

Fall Open 2019

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Tossups

1. **This novel’s protagonist spends a blissful summer contemplating “given opinion” with his younger lover, who tells him, “Lust and learning... that’s really all there is, isn’t it?” The main character of this novel is incensed when the crippled, pretentious Charles delivers a spur-of-the-moment speech minimizing the impact the grammarian Donatus had on Shakespeare. This novel resurged in popularity when Anna Gavalda translated it into French in 2011, five years after the NYRB reissued it with Thomas (*) Eakins’s *The Thinker* on the cover. This novel’s main character ends his affair with Katherine Driscoll a while after his neurotic wife Edith and abusive colleague Hollis Lomax get wind of it. An inoperable tumor forces this novel’s bitter title character to retire from his job at the University of Missouri. For 10 points, identify this campus novel about an English professor, written by John Williams.**

ANSWER: Stoner

<INB, Long Fiction>

2. **This emperor’s success was foretold by his predecessor’s dream of a golden hump emerging from his back. In Cassius Dio’s account, this emperor revealed his indifference to death by arming a band of conspirators led by Calpurnius Crassus with swords. This man was called the “best and most industrious emperor” in a thorough report on aqueducts written by his appointed water-commissioner, Frontinus. This emperor “harmonized the old discord of autocracy and freedom” according to Tacitus’s *Agricola*, which was (*) written during this emperor’s reign. The assassination of this emperor’s predecessor is recounted at the very end of Suetonius’s *The Twelve Caesars*. This emperor’s brief, ineffectual reign was overshadowed by his adopted son and successor, who restored Rome’s emptied coffers with his conquest of Dacia. For 10 points, which predecessor to Trajan served as the first of the Five Good Emperors?**

ANSWER: Nerva [or Marcus Cocceius Nerva Caesar Augustus]

<INB, European History (Commonwealth, Ancient, Historiography)>

3. **Near the end of a Sumerian text, this invention is created by Enmerkar, the lord of Kulaba, for his servant’s final journey to the lord of Aratta. In the Irish *Book of Invasions*, Féníus Farsaid travels to Mesopotamia and creates this technology. Chinese legends hold that wailing ghosts and raining millet accompanied the introduction of this invention by a four-eyed man named Cangjie (“tsang-jeh”). This practice is introduced by the seven-horned leopard-skinned Egyptian goddess (*) Seshat, whose name means “she who does” this activity. The *Fabulae* of Hyginus describes how it was either inspired by Hermes watching the flight of cranes, or it was jointly developed by Palamedes and the Fates. An object used for this activity is often seen in the hands of Calliope. According to tradition, this invention was brought from Phoenicia to Greece by Cadmus. For 10 points, identify this technology whose invention is attributed to Nabu, Thoth, and other scribe gods.**

ANSWER: writing [accept cuneiform; accept ogham; accept alphabet; accept hanzi or Chinese characters; accept hieroglyphs or hieroglyphics; prompt on language; do **NOT** accept “speech”]

<KL, Mythology>

4. **This word titles a 1954 jazz standard which begins and ends with the same sad, slow passage, and whose middle section comprises an extended vibraphone solo, then a short double-time passage, then an extended piano solo. Martin Taylor led a 1990s band named the “Spirit of” this word, and a 1964 cover album by Joe Pass is titled “For” this word. This single word titles a signature piece of the (*) Modern Jazz Quartet written by John Lewis in memoriam. A musician with this *stage* name overcame severe burns to two left-hand fingers, and went on to write songs such as “Daphne” and “Minor Swing.” That musician with this stage name collaborated with**

Stéphane Grappelli to beget the Quintet of the Hot Club in France and the jazz standard “Nuages” (“noo-AZH”) For 10 points, give this stage name of Belgian guitarist Jean Reinhardt.

ANSWER: **Django** [accept **Spirit of Django**; accept **For Django**; accept **Django Reinhardt**; do NOT accept “Django Unchained”]

<KL, Jazz>

5. In 2018, businessman Jitesh Gadhia financed the creation of these objects out of *khadi* fabric. A song describing these objects was written the night before the Polish Army stormed Monte Cassino. Thousands of ceramic copies of these objects made up the touring installation *Weeping Window*. During the 1920s, Madame Guérin toured the Americas distributing artificial versions of these objects, which are handmade at a namesake “factory” in Richmond, London. These objects are sold by a “fund” created by (*) Douglas Haig and an “appeal” held annually by the Royal British Legion. The title of the artwork *Blood Swept Lands and Seas of Red* alludes to 888,000 of these objects installed around the Tower of London, one for every British casualty of a certain conflict. In a poem by John McCrae, these objects “grow between the crosses, row on row.” For 10 points, name these red flowers worn on Remembrance Day in Britain, which are depicted in the poem “In Flanders Fields.”

ANSWER: remembrance **poppies** [or **Papaver rhoeas**; accept “The **Red Poppies on Monte Cassino**”; prompt on flowers]

<KS, General Knowledge>

6. This book argues against “unity” and “definitional closure” in a section considering an “antifoundationalist approach” to coalitional politics. Drawing on Michel Haar’s Nietzschean criticism, this book criticizes the idea of a “metaphysics of substance.” This book argues that internalization results in “primary dispositions” in a discussion of Freudian ego formation and melancholia. The anthropological work of Esther Newton is discussed in this book in a passage about an (*) art form that produces a “fabrication” in the “outer” space of a subject. This book extensively quotes from the work of Monique Wittig and Julia Kristeva in sections like “Subversive Bodily Acts.” According to this book, some identities are made culturally intelligible through the action of a “heterosexual matrix.” For 10 points, name this book that argues for a performative view of its title concept and was written by Judith Butler.

ANSWER: **Gender Trouble: Feminism and the Subversion of Identity**

<AK, Philosophy>

7. A “diptych” depicting a married couple with this surname positions them in three-quarters view against a muted green background, clutching rosary beads. An artist with this surname contributed illustrations to his godfather’s publication of a Hartmann Schedel book during his time apprenticed to Michael Wolgemut (“VOL-guh-mut”). The “old crow” Agnes Frey married an artist with this surname, who used a sheet of handmade blue paper for a sketch of an apostle’s hands clasped in (*) prayer. A person with this surname appears as an effeminate man wearing a pair of silk gloves and a low-cut chemise (“shuh-MEEZ”), and again, Christ-like, in a fur-trimmed coat, in a pair of self-portraits completed at ages 26 and 28, respectively. That artist with this surname positioned a magic square and an hourglass above a brooding, winged figure in a 1514 “master print.” For 10 points, give this surname of the engraver of *Melencolia I* (“one”), Albrecht.

ANSWER: **Dürer** [accept Albrecht **Dürer** or Albrecht **Dürer** the Elder or Barbara **Dürer**]

<INB, Painting and Sculpture>

8. A substitution of valine for phenylalanine in an enzyme that catalyzes this type of reaction interferes with the pi-stacking interactions between it and the inhibitor thiolactomycin (“THIGH-oh-lacto-mycin”). The alpha-helix dipole effect partially activates Cys164 (“SISS-teen-one-six-four”) in the active site of a Type III (“three”) polyketide (“poly-KEE-tide”) synthase specific to plants that catalyzes a series of three reactions of this type. Despite having different primary structures, all enzymes that catalyze this type of reaction share a common 3D fold first discovered in thiolase I (“thio-lase one”). ACP (*) thioesters (“thio-esters”) bind to a Cys-

His-His (“cysteine-histadine-histadine”) active site in enzymes that catalyze this type of reaction. The *reverse* of a reaction of this type that forms an acetyl-CoA (“acetyl-co-A”) is the final step in beta-oxidation. One of these reactions between glyceraldehyde-3-phosphate (“glycer-aldehyde-three-phosphate”) and dihydroxyacetone (“di-hydroxy-acetone”) phosphate is catalyzed by aldolase. For 10 points, Claisen names one example of what type of reaction in which two molecules combine and release water?

ANSWER: **condensation** [accept aldol **condensation**; accept Claisen **condensation**; accept **condensing** or **condensing** enzymes] (The first clue pertains to FabB specifically, although thiolactomycin inhibits all condensing enzymes; the Type III polyketide synthase is chalcone synthase)

<JS, Chemistry>

9. A novel titled for this word follows an eighteen-year-old girl who leaves the Canary Islands and arrives at her demented grandmother’s ramshackle home. A description of the artist as a “fluctuation between holiness and madness” appears in the “first manifesto” of a movement named for this word, which was read aloud from a roll of toilet paper by Gonzalo Arango. It has nothing to do with bees, but this word titles a “tremendist” novel written in 1945 by Carmen Laforet (“lah-fo-RAY”). A character who briefly stops by a bodega at 2:00 am on his way home offers this one-word answer when the (*) barman asks him for his order. This word is the typical explanation for what awaits the “code hero” after he dies. In a short story, this word appears sixteen times throughout an elderly waiter’s modified recitation of the Lord’s Prayer. For 10 points, Ernest Hemingway’s “A Clean, Well-Lighted Place” makes repeated use of what Spanish word for “nothing”?

ANSWER: **nada** [or **Nada**ismo; prompt on **nothing**]

<INB, Miscellaneous Lit>

10. This region’s Knight of the Cross with the Red Star was founded by a close associate of Clare of Assisi named Agnes. Trutnov and Chrudim (“kroo-DEEM”) were some of the many “dowry towns” that this region’s kings gifted to queens like Elizabeth Richeza. A “Treaty on the Establishment of Peace throughout Christendom” was penned by a ruler of this region named George of Poděbrady (“PO-jay-BRAH-dee”). Silver from this region’s mines at Joachimsthal (“YO-ah-keemz-TAHL”) was used to make the first (*) *thalers* (“TAH-lerz”). Foreign scholars leaving this region founded the University of Leipzig in opposition to the Decree of Kutná Hora. Holy Roman Emperor Matthias took control of this region after imprisoning his ailing brother, Rudolf II (“the-second”). Several nobles from this region were executed after the Battle of White Mountain. A kingdom in this region reached its greatest extent under Ottokar II (“the-second”) of the Přemyslid (“PREM-iss-lid”) dynasty. For 10 points, name this region where the Taborites and Utraquists fought the Hussite Wars near Prague.

ANSWER: Kingdom of **Bohemia** [prompt on **Czech Republic**, **Czechia**, or **Czechoslovakia**]

<KS, European History (Continental)>

11. Error stagnation is a common problem in an iterative approximation algorithm developed for this physical subfield by Gerchberg and Saxton. The field distribution of one process in this specific field can be decomposed into a product of functions by the array theorem. A popular textbook in this physical subfield that doesn’t rely on statistical methods was written by Joseph Goodman. The spatial filtering of the 4-*f* (“four-F”) system is commonly analyzed with the tools of this subfield. This subfield uses rectangular pupil functions to model one dimensional systems. In this subfield, the output of transmission is given by (*) convolution with the point-spread function. Unlike approaches based on the Huygens (“HUY-genz”) principle, this subfield models its central phenomena using plane waves. This subfield treats apertures as filters. For 10 points, name this subfield that uses a time domain to frequency domain transformation to model light.

ANSWER: **Fourier optics** [or **Fourier transform optics**; prompt on **optics**]

<AK, Physics>

12. Irving Greenberg controversially argued that this concept ceased to exist. Talmudic scholars debated this concept with a story in which God levitates a mountain over the Israelites' heads. In Numbers 18, Aaron's portion of sacrifices is called one of these concepts "of salt." Moses declares the blood of a bull sacrificed between twelve pillars to represent this concept. The first instance of this concept occurs after (*) Abraham splits his sacrifices in two, leading that example to be called one "between the parts." Statements of this concept in the Bible often describe dispossessions of people like the Jebusites, Amorites, and Canaanites. The world's oldest Jewish service organization is named for "sons of" this concept. This concept is symbolized by an object said to contain a pot of manna and Aaron's rod and underpins Jews' status as "the chosen people." For 10 points, name this contract between Jews and God, symbolized by a namesake "ark."

ANSWER: the Covenant [or Ha Berith; or Brit; prompt on answers like "following the commandments/mitzvot with "which is compelled by what?"; prompt on answers like Jews being chosen with "what concept formalizes the chosen status?"; accept accepting the Torah and equivalents until "sons of" and do **NOT** accept or prompt after and do **NOT** accept or prompt on "receiving the Torah," as the assent bit it is critical]

<JG, Religion>

13. This poet identified the value of "useful objects in repose," such as "wheels that have rolled across long, dusty distances," in giving "reality a magnetism that should not be scorned." This proponent of "impure poetry" mourned the death of a fellow poet in an ode, stating, "if I could take out my eyes and eat them, / I would do it for your black-draped orange-tree voice." This poet imagined himself as "withered, impenetrable, like a felt swan / navigating in the water of sources and ashes" in a poem that opens with the proclamation, "I happen to be (*) tired of being a man." This poet of "Walking Around" repeated the command, "Come and see the blood / in the streets!" at the end of his poem "I Explain a Few Things," which was inspired by his time living in Madrid during the Spanish Civil War. For 10 points, what poet wrote the first section of his collection *Residence on Earth* while stationed as a diplomat away from his native Chile?

ANSWER: Pablo Neruda [or Ricardo Eliécer Neftalí Reyes Basoalto]

<INB, Non-epic Poetry>

14. A solo piece for this instrument opens with an "Exaltación" based on the *jota* ("HOH-tah") dance, and was inspired by José Mas's novel *La orgía* ("or-HEE-ah"), which titles the final movement. An Andante melancólico movement whose title means "Complaints, or the Maiden and the Nightingale" is one of the seven movements in a solo piece for this instrument based on paintings by the title artist. Those aforementioned pieces for this instrument are *Danzas fantásticas* by Joaquín Turina, and (*) *Goyescas* by Enrique Granados. This instrument, and not the guitar, is the *original* instrument for which Isaac Albéniz ("EE-sac al-BEN-ees") wrote *Asturias (Leyenda)*. This is the solo instrument in Manuel de Falla's ("day FAH-yah's") *Nights in the Gardens of Spain*. Modern performances most commonly use this instrument to perform the 555 sonatas of Domenico Scarlatti, most of which were written for the harpsichord. For 10 points, name this keyboard instrument with 88 black and white keys.

ANSWER: piano [or pianoforte]

<KL, Classical Music and Opera>

15. Some of these objects are likened to "clusters of unpainted wooden balls as large as walnuts fastened together by steel rods." A story titled for these objects follows a character "forever frightened and beset by a ghostly band of doubts." The owner of a set of these objects is beaten to a pulp by the saloonkeeper Henry Bradford, and narrowly avoids being lynched when the mob finally relents out of pity for his "small, white" figure. A character holds up a bloodied one of these objects and cries out, "The (*) strength of God was in me" after shattering the window of his bell tower study. A story titled for these objects describes them as having "made more grotesque an already grotesque and elusive individuality." That story's main character changed his name from Adolph Myers after he was accused of using these objects to molest one of his students. For 10 points, what body parts belonging to Wing Biddlebaum title the first story in *Winesburg, Ohio*?

ANSWER: **hands** [or **fists**]

<INB, Short Fiction>

16. Selker et al. used this model organism to discover a series of rapid transition mutations that occur after fertilization but before meiosis (“MYE-osis”). The *ras-1bd* strain, also called *Timex*, is used to study this organism in which repeat-induced point mutation was first observed. Transcription of the VIVID photoreceptor in this organism is induced by the White Collar Complex, which also activates this organism’s *frq* (“F-R-Q”) gene. Studies of circadian rhythms in this organism use race tubes to observe the banding of (*) conidia. Romano and Macino discovered the quelling pathway in albino transformants of this model organism. There are seven chromosomes in the genome of this ascomycete that is equipped with more advanced genetic machinery than *S. pombe* (“POM-bay”) and *S. cerevisiae* (“ser-uh-VISS-ee-ay”). The behavior of auxotrophic (“aux-oh-TRO-fick”) mutants of this model organism in different media led Beadle and Tatum to formulate the one gene-one enzyme hypothesis. For 10 points, name this bread mold whose genus name means “nerve spore.”

ANSWER: ***Neurospora crassa*** [or ***N. crassa***; prompt on ***Neurospora***]

<JS, Biology>

17. This ruler’s policies were opposed by Raja Ram, who defiled the grave of a previous ruler during his rebellion. This ruler prosecuted the mystic Sarmad Kashani for repeatedly claiming “There is no God.” This ruler ended a long-standing practice of addressing his subjects from an ornate balcony called a *jharokha* (“jah-RO-kuh”). A letter addressed to this ruler declares “I have no trust in your oaths anymore” and was written after its author escaped this ruler’s forces at Chamkaur. This ruler built the Shahi Eidgah (“AYD-gah”) in Mathura on the site of a previously existing temple in response to the (*) Jat Rebellion against him. This ruler was denounced in an “epistle of victory,” or *Zafarnama*, written by Gobind Singh. This ruler compiled a strict law code known as the Fatawa-e-Alamgiri and executed Tegh Bahadur for his refusal to convert to Islam. This ruler reinstated the *jizya* (“jiz-yah”) tax previously abolished by Akbar. For 10 points, name this Mughal emperor who succeeded his father, Shah Jahan.

ANSWER: **Aurangzeb** [or **Muhi-ud-din Muhammad**; or **Alamgir** until “Fatawa-e-Alamgiri” is read]

<KS, Other History>

Note to players: description acceptable.

18. Warren Meck’s physiological models for representation of this phenomenon posit the detection of oscillatory cells by the dorsal striatum. David Eagleman’s research on this phenomenon used “judgment reversals” on subjects playing video games. A Bayesian (“BAYS-ian”) perceptual model has replicated the Kappa effect of this phenomenon, the first law of which was formulated by Karl von Vierordt (“FEER-ort”). Kornblot et al. linked accuracy of this phenomenon to evidence for the hypothesis of “depressive realism.” The (*) oddball effect is an illusion of this phenomenon, which has been studied with an inventory created by John Boyd and Philip Zimbardo. Tachypsychia (“tacky-psychia”) is the most common neurological condition affecting this phenomenon, and its changes throughout the lifespan are usually explained through differences in proportionality and novelty. For 10 points, name this perceptual ability altered by chronostasis (“chrono-stasis”), or the stopped-clock illusion.

ANSWER: **time perception** [or **temporal perception**; be lenient and accept anything relating to knowing how much time has passed]

<JM, Psychology>

19. This event appears in the subtitle of Gerald McKnight’s book *The Last Crusade*, which describes how an informant program called the GIP attempted to counteract it. Aaron Bryant’s 2018 Smithsonian exhibit about this event includes the wooden walls of a “Soul Center” that was used as a message board. A year before this event, one of its organizers outlined its principles in the book *Where Do We Go from Here: Chaos or Community?* Reies Tijerina (“RAY-ess tee-hay-REE-nah”) led a Chicano delegation at this event, which

was preceded by a **Committee of 100 lobbying for a five-point** (*) “bill of rights.” Marks, Mississippi was the departure point of one of several “mule trains” during this event, whose participants were demoralized by heavy rains and the assassination of Robert Kennedy. A shantytown called “Resurrection City” was established on the National Mall during this event. For 10 points, name this 1968 event led by Ralph Abernathy’s SCLC, which fought for the rights of the impoverished.

ANSWER: **Poor People’s Campaign** [accept **Poor People’s March** on Washington, D.C.]
<KS, US History>

20. **The HPP model is a predecessor to lattice Boltzmann methods that uses a type of these systems to model particle interactions in a fluid. Moore and Nyhill proved that these systems are surjective if and only if they are pre-injective. A result in symbolic dynamics states that every function continuous in the Cantor topology and equivariant under the shift map defines one of these systems; that is the Curtis-Hedlund-Lyndon theorem. A configuration in these systems with no pre-images is named for the Garden of Eden. With a range of one, a Moore** (*) neighborhood in these systems is defined analogously to 8-connected pixels. The controversial book *A New Kind of Science* primarily concerns these mathematical systems first studied by Ulam and von Neumann (“NOY-man”). In a specific one of these systems, a state dies if it has fewer than two neighbors. In these systems, a new set of grid states is created at discrete time intervals. For 10 points, name these systems that include Conway’s Game of Life.

ANSWER: **cellular automata** [prompt on just **automata**; accept **CA**; accept **lattice gas automata**; also accept: **cellular spaces**, **cellular structures**, **tessellation structures**, **tessellation automata**, **homogeneous structures**; **iterative arrays**; accept **automaton** for **automata** in any given answer; anti-prompt on Conway’s Game of Life before mentioned]
<JS, Math>

Bonuses

1. William Bligh (“bly”) was recognized by the Royal Society for introducing this crop to the Caribbean. For 10 points each:

[10] Name this crop that was domesticated from *Artocarpus camansi* in Polynesia. Gathering this close relative of the jackfruit was the objective of the mission that turned into the Mutiny on the *Bounty*.

ANSWER: **breadfruit** [or *Artocarpus altilis*]

[10] Breadfruit plants in this Pacific region genetically differ from similar plants in Melanesia and Polynesia, likely indicating that this region was colonized separately. Yap Island is part of this region’s namesake “federated states.”

ANSWER: **Micronesia** [accept Federated States of **Micronesia**]

[10] This naturalist sponsored William Bligh’s breadfruit expeditions after taking part in the *Endeavour*’s maiden voyage. The work of this longtime president of the Royal Society inspired the name of Botany Bay.

ANSWER: Joseph **Banks** [or Sir Joseph **Banks**, 1st Baronet]

<KS, Other History>

2. Every day at midnight, washerwomen called “night ducks” rinse the grave clothes of those about to die in this region. For 10 points each:

[10] Identify this region home to a dark, bubbling swamp called the Youdic (“yoo-DEEK”) that may be a gate to the underworld. King Gradlon’s deceptive daughter Dahut tried to steal the keys to this region’s city of Ys (“eess”).

ANSWER: **Brittany**

[10] Following Dahut’s attempted theft, one of these events struck the city of Ys. In Greek myth, one of these events was triggered by Lycaon (“lee-KAY-on”) and survived by Deucalion (“d’yoo-CAL-ee-on”).

ANSWER: **floods**

[10] Each parish of Brittany is legendarily home to one of these cart-pushing, soul-collecting skeletons. They’re sometimes said to produce hideous wails reminiscent of a banshee’s screech.

ANSWER: **ankou**

<INB, Mythology>

3. A last-minute switch in rooms caused this event’s subject to sleep beneath van Gogh’s *Road with Peasant Shouldering a Spade*. For 10 points each:

[10] Name this event which caused Elaine de Kooning (“KO-ning”) to quit painting for a year. The Boston MFA houses a portrait commissioned after this event that was painted by an artist from Chadds Ford.

ANSWER: the **assassination** of John F. **Kennedy** [accept “the **death** of John F. **Kennedy**” or other clear equivalents; accept “the **death** of **JFK**”]

[10] That painter of a posthumous portrait of JFK was Jamie, an artist from this family. His father, also a resident of Chadds Ford, secretly produced nearly 250 paintings of his German neighbor Helga Testorf.

ANSWER: **Wyeth** [accept Jamie **Wyeth** or Andrew **Wyeth**]

[10] The Boston MFA also owns a photograph of JFK in profile that was taken by Yousuf Karsh, an Armenian-born photographer who earned international acclaim for a photograph of this individual, who appears irate because Karsh tossed out his cigar before taking the photo.

ANSWER: Winston **Churchill** [or Sir Winston Leonard Spencer-**Churchill**]

<INB, Painting and Sculpture>

4. Privately owned farms in this country were converted into VEGs and LPGs. For 10 points each:

[10] Name this country where the strategy of “overtaking without catching up” was implemented by 1968’s ESS policy. Chains like Interhotel and Intershop catered to visitors to this country, which introduced the Forum check as an alternative form of payment in 1979.

ANSWER: **East Germany** [or **GDR**; or **DDR**; or **German Democratic Republic**; or **Deutsche Demokratische Republik**; do **NOT** accept or prompt on “Germany,” “Federal Republic of Germany,” “FRG,” “BRD,” or “Bundesrepublik Deutschland”]

[10] This leader’s New Economic System replaced the initial system of Five-Year Plans in East Germany. Erich Honecker succeeded this leader, who supervised the construction of the Berlin Wall.

ANSWER: Walter **Ulbricht** [or Walter Ernst Paul **Ulbricht**]

[10] During the first half of Ulbricht’s rule, East Germany began producing the Trabant, an oft-ridiculed variety of this product. Nazi Germany introduced a “people’s” brand of this product often abbreviated as VW.

ANSWER: **cars** [or **automobiles**; or **motor vehicles**; anti-prompt on **Volkswagen**]

<KS, European History (Continental)>

5. The BTK model solves the BdG equations for the differential conductance of these systems. For 10 points each:

[10] Name these junctions between two types of material at which electrons are reflected as holes with almost the same trajectory. That Andreev reflection is the mechanism behind the proximity effect at these junctions.

ANSWER: **SN** junction [or **superconductor-normal** metal junction; accept **ScN** junction; accept word forms of superconductor like **superconductivity**; prompt on **superconductor-metal** junction with “What is the typical adjective applied to the non-superconducting metal?”; prompt on **metal-metal** junction; prompt on a junction between **two metals**]

[10] Incoming electrons from the normal metal can enter the superconductor by forming Cooper pairs, which consist of electrons with opposite values of this quantity. Momentum equals this quantity times h -bar.

ANSWER: **wavevector** [prompt on **k**; prompt on **wavenumber**]

[10] When a thin barrier of one of these materials is sandwiched between two superconductors, tunneling allows current to flow through the junction. These materials that don’t conduct electricity well include glass and plastics.

ANSWER: **insulators**

<JS, Physics>

6. The philosophy instructor Victor works as a forced laborer in one of this country’s lead mines in the novel *The Most Beloved of Earthlings*. For 10 points each:

[10] Identify this country home to Marin Preda, the author of the *Moromeții* (“moro-MET-tsee”) saga. The 2009 Nobel was awarded this country’s author of *The Land of Green Plums*, Herta Müller.

ANSWER: **Romania**

[10] Müller is best-known for a book-length prose poem titled after this condition’s angelic personification. This sensation titles an 1890 novel by Knut Hamsun, as well as a Kafka story about an “artist.”

ANSWER: **hunger** [or **Sult**; accept *The Hunger Angel*]

[10] Herta Müller’s first published work was a collection of autobiographical stories titled for this word’s plural form. In a 1996 essay published in *Harper’s*, a different author assigned this ironic name to an object aboard which he smelled “suntan lotion spread over 2,100 pounds of hot flesh.”

ANSWER: **nadir** [accept **Nadirs** or the m.v. **Nadir**] (The essay is David Foster Wallace’s “A Supposedly Fun Thing I’ll Never Do Again.”)

<INB, Miscellaneous Lit>

7. Stanley Whittingham failed in creating a device with this property because the titanium disulfide cathode (“CATH-ode”) would ignite after the formation of anode (“ANN-ode”) dendrites. For 10 points each:

[10] Name this property. Akira Yoshino made a device with this property by combining a lithium cobalt oxide cathode with a graphitic-carbon anode.

ANSWER: **rechargeable** [accept, but do **NOT** reveal, descriptive answers like “a battery than you can **recharge**”]

[10] Those aforementioned devices are these electrochemical cells that sometimes use sulfuric acid as an electrolyte.

ANSWER: **batteries** [accept lithium-ion **batteries** or Li-ion **batteries**; accept rechargeable **batteries**; accept car **batteries**; accept **battery** for “batteries” in any answer]

[10] Research on batteries is looking into safer solid electrolytes, including this one used in sodium-ion batteries. The prototypical example of this class of solids was synthesized from sodium, zirconium, phosphorus and oxygen.
ANSWER: **NASICONs** [accept **NA super ionic conductors** or **sodium super ion conductors**; prompt on **super ionic conductors**]
<JS, Chemistry>

8. Translator Jeffrey Carson compared this poem to *The Wasteland* and *The Cantos*, with its “Pound-like lyrically fragmented free verse” and “Eliot-like cultural allusiveness and muffled autobiography.” For 10 points each:

[10] Identify this lengthy “tripartite” poem published in 1959. Its second section, “The Passion,” contains twelve odes and eighteen “psalms,” the first of which opens, “Behold here am I.”

ANSWER: *The **Axion Esti*** [or ***Worthy It Is***; accept *To **Axion Esti***]

[10] This modernist Greek poet received the Nobel in Literature twenty years after writing *The Axion Esti*.

ANSWER: Odysseus **Elytis** (“el-LIT-iss”) [or Odysseus **Alepoudellis**]

[10] Elytis included poems named for the days of the week in a collection framed as a diary about this “invisible” time period. Eliot’s *The Wasteland* opens by calling this period the “cruellest month.”

ANSWER: **April** [accept *Diary of an Invisible **April*** or “**April** is the cruellest month, breeding...”]

<INB, Non-epic Poetry>

9. The composer of this symphony explained its bombasticity with the statement that “Music is Life” and represents nature’s most primal yearning to continue to live. For 10 points each:

[10] Name this 1916 symphony in four movements played without a pause. It begins with winds in D minor clashing against strings holding C, but eventually concludes in a harmonious E major.

ANSWER: ***Inextinguishable*** Symphony [or *Det **Uudslukkelige***; or Symphony **No. 4** by Carl (August) **Nielsen**]

[10] This Danish composer wrote the *Inextinguishable* Symphony and the *Aladdin* suite.

ANSWER: Carl **Nielsen** [or Carl August **Nielsen**]

[10] This term denotes the practice of playing multiple instruments over the course of a piece. For example, the piccolo and contrabassoon parts in the *Inextinguishable* Symphony are played by the third flautist and bassoonist.

ANSWER: **doubling** [or **doubling on**; or word forms]

<KL, Classical Music and Opera>

10. In 2014, the single most highlighted passage in the Bible on Kindle was a passage from this epistle telling readers “Do not be anxious about anything” but instead to “present your requests to God.” For 10 points each:

[10] Name this epistle preceding Colossians and Thessalonians, in which Paul tells the title Macedonians that his imprisonment and upcoming execution in Rome will spread Christianity further. Its second chapter centers on a poetic “Christ Hymn.”

ANSWER: Epistle to the **Philippians**

[10] Philippians contains one of many passages arguing that this practice, which Romans declares is “of the heart,” is not necessary for Christians. Male Jews undergo this practice eight days after birth in the *brit milah* ceremony.

ANSWER: **circumcision** [accept descriptive answers that involve removal of the **foreskin**]

[10] This phrase derives from the Vulgate translation of Philippians 1:23-4, in which Paul weighs his desires to undergo *this specific process* and “be with Christ” versus enduring the “fruitful labor” of “living in the body.”

ANSWER: *cupio **dissolvi*** [or “I wish to be **dissolved**”; accept “to **análūsai** or “to be set **loose**”; accept much more boring English translations that involve the verb **depart**; prompt on **dying** and equivalents] (the actual phrase in the Vulgate is “desiderium habens dissolvi,” which got misquoted by e.g. John Donne and Freud as “cupio dissolvi”)

<JG, Religion>

11. A colony of this animal on west Africa’s Cabo Blanco was ravaged by a 1997 die-off, either caused by a virus or an algal bloom. For 10 points each:

[10] Name this endangered animal species protected by Greece's Alonnisos Marine Park. Its current population is only about 700, though sightings of them have increased around Cyprus.

ANSWER: **Mediterranean monk seal** [or *Monachus monachus*; prompt on partial answer]

[10] Several highly publicized sightings of the Mediterranean monk seal have occurred on this country's island of Cres ("ts'RESS") and in its city of Pula, on the southern tip of Istria.

ANSWER: **Croatia** [or Republic of **Croatia**; or Republika **Hrvatska**]

[10] The other surviving species of monk seal is only one of two mammals endemic to this archipelago in the Pacific, whose other native species include the nene goose.

ANSWER: **Hawaiian Islands** [or **Hawai'i**]

<KS, Geography>

12. Photos by the amateur photographer Alexander Buchman show this man gathering cacti and feeding his rabbits. For 10 points each:

[10] Name this man also captured during an impassioned speech by Robert Capa in his first published photo. He was photographed standing between two artists who signed onto a manifesto of his in a photo by Manuel Alvarez Bravo.

ANSWER: Leon **Trotsky** [or Lev Davidovich **Bronstein**]

[10] Hugo Brehme introduced Manuel Bravo to a photographer with this surname with first name Guillermo. That man was the father of a female surrealist with this surname named Frida who was known for her self-portraits.

ANSWER: **Kahlo**

[10] The Italian photographer and Communist Tina Modotti introduced Bravo to this American Pictorialist photographer. He is known for his abstract, richly-shaded photos like *Nautilus* and *Pepper No. 30*.

ANSWER: Edward **Weston** [or Edward Henry **Weston**]

<AK, Photography>

13. Damage to this part of the brain due to a lack of oxygen can lead to athetosis ("ATH-uh-tosis"). For 10 points each:

[10] Name this part of the brain made up of four components, including the striatum and globus pallidus.

ANSWER: **basal ganglia** [or **basal nuclei**]

[10] By using A2A-Cre mice to measure the expression of this striatal pathway, Cui et al. showed that it and a pathway canonically thought to be orthogonal to it are concurrently active during action initiation. D2-type MSNs are specific to this striatal pathway that *increases* the inhibition of the thalamus by the basal ganglia.

ANSWER: **indirect** pathway

[10] Overactivity of the indirect pathway is a characteristic factor of this movement disorder. Tremors and rigid muscles are common symptoms of this disease called "shaking palsy" by its English namesake.

ANSWER: **Parkinson's** disease [prompt on **PD**]

<JS, Biology>

14. This economist argued that innovation accounts for the 20th century's living standards in her *Bourgeois* ("boor-zh'WAH") *Era* series, and recounted being involuntarily institutionalized while transitioning in her memoir *Crossing*. For 10 points each:

[10] Name this economist, whose namesake "critique" attacks economics' "cult of statistical significance" and privileging of mathematically elegant, theory-driven "blackboard proofs" irrespective of their empirical support.

ANSWER: Deirdre **McCloskey** [or Deirdre Nansen **McCloskey**]

[10] McCloskey particularly criticized this economist's thermodynamics-inspired formalizations. This man names efficiency conditions for public goods provision with Lindahl and Bowen and a "correspondence condition" for the comparative statics method.

ANSWER: Paul **Samuelson** [or Paul Anthony **Samuelson**]

[10] In an article on the "So-Called Coase Theorem," McCloskey argues that the proof that efficient bargaining about externalities occurs in the absence of these things was actually meant to show that they are *always* present.

ANSWER: **transaction costs**

<JG, Economics>

15. At a torture facility, the lazy narrator names these objects when he's shown a Rorschach inkblot that resembles a "pair of testicles placed on a block of pink ice." For 10 points each:

[10] Identify these objects that weigh down an obese crow as it hurtles into the engine of "Pak One," a C-130 that erratically crashes into the ground in the summer of 1988.

ANSWER: **mangoes** [or *A Case of Exploding Mangoes*]

[10] Changez tells an American the tale of his life, and how it was impacted by the 9/11 attacks, in the frame story of this British Pakistani author's *The Reluctant Fundamentalist*.

ANSWER: Mohsin **Hamid**

[10] A plane explosion also precipitates the action of this fatwa-earning Salman Rushdie novel about Saladin Chamcha and Gibreel Farishta.

ANSWER: *The Satanic Verses*

<INB, Long Fiction>

16. This argument was discussed in a series of eleven essays edited by James Beilby that was contributed to by Jerry Fodor and Ernest Sosa. For 10 points each:

[10] Name this argument first proposed in the last chapter of *Warrant and Proper Function*. It states that the conditional probability of our cognitive faculties being reliable, notated *R*, is low given two philosophical positions.

ANSWER: **evolutionary argument against naturalism** [or **EAAN**]

[10] The evolutionary argument against naturalism was proposed by this American philosopher of religion who taught at Notre Dame. This thinker introduced the term "reformed epistemology."

ANSWER: Alvin **Plantinga** [or Alvin Carl **Plantinga**]

[10] Plantinga has put forth a "free will defense" against this problem. A theodicy is a solution to this problem, which questions the existence of a benevolent and omnipotent deity.

ANSWER: problem of **evil**

<AK, Philosophy>

17. This protocol's servers use source port randomization to fix a flaw identified by Dan Kaminsky. For 10 points each:

[10] Name this protocol that has thirteen logical root servers which provide the names of authoritative TLD servers. Resource records with a specified time to live are contained in the response messages of this protocol that communicates over UDP.

ANSWER: **DNS** protocol [or **Domain Name System** protocol; do **NOT** prompt on partial answers]

[10] DNS allows end users to browse the web by translating domain names into addresses used by this protocol to route TCP segments. Version 4 of this protocol is slowly being phased out for Version 6.

ANSWER: **IP** [or **IPv4** or **IPv6**; accept **Internet Protocol**]

[10] The vulnerability that Kaminsky found allowed him to perform this type of attack. Forward-confirmed reverse DNS provides some query authentication to prevent this type of attack where forged entries are put in DNS servers.

ANSWER: **cache poisoning** [do **NOT** accept "cache pollution"]

<JS, Computer Science>

18. This historian engaged in a spat with J. Franklin Jameson over a word's capitalization in a paper he submitted to the American Historical Association. For 10 points each:

[10] Name this historian. One of his books introduces his idea of the "psychological wage" of whiteness and describes the Union victory in the Civil War as resulting from millions of slaves participating in a "general strike."

ANSWER: W. E. B. **Du Bois** ("doo BOYSS") [or William Edward Burghardt **Du Bois**] (Jameson refused to allow DuBois to capitalize the word "Negro")

[10] That book by Du Bois challenged the interpretation of this period of American history by the Dunning School. Members of the Dunning School argued that black suffrage during this period after the Civil War was a mistake.

ANSWER: **Reconstruction** [or ***Black Reconstruction in America***]

[10] This NYU historian analyzed the role of church communities and the rise of Garveyism and black identity from Reconstruction until the Great Migration in his expansive history *A Nation Under Our Feet*.

ANSWER: Steven **Hahn**

<AK, US History>

19. In Act Two of the play in which he appears, this character bemoans having paid for his son's education as the latter chases him around and beats him. For 10 points each:

[10] Identify this character, the father of Pheidippides ("fye-DIP-ee-deez"), who ends the play by burning down the Thinkery with his slave Xanthias ("ZAN-thee-us").

ANSWER: **Strepsiades** ("strep-SEE-uh-deez")

[10] Socrates, a teacher at the Thinkery, instructs the incompetent Strepsiades in this Greek playwright's *The Clouds*.

ANSWER: **Aristophanes**

[10] In the play's first act, a student at the Thinkery recounts an incident in which one of these animals defecated on Socrates while the philosopher was busy contemplating the moon's path through the night sky.

ANSWER: **lizard**

<INB, Drama>

20. Edmund Davies led a lengthy tribunal involving over a hundred witnesses that held the NCB responsible for this disaster. For 10 points each:

[10] Name this 1966 disaster in which heavy rain caused the collapse of a spoil tip, which flowed down a mountainside and killed 144 schoolchildren and teachers.

ANSWER: **Aberfan** ("ah-ber-VAHN") disaster

[10] The Aberfan disaster took place in this constituent country of the United Kingdom, once home to the Tredegar ("truh-DAY-gar") Iron and Coal Company and the Cardiff Coal Exchange.

ANSWER: **Wales** [or **Cymru**]

[10] This former Labour Party leader from Tredegar condemned the tactics of Arthur Scargill's National Union of Mineworkers during the 1980s coal miner strike. He unexpectedly lost the 1992 general election to John Major.

ANSWER: Neil **Kinnock** [or Neil Gordon **Kinnock**, Baron Kinnock]

<KS, European History (Commonwealth, Ancient, Historiography)>