these features defines each narrative section of Zhang Yimou’s film *Hero*. An “International” one of them was designed by Yves [“eeves”] Klein, and they’re described by terms like “gules” and “sable” when used in heraldry. A school which sought to keep these things (*) discrete instead of mixing them was called Divisionism and heavily overlapped with Pointillism. For 10 points, name these fundamental elements of art, which may have a saturation or hue and be either “warm” or “cool.”

ANSWER: colors <Chu>

2. In this novel, a dead character realizes that for “people to whom sin is just a matter of words...salvation is just words too” while praying with Cora. A character in this novel repeats the line “He could do so much for me if he just would,” and one man in it lists thirteen reasons why he made a coffin “on the (*) bevel.” A chapter in this novel consists only of the line, “My mother is a fish.” Darl is sent to an insane asylum for burning down Gillespie’s barn during the journey in this book made by the Bundren family to bring Addie’s coffin to Jefferson in Yoknapatawpha County. For 10 points, name this novel by William Faulkner.

ANSWER: As I Lay Dying <Yue>

3. A door in a house built by a woman who got rich from this industry opens to a sheer drop to the ground below, allegedly to confuse the evil spirits haunting a namesake “Mystery House.” An object in this industry was designed by Captain Samuel Walker, and they’re not cotton gins, but a Connecticut businessman in this industry pioneered (*) interchangeable parts in manufacturing. One of these objects named the “Peacemaker” was said to have “won the West,” and notable makers of them included John Browning, Oliver Winchester, and Samuel Colt. For 10 points, name these objects, the ownership of which is protected by the Second Amendment.

ANSWER: guns (or firearms; or subtypes such as rifles, revolvers, handguns, pistols, etc.; prompt on weapons) <Chu>

4. In physical theories, large extra dimensions are often invoked to try and explain why this parameter is so small, and the critical density of the universe is equal to three times the Hubble parameter squared divided by eight pi times this parameter. In Planck units, the speed of light, Dirac’s constant, and this constant are set to have a value of (*) 1, and it was first measured using lead balls and a torsion balance. In SI units, this constant has a value of 6.67 times 10 to the minus 11 Newton meters squared per kilogram squared. For 10 points, name this constant that was first measured by Henry Cavendish.

ANSWER: big G (accept universal gravitational constant or Newton’s constant; accept “uppercase G” and prompt on just “G,” but *do not* accept or prompt on just “lowercase g”) <Pendyala>

5. This monarch chided her son Ferdinand for trying to bring a musician and other “useless people” onto the royal court. Her minister Gerard van Swieten attempted to dispel supernatural phenomena like vampires, and in the (*) Diplomatic Revolution, this monarch’s minister Prince Kaunitz engineered an alliance between her country and France. Frederick the Great took control of the region of Silesia after disputing this woman’s ascension in the War of the Austrian Succession, and she was the mother of Joseph II. For 10 points, name this Habsburg empress whose succession was allowed through the Pragmatic Sanction.

ANSWER: Maria Theresa <Kuang>

6. This space probe tested its *Ralph* telescope during its flyby of 132524 APL, and it captured the first close-up images of Jupiter’s Little Red Spot. This space probe identified geographic features nicknamed the “Brass Knuckles” and the “Heart,” the latter of which is officially known as (*) Tombaugh Regio. After accomplishing its primary objective, this space probe’s mission was extended to include a flyby of the KBO 2014 MU₆₉. This space probe captured low-resolution images of Kerberos and Styx, and mapped the surface of Charon. For 10 points, name this NASA space probe that flew past the dwarf planet Pluto in July 2015.

ANSWER: New Horizons <Park>

7. Many protesters advocating for the independence of this modern-day country drowned after being thrown off a bridge by policemen led by Maurice Papon. Groups such as the Black Panthers and the IRA adopted terrorist strategies depicted in a film set in this country directed by Gillo Pontecorvo. Many ethnic Europeans known as (*) *pieds-noirs* fled this country after its independence war, which was a victory for Ahmed Ben Bella’s FLN and was ended by the Evian Accords signed with Charles de Gaulle. For 10 points, name this North African country which fought a bloody war to free itself from French rule.

ANSWER: People’s Democratic Republic of Algeria (or al-Jazā’ir; or Dzayer; or Algérie) <Chu>

8. A poem by this author opens declaring that “no one’s serious at seventeen” and repeats the phrase “you’re in love”; that poem by this man is “Novel.” The poems “After the Flood,” “Flowers,” “To Reason,” and “Winter Feast” all appear in his collection *Illuminations*. An extended prose poem by this author begins, “A while back, if I remember right, my life was one long party” and includes two “Deliriums,” and he wrote a long poem about the (*) drifting and sinking of a boat lost at sea. This man wrote the poems “A Season in Hell” and “The Drunken Boat.” For 10 points, name this French Symbolist who was only a teenager when he began a stormy relationship with fellow poet Paul Verlaine.

ANSWER: (Jean Nicolas) Arthur Rimbaud <Cohen>

9. A song from this artist’s debut mixtape imagines “spaceships [...] lifting off of a dying world” and “millions [...] left behind while the sky burns.” This artist recorded “Strawberry Swing,” and he decried that “our queen has met her doom” in a 10-minute song repeatedly referencing Cleopatra. This man’s latest album includes the songs “Skyline To” and (*) “Nikes,” and he accompanied that album with the video album *Endless* and the magazine *Boys Don’t Cry*. This artist notoriously took four years to follow up his debut album *Channel Orange* with the 2016 album *Blonde*. For 10 points, name this alternative R&B artist with an aquatic surname.

ANSWER: Frank Ocean <Cohen>

10. A girl named Rhoda is so excited by this man's arrival that she forgets to open the door for him. He warned the Devil "prowls around like a roaring lion" looking to devour someone, and the proverb "live by the sword, die by the sword" originates from an incident in which this man cut off the ear (*) of Malchus. This man saw a vision of unclean beasts which he refused to eat before converting the centurion Cornelius. This man's teacher promised to make this man and his brother Andrew "fishers of men," but he denied that teacher three times before a rooster crowed. For 10 points, name this apostle that the Catholic Church considers to be the first pope.

ANSWER: Peter (or Simon; accept Cephas) <Suh>

11. Yanghee Lee claimed that hate speech against these people has been "cultivated for decades", and was earlier denied access to these people's villages. One politician blamed "fake news" and a "huge iceberg of misinformation" for media reports of this group's persecution. Ata Ullah leads an insurgent group of these people based in the former (*) Arakan State. The Kutupalong refugee camp hosts people of this ethnicity and is located in Southeastern Bangladesh. Aung San Suu Kyi denied allegations of ethnic cleansing of this predominantly Muslim people. For 10 points, name this ethnic group currently persecuted by the government of Myanmar.

ANSWER: Rohingya people <Park>

12. In one play by this writer, John and Winston share a prison cell, reminisce about times spent on the beach after being beaten, and perform a two-person version of *Antigone*. This author of *The Island* wrote a play in which a girl who's a pen-pal writes saying she's coming to visit, causing tensions between two brothers who have differing (*) skin-tones. This man wrote the play *Blood Knot*, and his most famous play contains scenes concerning ballroom dancing and kite flying and centers on the relationship between Hally and his servants Sam and Willy. For 10 points, name this South African playwright who wrote *Master Harold...and the Boys*.

ANSWER: (Harold) Athol (Lannigan) Fugard <Cohen>

13. A man who formerly held this title leaves a will requesting "that no man remember me." The minor character Mrs. Cuxsom encourages the "skimmity-ride" that kills Lucretta, the love interest of two men with this title. The Scottish merchant Donald Farfrae obtains this title, and (*) Susan leaves a letter informing a man with this position that Elizabeth-Jane is not his daughter, but the sailor Richard Newsome's. A man who later obtains this position opens the book by getting extremely drunk and selling his wife and child for five guineas. For 10 points, give this position held by Michael Henchard that titles a Thomas Hardy novel.

ANSWER: Mayor of Casterbridge (accept *The Mayor of Casterbridge* if people can somehow pronounce italics; prompt on just mayor) <Horton>

14. A cyclic example of these functional groups is formed when a peroxy-acid like mCPBA is added to an alkene. A polymeric example of these functional groups is added to interferons in a process called PEGylation. These functional groups are the products of reactions named after Ullmann and (*) Williamson. In hydrogen bonding, compounds with this functional group can act as acceptors but not as donors. Commonly used solvents that feature this functional group include tetrahydrofuran and diethyl [this compound]. For 10 points, name these organic compounds that have the general formula R-O-R' ["R-oh-R-prime"].

ANSWER: ethers (accept epoxides during the first sentence; do not accept or prompt on "esters") <Park>

15. This man declared, “My house knows the road of exile, but not of dishonor,” after an attempt to bribe him while singing a treaty. This man served in battle under his father Charles Albert, who’d abdicated after losing the Battle of Novara to the Austrian-backed Joseph Radetzky. After the Battle of Castelfidardo, Pope Pius IX excommunicated this man for his incursions into the (*) Papal States, and this ruler employed Count Cavour and was called the “Father of the Fatherland.” This man supported the Expedition of the Thousand against the Kingdom of the Two Sicilies that was led by Giuseppe Garibaldi. For 10 points, name this first king of the unified Italy.

ANSWER: Victor Emmanuel II (prompt on partial name) <Kuang>

16. Yvain breaks his promise to return to Laudine after a year after this character convinces Yvain to adventure with him. After encountering a peg-legged man, this character meets his lost sister Clarissant while questing for the Grail. In one story, this figure marries the “loathly lady” Ragnelle, and he fights and is killed by his best friend (*) Lancelot after Lancelot kills his brother Gareth. For a “Christmas game,” this man decapitates a figure who then picks his own head up, and that figure later turns out to be his host Sir Bertilak. For 10 points, name this nephew of King Arthur and opponent of the Green Knight.

ANSWER: Gawain <Owen>

17. A piece of this type AND number was so poorly received that it was not performed again for another forty-eight years. A piece of this type and number was written as a graduation piece at the Petrograd Conservatory, and begins with a solo trumpet playing in common time. Dvorak’s piece of this type and number was lost shortly after its composition, and is subtitled (*) “The Bells of Zlonice.” Brahms’s work of this type and number was so influenced by the style of another composer that it was called “Beethoven’s Tenth.” For 10 points, give this symphony number which is also shared by Rimsky-Korsakov’s opus 1.

ANSWER: Symphony No. 1 (or first symphony; accept just one or first after “symphony” is given, prompt on partial answer otherwise) <Park>

18. Cholera toxin transfers part of this molecule to Gs alpha, and CD38 catalyzes the transformation of this molecule into cyclic ADP ribose. The phosphorylated form of this molecule is generated by the pentose phosphate pathway in animals and by photosystem I in plants, and the concentration of this molecule’s (*) reduced form can be determined by measuring absorbance at 340 nanometers. Two of these molecules are reduced per glucose entering glycolysis, and three of them are reduced per acetyl-CoA entering the citric acid cycle. For 10 points, name this dinucleotide coenzyme and electron carrier that is usually mentioned along with FAD [*pronounce each letter separately*].

ANSWER: NAD (or nicotinamide adenine dinucleotide; accept NAD+ and NADH; do not accept or prompt on “NADP”, “NADP+”, or “NADPH”) <Park>

19. Constraint induced movement therapy was developed from research on these animals done by Edward Taub. The *Britches* film depicted the raiding of a medical lab with these animals at UCal, and 17 of them were controversially experimented on in Silver Springs. In an experiment using devices made of either (*) wire or cloth, these animals overwhelmingly preferred the cloth device. A device called the “pit of despair” was used by Harry Harlow in his studies on the maternal bond using these animals. For 10 points, name these animals frequently experimented on that have rhesus and capuchin varieties.

ANSWER: monkeys (accept specific species; prompt on primates; do not accept or prompt on “chimpanzees” or “apes”) <Kuang>

20. **The Kaplans own the largest private collection of this man's work in the world, named for this man's hometown of Leiden. Some of this man's self-portraits include one with a beret and turned-up collar, and many with his wife (*) Saskia. This man's *The Storm on the Sea of Galilee* was stolen from the Gardner Museum in 1990, and the best known of this man's works are at the Rijksmuseum ["RIKES-museum"], including one showing a girl holding a chicken and some drummers. For 10 points, name this man who painted *The Militia Company of Captain Frans Banning Cocq*, popularly known as *The Night Watch*.**

ANSWER: **Rembrandt** (or Rembrandt Harmenszoon **van Rijn**) <Kuang>

21. **The biosynthesis of this molecule in plants involves the dehydrogenation and transamination of prephenate, and this molecule can accept a sulfate group from PAPS. This amino acid cyclizes with a nearby serine and glycine to form the chromophore of green fluorescent protein. An AAH catalyzes the conversion of this amino acid into (*) L-DOPA. Gefitinib and imatinib inhibit enzymes that phosphorylate this amino acid, and it is the precursor of melanin. Along with tryptophan and phenylalanine, this amino acid absorbs ultraviolet light at 280 nanometers. For 10 points, name this aromatic amino acid whose side chain features a phenol group.**

ANSWER: **tyrosine** (or **4-hydroxyphenylalanine**; prompt on Y) <Park>

Bonuses

1. A series of lozenges on one type of this structure includes representations of the planets, the liberal arts, and the seven sacraments. For 10 points each:

[10] Name this type of building. One of them sitting in the Piazza del Duomo was designed by and is often named for Giotto.

ANSWER: **campanile** (or **bell tower**; prompt on, *but do not reveal* Florence Cathedral)

[10] At the top of Giotto's Campanile, you can get a great view of *Il Duomo* right next door. The dome was engineered by this Italian, who lost a contest to design the doors of a nearby baptistery.

ANSWER: Filippo **Brunelleschi**

[10] Giotto's Campanile and *Il Duomo* are architectural landmarks of this Tuscan city.

ANSWER: **Florence** (or **Firenze**) <Chu>

2. This organization was implicated in the death of the politician Aldo Moro. For 10 points each:

[10] Name this Italian ultra-right secret organization that was also associated in the death of "God's banker" Roberto Calvi. It was headed by Licio Gelli.

ANSWER: **P2** (or **Propaganda Due**)

[10] This Italian politician was implicated as a member of P2. His family controls the holding company Fininvest, and was accused of hosting illicit "bunga bunga" parties.

ANSWER: Silvio **Berlusconi**

[10] P2 was originally founded as one of the "lodges" of this fraternal organization, a frequent target in conspiracy theories.

ANSWER: **Freemasons** (or just **Masons**) <Kuang>

3. One work by this composer for orchestra employs an ondes Martenot and charts the growing passion between Tristan and Isolde, culminating in a massive F-sharp major chord. For 10 points each:

[10] Name this French composer of the *Turangalila-Symphony*. More famously, he wrote a 1945 chamber work ending with "Praise to the Immortality of Jesus," his *Quartet for the End of Time*.

ANSWER: Oliver **Messiaen**

[10] The third movement clarinet solo from the *Quartet for the End of Time* is titled for an "Abyss of" these animals. The violin's twittering melodic line represents one of these animals in Ralph Vaughan Williams' *The Lark Ascending*.

ANSWER: **birds** (accept more specific types of birds)

[10] This Finnish composer, who passed away in 2016, used tapes of birdsong in his 1972 orchestral work *Cantus Arcticus*. His Symphony No. 7, subtitled "Angel of Light," earned him a Grammy nomination in 1997.

ANSWER: Einojuhani **Rautavaara** <Yue>

4. This king's mother may have ordered the murder of his half-brother Edward the Martyr. For 10 points each:

[10] Name this king, whose reign ended when he was forced to flee by the invasion of Sweyn Forkbeard. Contrary to popular belief, his epithet indicates that he was poorly advised and *not* that he wasn't prepared.

ANSWER: **Aethelred** the Unready (or **Aethelred II**)

[10] Aethelred ordered the St. Brice's Day Massacre in 1002 against these people, who lived in their namesake "law." These people often sailed in longboats when carrying out raids all over Northern Europe.

ANSWER: **Danes** (or **Vikings**; or **Norsemen**)

[10] Previous Viking incursions into England had included Ivar the Boneless' expedition at the head of this force in 865. This coalition was finally defeated in 878 by Alfred the Great at the Battle of Edington.

ANSWER: **Great Heathen Army** (or the **Great Danish Army**; or the **Great Viking Army**) <Chu>

5. This nation's most populous island is Koror. For 10 points each:

[10] Name this island country located in the Western Pacific Ocean. Its capital of Ngerulmud is located on its largest island of Babeldaob.

ANSWER: Republic of **Palau** (or Beluu er a **Belau**)

[10] Palau, Yap, and Halmahera form part of this body of water's southern boundary. The Mariana Trench is located near this body of water, and the islands of Leyte and Luzon form its southwestern border.

ANSWER: **Philippine Sea**

[10] Palau signed a Compact of Free Association with this nation in 1982. This nation's other territories include Howard Island, Guam, and Puerto Rico.

ANSWER: **United States** of **America** (accept either underlined portion; accept abbreviations like **U.S.A.**) <Park>

6. The Clarity Act was largely passed in response to the sovereignty movement of this region. For 10 points each:

[10] Name this French-speaking province known for a long history of independence movements from its country. The failure of the Meech Lake Accords renewed sovereignty movements here.

ANSWER: **Quebec**

[10] This PM was forced to deal with Quebec separatism after the FLQ initiated the October Crisis by kidnapping government officials. This man responded by invoking the War Measures Act.

ANSWER: **Pierre Trudeau** (prompt on just "**Trudeau**"; do not accept or prompt on "Justin Trudeau," Pierre's son)

[10] The conservative policies under this Premier of Quebec became known as the "Great Darkness." Thousands of his namesake "orphans" were falsely certified as mentally ill, and his rule was followed by the Quiet Revolution.

ANSWER: Maurice **Duplessis** <Kuang>

7. So You Think You Can Play Quizbowl? For 10 points each:

[10] Since the category was created in 2003, this show has won nearly all the Primetime Emmys for best reality TV show. Its general format is for eleven pairs to race around the world, completing challenges as they go.

ANSWER: *The **Amazing Race***

[10] Reality TV of the court format was first popularized by this show, which introduced the idea of binding arbitration. As of 2017, the court in this show is presided over by Judge Marilyn Milian, and it's the longest running court show after *Divorce Court*.

ANSWER: *The **People's Court***

[10] This reality show stretches all the way back to the 40s, when the technology in its title was a "Microphone" instead. Allen Funt first created this prank show that's inspired others like *Just for Laughs* and *Punk'd*.

ANSWER: ***Candid Camera*** <Kuang>

8. The EMBL-EBI and NCBI are both large research centers for scientists in this field. For 10 points each:

[10] Name this field that focuses on understanding and organizing biological data on very large scales. Unlike computational biology, the goal of this field is to build tools and resources that help others analyze data.

ANSWER: **bioinformatics** (accept word forms)

[10] One important task in bioinformatics is sequence alignment, which can be accomplished using this algorithm. When this algorithm is applied to protein sequences, the BLOSUM62 matrix is used to quantify similarity.

ANSWER: **BLAST** (or **Basic Local Alignment Search Tool**)

[10] The Broad ["brode"] Institute's GTEx project analyzed samples from 714 donors to gather data associated with this biological process. DNA microarrays and Northern blots are used to measure this biological process.

ANSWER: **gene expression** <Park>

9. Alan Moore's *Watchmen* is one work in this medium. For 10 points each:

[10] Give this medium of storytelling, a longform version of a more popular medium. They often cover fantastical subjects like superheros, such as in Frank Miller's *The Dark Knight Returns*.

ANSWER: **graphic novels** (prompt on comics; prompt on just novels, I guess)

[10] This graphic novel by Art Spiegelman depicts Jews as the title animals. The bulk of its story is based on Spiegelman's father's experience in the Holocaust.

ANSWER: **Maus**

[10] This man popularized the term graphic novel with his also Jewish-themed *A Contract with God*. This man also created the superhero the Spirit.

ANSWER: Will **Eisner** <Kuang>

10. This painting caused a large stir due to its size, usually reserved for more historical, biblical, or mythological subjects. For 10 points each:

[10] Name this painting from the Barbizon School showing three peasant women bending forward in a field. An Agnes Varda documentary covers the same subject as this painting.

ANSWER: *The **Gleaners*** (or *Des **glaneuses***; the painting is by Jean-François Millet)

[10] Another sympathetic painting of peasants is this Realist work by Gustave Courbet showing a ceremony in his hometown. It contains a red clothed priest with a nose that one of this writer's professors called "bulbous."

ANSWER: *A **Burial at Ornans*** (or *A **Funeral at Ornans***; or *Un **enterrement à Ornans***)

[10] This artist spent a period in the poorer Brittany region of France observing the local peasants. More famously, he also adjourned to Tahiti, producing paintings like his *Where Do We Come From? What Are We? Where Are We Going?*.

ANSWER: Paul **Gauguin** <Kuang>

11. This approach has been superseded by the use of bare phrase structures. For 10 points each:

[10] Name this "theory" for diagramming grammars in trees using phrases such as inflectional phrases. Certain branches of those trees are called heads, and can take complements.

ANSWER: **X-bar** theory

[10] X-bar was initially developed by this linguist, whose pioneering work is the text *Syntactic Structures*. He has been a pioneering proponent of the theory of a universal grammar.

ANSWER: Noam **Chomsky**

[10] Among the most common phrases in X-bar theory are those made from this part of speech, which can take determinants such as articles. These parts of speech can be declined or possess a gender.

ANSWER: **nouns** <Kuang>

12. Johanna shoots a Secretary of State in this book to protest the ruling "buffalos." For 10 points each:

[10] Name this German novel. In it, the architect Robert Faehmel gathers in the Prince Heinrich Hotel every day at the same time to play the title game.

ANSWER: ***Billiards at Half-Past Nine*** (or ***Billard um halb zehn***)

[10] *Billiards at Half-Past Nine* was written by Heinrich Böll, who also wrote a book titled for this kind of figure. In a Stephen King novel, an ancient evil who terrorizes the town of Derry, Maine enjoys transforming into one of these people.

ANSWER: **clown** (accept *The **Clown*** or ***Ansichten eines Clowns***; accept Pennywise the Dancing **Clown**)

[10] Like Heinrich Böll, this man was a post-WWII Nobel Prize winning German author. This man's claim to fame was the Danzig Trilogy, in which he introduced the precocious three-year old Oskar Matzerath.

ANSWER: Günter **Grass** <Kuang>

13. This scientist names an expansion where the partition function for a Fermi gas is expanded in powers of log fugacity in the low-temperature limit. For 10 points each:

[10] Name this German physicist, who names an approximation used in the “old quantum theory” along with Bohr.

ANSWER: Arnold **Sommerfeld**

[10] The Bohr-Sommerfeld semi-classical approximation introduces a quantization for this quantity, which is defined as the time-integral of the Lagrangian. There exists a “principle of least” amount of this quantity.

ANSWER: **action**

[10] Sommerfeld was improving on the first Bohr model, which itself improved upon the model of the atom Ernest Rutherford had developed by shooting alpha particles at a foil of this metal.

ANSWER: **gold** (prompt on Au) <Pendyala>

14. One myth about this figure says she was transformed into a white doe by a witch doctor Chico. For 10 points each:

[10] Name this first European child to be born in the New World. She was named after the territory she was born in.

ANSWER: Virginia **Dare** (prompt on just Virginia)

[10] The Dare family lived at the Roanoke Colony, which mysteriously disappeared, only leaving behind this word carved into a tree trunk.

ANSWER: “**Croatoan**”

[10] This Englishman was granted the royal charter to establish Roanoke. Though he never made it to North America, he did venture down the Orinoco River in search of El Dorado.

ANSWER: Sir Walter **Raleigh** <Owen>

15. Later editions of this collection folded in the earlier collection *Drum-Taps*. For 10 points each:

[10] Name this collection of poetry, yet another edition of which included the surprisingly homoerotic *Calamus* poems. The preface to this collection includes the declaration that “The United States themselves are essentially the greatest poem.”

ANSWER: ***Leaves of Grass***

[10] *Leaves of Grass* is a work by this American poet. He wrote poems like “Song of Myself,” “Crossing Brooklyn Ferry,” and “Out of the Cradle Endlessly Rocking,” all included in *Leaves of Grass*.

ANSWER: Walt **Whitman**

[10] This Whitman poem opens with its title before serenading, “The armies of those I love engirth me.” Its various sections meditate on the male and female form.

ANSWER: “**I Sing the Body Electric**” <Kuang>

16. Prove you know the ABCs of science by answering these questions, for 10 points each:

[10] In the ABC model of flower development, these structures result from the expression of class A genes. These structures are collectively known as the calyx, since they protect the flower in its bud stage.

ANSWER: **sepals**

[10] This formula is occasionally called the ABC formula, since the letters correspond to the coefficients in a second degree polynomial. Derivations of this formula involve completing the square.

ANSWER: **quadratic** formula

[10] The ABC programming language strongly influenced the design of this programming language that features dynamic typing. Matplotlib, pandas, and scikit-learn are some libraries that can be used with this language.

ANSWER: **Python** <Park>

17. For 10 points each, answer some questions about cryochemistry:

[10] Many advances in cryochemistry were enabled by the wide availability of this element's liquid form, which boils at 77 Kelvin. This element comprises 78% of Earth's atmosphere.

ANSWER: **nitrogen** (prompt on N)

[10] When helium is cooled below this temperature, it becomes a superfluid with zero viscosity. When helium's specific heat capacity is plotted with temperature, the resulting graph resembles a certain Greek letter.

ANSWER: **lambda point**

[10] Compounds containing elements from this periodic table group are only stable in low temperatures. The newly discovered element oganesson is likely a member of this group, but will be by far its most reactive member.

ANSWER: **noble gases** (prompt on group 18) <Park>

18. In this book, Alden Pyle works to bring about the "Third Force" described in the work of York Harding. For 10 points each:

[10] Name this book about war journalist Thomas Fowler, who helps assassinate Pyle by the book's end. The local girl Phuong is repeatedly asked to choose between Fowler and Pyle in this book.

ANSWER: *The **Quiet American*** (by Graham Greene)

[10] This author satirized war journalism in his book *Scoop*. More famously, he depicted Charles Ryder's experiences with the Catholic Flyte family in the novel *Brideshead Revisited*.

ANSWER: Evelyn **Waugh**

[10] P.G. Wodehouse wrote the comic book *Psmith, Journalist*, in addition to creating Bertie Wooster and this brilliantly refined valet, whose name came to symbolize the quintessential butler.

ANSWER: **Reginald Jeeves** (accept either or both names) <Kuang>

19. Moana is a Disney cartoon and Dwayne "The Rock" Johnson might be a bit of a cartoon himself, but Maui sure is not. For 10 points each:

[10] Like in the movie, most versions of the Polynesian god Maui give him one of these implements made from a jawbone. Maui then uses this tool to drag up the islands making up whatever nation the story is being told in.

ANSWER: fish **hook**

[10] In Hawaiian mythology, the islands don't reach their true size until this goddess of fire and volcanoes produces even more land. This goddess resides on Mauna Kea.

ANSWER: **Pele**

[10] Maui is married to Hina, who becomes bothered by a "long" one of these animals. Maui kills the bothersome animal and plants its corpse, from which grow the first coconut tree.

ANSWER: **eel** (accept specific species; accept any native translations, if they can prove it) <Owen>

20. William Rowe's "friendly" form of this position concedes that its opponents might still be justified in their beliefs, even if wrong. For 10 points each:

[10] Describe this position held by the "Four Horsemen" of it, which includes Sam Harris and Daniel Dennett.

ANSWER: **atheism** (accept word forms; do not accept or prompt on "agnosticism")

[10] This magazine cause a national controversy in 1966 when its cover asked, "Is God Dead?" in huge red letters. Theologian Karl Barth was on its cover in 1962, and the Pope was its 2013 Person of the Year.

ANSWER: **Time**

[10] This man's existentialist theology was a precursor to the "Death of God" movement. This German published the popular books *Dynamics of Faith* and *The Courage to Be*.

ANSWER: Paul **Tillich** <Jin>

21. This man wrote a book in the actual vernacular of the title outlaw in his *True History of the Kelly Gang*. For 10 points each:

[10] Name this Australian author. He described a bet involving the transporting of a glass church across the Outback in *Oscar and Lucinda*.

ANSWER: Peter Carey

[10] Carey's novel *Jack Maggs* was inspired by the character of Abel Magwitch from this Charles Dickens book. This book's protagonist Pip is let down after discovering escaped convict Magwitch is his benefactor.

ANSWER: *Great Expectations*

[10] Carey also wrote this magical realist book about the con man Herbert Badgery. Its title comes from an Australian colloquialism for con man, though it was little used before Carey revived it.

ANSWER: *Illywhacker* <Kuang>