**CHICAGO OPEN 2017: -.. --- -. - / ..-. --- .-. --. . - / - --- / -.. .-. .. -. -.- / -.-- --- ..- .-. / --- ...- .- .-.. - .. -. .**

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1. Modified forms of this process which incorporate sulfur into the product make use of reagents such as the Beaucage reagent or TETD. This process is the main industrial use of controlled pore glass. The efficiency of this process is monitored by measuring absorbance at 495 nanometers, since the DMT carbo∙cat∙ion used in it is bright orange in color. Marvin Caruthers and Leroy Hood developed the common method for this process, which entails a capping step where acetic an∙hydride and N-methyl∙imidazole react with two different alcohols before a pyri∙dinium iodide oxidation. A cyano∙ethyl protecting group is used during this process, in which tetrazole catalyzes a coupling reaction between phospho∙ramidite building blocks. For 10 points, name this process analogous to the Merrifield synthesis, in which a solid phase supports an iterated reaction cycle which forms phospho∙di∙ester bonds.

ANSWER: solid-phase **DNA synthesis** [or **oligonucleotide synthesis**; or **deoxyribonucleic acid synthesis**; or **primer synthesis**; or **RNA synthesis**]

2. Joseph Boyle argues that this principle is "superfluous" unless there are "exceptionless" norms to back it in an article asking "Who is Entitled to" this concept. This principle was recast as a problem of indirect agency versus direct agency with the examples of a terror bomber and a strategic bomber in an article analyzing it from a non-absolutist perspective by Warren Quinn. A stronger form of this principle, which requires that an individual forego some benefit and accept some risk, was proposed by Michael Walzer in a book about two types of wars. This principle is introduced in the 64th question of the second book of *Summa Theologica*, where Aquinas writes that "saving one's own life" and the "slaying of the aggressor" may occur as a result of self-defense. For 10 points, name this doctrine from moral philosophy which considers both the intended and unintended consequences of an action.

ANSWER: doctrine of **double effect** [or principle of **double effect**; accept any answers indicating **double effect**]

3. Anthropologist Ruth Bunzel reported on this group's factional strife over whether or not to cooperate with anthropologists. In their traditional beliefs, the Sun Father assigns newborns an invisible "road" through life. In 1990, this group banned outsiders from attending their winter solstice dance-drama celebration, the Shalako. Victor Brouwer criticized the denial of alcoholism and suicide among these people, and the weak section on coming-of-age whipping ceremonies, in an earlier study of them from the culture-and-personality school. Frank Hamilton Cushing studied these people, who believed that spirits haunted the bottom of a Lake of the Dead. Another study classified their restrained, moderate personality as "Apollonian." For 10 points, name this tribe, among the many who make *kachina* dolls, which has changed a lot since its *Mythology* was written up by Ruth Benedict.

ANSWER: **Zuni** [or **Zuñi**; or **A:shiwi**; prompt on Puebloan]

4. Bethany Hicock claims this poem refigures the ideas of “female community” found in its author’s manifesto *Con Spirito*. This poem’s speaker claims that the "smallest" of his industries was a "miserable philosophy". After playing a musical instrument, this poem’s speaker parenthetically remarks "(I think it had the weirdest scale on earth.)" The speaker of this poem asks "Why didn't I know enough of something? / Greek drama or astronomy" since the pages he was reading "were full of blanks." At this poem’s conclusion, a museum asks for "the flute, the knife, [and] the shriveled shoes" that belonged to the speaker. This poem ends with a character dying of measles, and is spoken by a character who christens a volcano *Mont d'Espoir* or *Mount Despair*. The collection *Geography III* contains, for 10 points, what Elizabeth Bishop poem that depicts a Daniel Defoe character reminiscing about his "poor island"?

ANSWER: "**Crusoe in England**"

5. The book *Fifty Secrets of Magic Craftsmanship* remarks that even though some people knew how to cause one of these events, no one knows what the "mysterious juice" was that "Van Eyck or Vermeer of Delft" used. After one of these events, an artist proclaimed he was "no longer interested in the psychopathological". One of these events led that artist to make a painting which imagines that the backs of three human heads are clouds. That painting is titled for "The Three Sphinxes" at a location where these events took place. The largest of these events inspired the same artist to depict floating stools and and a flying swan in a painting. One of these events caused an artist to use the "paranoiac critical" method, and ushered in the "mystical" phase during which he made *Leda Atomica*. For 10 points, name these often-deadly events that facilitated Salvador Dali's then-burgeoning interest in atoms.

ANSWER: **atomic bomb** explosions [or **nuclear explosion**s; accept **H-bomb** explosions; accept **atomic bomb** tests; prompt on explosions or bomb explosions]

6. This theory predicts that the ratio of two ultrasound attenuation rates in NMR is maximized at the Hebel-Slichter peak. Color-flavor locking occurs when this theory is imposed on QCD for quarks at low temperature. The key assumption of this theory is that an operator composed of the expectation value of the product of two creation operators is nonzero and does not commute with its annihilation counterpart. A Hamiltonian in this theory is reduced from a quartic form to a diagonalized quadratic form using a mean-field approximation and the first application of the Bogo∙liubov transformation. So-called "conventional" materials are described by this theory, which predicts that heat capacity varies exponentially with a "gap parameter" denoted delta when the system is near its critical temperature. Pairs of electrons condense into bosonic quasi∙particles in, for 10 points, what theory of superconductivity?

ANSWER: **BCS** theory [or **Bardeen-Cooper-Schrieffer** theory]

7. The final ruler of this kingdom faced a revolt by his courtier Ehelapola, whose last will became a prized document after he was expelled from his post of *adigar*, and his family was executed. This kingdom was invaded when a force ascended the Balana Pass using the intelligence of a band of troops known as Lascarins, and charged across the Danture plain which gave the invasion its name. Three years after this kingdom was occupied, its chieftains rebelled in the Uva-Wellassa Uprising. Its royal house of Dinajara included a queen who married Senarat, and took the name Dona Catarina. At a convention named for this kingdom, its final king abdicated in 1815 at its famed building, the Temple of the Sacred Tooth Relic. For 10 points, name this kingdom whose rulers fought under a battle standard of a yellow lion holding a kastane sword, which succeeded the Kotte Kingdom as the last native kingdom of Ceylon.

ANSWER: Kingdom of **Kandy** [or **Kandyan** state, prompt on “Sri Lanka” or “Ceylon”]

8. Donald McElvoy Nichol’s book about this site claims that its residents believe it was formed by an earthquake afflicting the Vale of Tempe. A building at this site was abandoned for 200 years after a 13th-century ascetic built it, but it was restored after the Apsarada brothers defeated a monster living in a nearby cave. John Uros resigned the kingship of Serbia to become a resident at this site. This site was supposedly founded by a man who rode an eagle to it. Frescoes depicting the apocalypse at this site have been made by Frangos Katellanos, as well as Theophanis Strelitzas in its Church of the Metamorphosis and the Varlaam Monastery. The founder of this site had earlier been told by an apparition of the Virgin Mary to exclude all women from one of his earlier churches at Athos. A term meaning "above the heavens" names, for 10 points, what group of rock pillars home to six Greek monasteries?

ANSWER: **Meteora**

9. A character who grew up in this city is suspected of collaborating on a bombing plot, and is forced into a bag with a cat and made to sit on a Coke bottle after Shirin, a woman he is stalking, complains to the police. An author who shifts his time between San Francisco and this other city won the 2017 Lambda Literary Awards for Gay Fiction with a novel in which a conversation about Joan Didion causes the gay poet Jacob to have a mental breakdown. The novels *Yalo* and *The Angel of History* are by Elias Khoury and Rabih Alameddine, two authors who grew up in this city. Selma Karamy falls in love with a fictional version of the author in *Broken Wings*, a novel set in this capital city. A native of Bsharri studied in this city before writing "Half of what I say is meaningless, but I say it just to reach you" in "Sand and Foam". For 10 points, name this capital city, which was once home for Kahlil Gibran.

ANSWER: **Beirut**

10. The first movement of this piece, which is in sonata form, unusually has a cadenza fill the role of the middle “development” section, with the recapitulation beginning before the cadenza ends. A performer derided for his premiere of this piece was more successful at the premiere of its composer’s string quartet *Voces intimae*. Leonidas Kavakos, who won the 1985 iteration of the competition named for this piece’s composer, featured on the first permitted recording of its original version. The first dedicatee of this piece, Willy Burmester, was unavailable at both its disastrous premiere and the premiere of its revised version, the latter of which was conducted by Richard Strauss. The “short-long-short-long” rhythms of its final movement led Donald Tovey call it a “polonaise for polar bears.” For 10 points, name this D-minor composition for orchestra and string soloist by the composer of *Finlandia*.

ANSWER: Jean **Sibelius**’s **Violin Concerto** in D minor [prompt on partial answers]

11. Bergers and Benjamin argue that the “switch” named for this process is mediated on the one hand by lyso∙phospha∙tidic acid, and on the other hand by can∙statin and tum∙statin. A key protein that activates this pathway is alternatively spliced into the 121 and 165 isoforms. The EPR effect is explained by an abnormally high rate of this process. If HIF1 has not been post-translationally modified by prolyl hydroxylase, then it activates this process by up∙regulating Tie2. Hanahan and Weinberg identified the “sustained ability” for cells to activate this pathway as one of six key “hallmarks.” ECM degradation by matrix metallo∙protein∙ases is the first step of the “sprouting” form of process, which is inhibited when the mono∙clonal antibody Avastin binds to the signalling molecule VEGF. For 10 points, name this process, which tumors hijack to feed themselves by generating a "leaky" vasculature.

ANSWER: **angiogenesis** [or word forms; prompt on vasculogenesis; prompt on blood vessel formation or more specific answers like forming capillaries; prompt on tumorigenesis or tumor growth]

12. A thinker with this surname had his major work "revisited" in a 2008 book by D.A. Carson. That work, which proposes five ways Christianity can interact with modern society, is called *Christ and Culture*. Another thinker with this surname asserted that "man is a sinner...because he is betrayed, by his very ability to survey the whole, to imagine himself the whole" in a book based on his 1939 Gifford Lectures. Those lectures were given seven years after the publication of his book on the inherent conflict between individual and collective morality. *The Nature and Destiny of Man* and *Moral Man and Immoral Society* were written by a thinker with this surname who founded Christian Realism and penned a text in which the speaker seeks to "accept the things I cannot change". For 10 points, give the surname shared by theologian H. Richard and "Serenity Prayer" author Reinhold.

ANSWER: **Niebuhr** [accept H(elmut) Richard **Niebuhr** or (Karl Paul) Reinhold **Niebuhr**]

13. A Supreme Court case decided in this decade, *City of Elizabeth v. American Nicholson Pavement*, established the “experimental use exception” in patent law. Another case decided in this decade held that because a defendant was not physically present or served papers within Oregon, that state had no personal jurisdiction. *Pennover v. Neff* was decided in this decade, which spans the entire tenure of Justice William Strong, the author of opinions like the eminent domain case *Kohl v. United States*. The Court denied Myra Bradwell’s right to practice law in Illinois in this decade, for reasons that it repeated in *Minor v. Happersett*. This decade included the oft-paired decisions of *US v. Reese* and *US v. Cruikshank*, which invalidated a conviction under the Enforcement Act of perpetrators of the Colfax Massacre. For 10 points, name this decade in which the Slaughterhouse Cases were decided, and Morrison Waite became chief justice.

ANSWER: **1870s** [prompt on 70s]

14. In a play titled for one of these things, a gossip columnist named Crowquill tries to get scandalous material on a friend of Saville. In that play titled for one of these things, Sir George releases the goldfinch of Lady Frances, and Letitia Hardy feigns ignorance so that she can woo her future husband Doricourt at a masquerade. In addition to that play by Hannah Cowley titled for one of these belonging to a "belle", another of these things titles a play in which the servant Scrub announces that the chaplain Gloss is trying to steal the jewels of Mrs. Sullen. That play set in the city of Lichfield named for one of these things opens at the Boniface Inn, where the two title characters agree to split the share they get from marrying rich wives, such as Lady Bountiful and Boniface. Archer and Aimwell are the title "beaux" that concoct, for 10 points, what kind of scheme that titles a comedy by George Farquhar?

ANSWER: **stratagem** [or accept *The Belle's* ***Stratagem*** or *The Beaux*'***Stratagem***; prompt on belle or beaux]

15. Legendarily, Tarquinius Superbus was the first Roman to make war on this tribe and he captured its city Suessa Pometia. When allied with the Etruscans, this tribe was defeated at Sutrium by Marcus Furius Camillus shortly after he defeated them at ad Maecium. Livy records that after this tribe’s capital was destroyed, survivors moved to the city of Satricum. While besieging the town of Corioli, a force under Postumus Cominius Auruncus was attacked by members of this tribe from their capital at Antium. One general who gained his nickname from that battle later defected to this tribe, but supposedly stopped his siege of Rome after hearing the pleas of his mother Veturia. In the *Aeneid*, the warrior maiden Camilla belonged to this tribe, which frequently allied with the Aequi. For 10 points, name this tribe hailing from south of Latium which fought the Romans under the traitor Coriolanus.

ANSWER: **Volsci** [or **Volscian**s]

16. A book co-written by Mark Costello is titled for a track that samples Led Zeppelin’s “Kashmir” and is presented as a contest between “badass pimp,” a “big bad faggot,” and a “rapper” who is doing this action. In a series of jazz songs, a character named for performing this action relays to a lion words supposedly said by an elephant. This action is subsumed by the four “master tropes” of “metaphor, metonymy, synecdoche, and irony” in a book in which the concluding ‘G’ in this action’s name is typically placed in parentheses. Schoolly D performed a track titled for this action, which titles an early David Foster Wallace book on rap. A book claims that Ishmael Reed, Ralph Ellison, and Richard Wright’s interpretations of their intellectual forebears constitutes this action. Henry Louis Gates wrote a book titled for a trickster “monkey” that performed, for 10 points, what action of ritual insult and wordplay?

ANSWER: **signifyin’** [or **signifying**; accept *The* ***Signifying Rapper*** or *The* ***Signifying Monkey***]

17. Kevin Murphy has developed a MATLAB toolbox named for these things. In an algorithm used on these structures developed by Kim and Pearl, messages labelled pi and lambda up and down are passed until convergence is reached. An “equivalent uniform” metric partly named for Dirichlet is used to score these structures, and is often used by the Chow-Liu algorithm to construct them. Each element of these models is quantified by its d-separation. These things are turned into Markov random fields by moralization, which connects all the nodes in their Markov blankets. These models are learned by estimating parameters using Gibbs sampling, then doing belief propagation to maximize the posterior probability. Directed acyclic graphs model, for 10 points, what structures in which each node depends on its parent nodes according to a theorem relating conditional probabilities?

ANSWER: **Bayesian network**s [or **Bayes networks**; or **Bayes net**s; or **belief network**s; prompt on Bayes or Bayesian model; prompt on directed acyclic graphs or DAG­s until it is read]

18. This man led the Theriso revolt, an armed uprising fighting for goals including universal male suffrage, against his native region’s High Commissioner Prince George. This founder of his country’s Liberal Party first came to power after the Goudi coup and his supporters were attacked by pro-neutrality royalists in the *Noemvriana*. This man was on one side of his country’s National Schism, and after setting up a rival government in his country’s north he was able to force the pro-German King Constantine I to resign. This leader’s 1920 electoral defeat may have led to his country’s loss in a war which prevented this man from achieving the *Megali Idea*. He led his country’s delegation to the Treaty of Lausanne and agreed to population exchange between his country and Turkey. For 10 points, name this early 20th century Prime Minister of Greece who served during World War I.

ANSWER: Eleftherios **Venizelos** [or Eleftherios Kyriakou **Venizelos**]

19. Of one of his films, this director claimed its best shot shows the protagonist on a bus going to the frontier, listening to the song "The Lion Sleeps Tonight". This director declared "I totally reject stories … but it is impossible to live without them" in his essay "Impossible Stories". This man’s favorite director, Yasujiro Ozu, inspired and is the subject of his documentary *Tokyo-Ga.* Nick Cave and his "Bad Seeds" sing the song "From Here to Eternity" at a rock concert in a film by this director, in which the protagonist falls in love with Marion, a trapeze artist. An athlete who is ejected from a game and subsequently kills a cashier is the subject of a film by this director, who also made a 1987 film which transitions from a sepia palette to full color after an angel renounces its divinity. Peter Handke collaborated with, for 10 points, what director of *The Goalie's Anxiety at the Penalty Kick* and *Wings of Desire?*

ANSWER: Wim **Wenders** [or Ernst Wilhelm **Wenders**]

20. One of these stories describes a young boy collecting a bouquet of blue wildflowers, after which he pokes a headless corpse until its arm moves and he freaks out. That one of these stories ends with the narrator declaring "The hero of my tale, whom I love with all the strength of my soul, whom I have tried to set forth in all his beauty" is "the truth". The first of these stories includes an extensive discussion of various references to "the fourth bastion" and a description of a visit to the Assembly Hall, the location of a makeshift hospital. The brothers Mikhail and Vladimir Kozeltsov both die in the third of these stories. A second-person tour of the title location makes up the first of these stories, which are set "in December", "in May", and "in August". For 10 points, name this trio of stories by Leo Tolstoy, set in a besieged city during the Crimean War.

ANSWER: ***Sevastopol Sketches*** [or ***Sebastopol Stories***; accept **Sebastopol** for "Sevastopol" and **Stories** or equivalents for "Sketches"; accept ***Sevastopolskiye rasskazy***]

**BONUSES**

1. A novel about this man, in which he is inspired by an encounter with the female wrestler Arsinoe, is the first in a trilogy by Dmitry Merezhkovsky. For 10 points each:

[10] Name this ruler, who is told that "the way of freedom" is "the way of necessity" by a mysterious voice before a philosopher suggests that he will found "the third empire" in a "world-historic drama" published in 1873.

ANSWER: **Julian** the Apostate [or Flavius Claudius **Julianus** Augustus]

[10] A series of letters between Libianus and Priscus discuss the possibility of writing a biography of Julian the Apostate in a 1964 novel by this author. His other books include *The City and the Pillar*.

ANSWER: Gore **Vidal** [or Eugene Louis **Vidal**]

[10] Julian the Apostate blamed his "terrible old" tutor for introducing him to the works of Plato, Socrates, and Aristotle in the satire *Misopogon,* which is titled for a hater of these things. Walt Whitman had an amazing one, and once wrote “razors are for foofoos” but “freckles and a bristling” one of these things are “for [him].”

ANSWER: **beard**s

2. Answer the following about the effects of excluded volume in chemistry, for 10 points each:

[10] The idea that particles have excluded volume justified one of the fudge factors in this basic cubic equation of state, which represents particle hard-sphere volumes with a parameter labeled *b*.

ANSWER: **van der Waals** equation of state [or **vdW** equation]

[10] This theory predicts that, at the theta condition, the effect of excluded volume is exactly matched by the effect of intermolecular forces. Its namesake interaction parameter is usually very close to ½ at infinite dilution.

ANSWER: **Flory-Huggins** solution theory

[10] In this effect, the rate of enzymatic reactions is higher in the cytosol than *in vitro* because there is less available volume for solvent, so the effective concentration of substrates is higher. PEG is often used to induce it.

ANSWER: macromolecular **crowding** [or word forms; or **crowding** agents]

3. The man who brought this group to justice, amateur detective Edward Bonney, wrote a book about them subtitled “Or the Murderer’s Doom!!: A Tale of the Mississippi Valley.” For 10 points each:

[10] Name this group of ne’er-do-wells including the Long Brothers and Robert “Three-Fingered” Birch, who murdered Colonel George Davenport at his home on Rock Island.

ANSWER: “the **Banditti** of the Prairie” [prompt on just “Bandits”, accept **Banditti** alone]

[10] Earlier, Edward Bonney served as an aide-de-camp to Joseph Smith in the Nauvoo Legion, and was inspired to take up detective work when Joseph and his brother Hyrum Smith were murdered in a jail in this Illinois town.

ANSWER: **Carthage**

[10] This man, who was later shot by Jack McCall in Deadwood holding aces and eights, got his start hanging out with the Banditti. His thin mustache gave him his alternate less-racially sensitive nickname, “Shanghai Bill.”

ANSWER: James Butler “Wild Bill” **Hickok**

4. Brian Nosek headed a “project” that found only a 36% success rate when this process was carried out for 100 psychological studies published in leading journals. For 10 points each:

[10] Name this process at the center of a “crisis” in the social sciences, which Glenn Begley and John Ioannidis wrote has been caused by generation of data at an unprecedented rate.

ANSWER: **replication** [or **reproducibility**; accept answers indicating attempting to replicate or reproduce the significant findings of a study; accept reproducibility crisis or replication crisis]

[10] This author of *Thinking, Fast and Slow*, who often collaborated with Amos Tversky, argues that the original study authors should, because of vagaries in published methods, be involved in efforts to replicate their studies.

ANSWER: Daniel **Kahneman**

[10] Robert Rosenthal coined this term for a bias in publication of significant results that is caused by researchers who fail to publish their negative or non-confirmatory results. This “problem” results when researchers metaphorically or literally put their nonsignificant findings in the namesake place.

ANSWER: **file drawer** problem

5. A list of ten “basic” examples of these things includes “life, bodily health, and control over one’s environment” and is found in the book *Frontiers of Justice*. For 10 points each:

[10] Name these concepts that a thinker argued are necessary so that a person’s life is “not so impoverished that it is not worthy of the dignity of a human being.”

ANSWER: **capabilities** [or basic human **capabilities**; accept **capability**]

[10] This University of Chicago philosopher developed the capabilities approach with Amartya Sen. Her books include *The Fragility of Goodness* and *Sex and Social Justice*.

ANSWER: Martha **Nussbaum** [or Martha Craven **Nussbaum**]

[10] The capabilities approach centers on both capabilities and these concepts, which are, broadly speaking, the things that capabilities allow people to do. Sen defined them as “beings and doings.”

ANSWER: **functioning**s [do not accept or prompt on “functions” or similar but incorrect answers]

6. The foremost intellectual leaders of this movement were Plinio Salgado and Gustavo Barroso, who authored *Judaism Freemasonry and Communism*. For 10 points each:

[10] Name this fascist movement whose supporters often engaged in street brawls with communists led by Luiz Prestes. This ideology taught people to undergo the “Revolution of the Self” to become one with the Homeland.

ANSWER: **Integral**ism [or **Integralismo** or **Integralistas** or “Brazilian **Integralist** Action”]

[10] This Brazilian president turned against Integralism after seizing emergency powers in 1937, at the beginning of his Estado Novo that lasted through 1945.

ANSWER: Getulío **Vargas** [or Getulio Donelles **vargas**]

[10] The followers of Barroso used this Uruguayan writer’s concept of “Nordomanía” to attack selfish pursuit of material success rampant in the Western world. This friend of Ruben Dario wrote the essay “Ariel.”

ANSWER: Jose **Rodó** [or Jose Enrique Camilo **Rodó** Pineyro]

7. A mysterious disease resembling a hybrid of this disorder and Parkinson’s erupted on Guam in the 40s and 50s. For 10 points each:

[10] Name this disease treated by the drug riluzole. Forty percent of people with this disease in North America have an A4V mutation in the gene encoding copper-zinc superoxide dismutase, whereas in Europe, it is mostly caused by hexanucleotide repeats in an open reading frame on chromosome 9.

ANSWER: **amyotrophic lateral sclerosis** [or **ALS**]

[10] The disparity between SOD1 mutations in North America and the rest of the world can be attributed mainly to this effect, in which genetic variation is lost when a new population emerges after colonizing a new area.

ANSWER: **founder** effect

[10] Hampton Carson extensively studied how the founder effect in the Hawaiian islands led to formation of species like *plantibia* and *nigribasis* in this animal genus. Organisms in this genus are often bred to make isofemale lines.

ANSWER: ***Drosophila***

8. This place is described as a "planned compound of seventy-two handsome houses on curvilinear private streets under yews and cedars" at the end of an essay in which John Mcphee searches for it. For 10 points each:

[10] Name this neighborhood, whose name was accidentally misspelled by Charles Darrow's original submission to both Milton Bradley and the Parker Brothers.

ANSWER: **Marven Gardens** [or **Marvin Gardens**]

[10] Marvin Gardens, along with Atlantic Avenue and Ventnor Avenue make up a trio of properties in Monopoly with this color.

ANSWER: **yellow**

[10] According to Orbanes' history of *Monopoly*, this member of FDR's brain trust would teach an early version of Monopoly to his students at Wharton. He becomes president in the fictional novel *The Grasshopper Lies Heavy*.

ANSWER: Rexford **Tugwell** [or Rexford Guy **Tugwell**]

9. The line "My first thought was, he lied in every word" opens this poem, whose speaker encounters a river that, like many quizbowlers, is described as "so petty yet so spiteful!" For 10 points each:

[10] Name this Robert Browning poem that ends with its title character setting his "slug-horn" to his lips and blowing. It takes its title from a song sung by Edgar in *King Lear*.

ANSWER: "**Childe Roland to the Dark Tower Came**"

[10] Browning likely adopted the use of the term "slug-horn" to refer to an obsolete instrument from this precocious 18th-century poet, who passed off a bunch of faux-medieval writings as works of the monk "Thomas Rowley".

ANSWER: Thomas **Chatterton**

[10] The poem claims that this three-word phrase is defined as "think first, fight afterwards". Anthony Powell ("pole") used this phrase to title the eighth *Dance to the Music of Time* novel.

ANSWER: *The* ***Soldier's Art***

10. This ballet’s score calls for “resonant puddles” in its section representing a “Chinese Conjurer,” and for a typewriter and gunshots in its section featuring a “Young American Girl.” For 10 points each:

[10] Name this ballet in which Cubist-styled “managers” fail to entice the audience to come and see a show.

ANSWER: ***Parade***

[10] This French composer of *Parade* also wrote three piano works he called *Gymnopédies*.

ANSWER: Erik **Satie** [or Éric Alfred Leslie **Satie**]

[10] This man’s *Dictionary of Music* defined “gymnopédie” as an air or chant to which young female Spartans danced nude. He wrote both the music and libretto for his opera *Le devin du village*, or *The Village Soothsayer*, during the “War of the Buffoons.”

ANSWER: Jean-Jacques **Rousseau**

11. The Ponce Monolith at this site is aligned with the main door of the Kalasa-saya sunken courtyard, so that sun shines through the door on the equinoxes. For 10 points each:

[10] Name this Pre-Incan civilization based at a site that is also home to the Akapana pyramid, the Pumapunku stone terrace, and the Gateway of the Sun arch.

ANSWER: **Tiwanaku** [or **Tiahuanaco**]

[10] These indigenous people of the Altiplano region, who displaced the Uru, often emphasize their ties to Tiwanaku culture. In 1782, the female warrior Bartolina Sisa led a revolt of these peoples to reconquer La Paz.

ANSWER: **Aymara**

 [10] The last traces of the Tiwanaku culture disappeared when Pachacuti moved outward from this old Incan capital toward the Titicaca valley. He also rebuilt the Coricancha sun temple in this city.

ANSWER: **Cuzco** [or **Cusco**]

12. Answer the following about the longer of the Homeric Hymns to Hermes, for 10 points each.

[10] Most of the poem describes the newborn Hermes's theft of a bunch of cattle belonging to this fellow god, to whom he gives the newly-invented lyre in recompense.

ANSWER: **Apollo** [or **Phoebus** Apollo]

[10] In the 13th line of the poem, Hermes is described using this Greek term. It is the first adjective used to describe Odysseus in the *Odyssey*, in which context it is translated by Lattimore as "of many ways" and by Fagles as "of twists and turns".

ANSWER: **polytropos** [accept word forms or **πολύτροπος**]

[10] The opening of the poem also notes that Hermes was born to Maia in a cave on this mountain on the Peloponnese. The Oread of this name was the mother of Lycaon by Pelasgus.

ANSWER: Mount **Cyllene** [or Mount **Kyllini**]

13. In 1895, Max Skladanowsky used the Bioscop to produce a short black-and-white film of a woman performing this dance. For 10 points each:

[10] Name this dance pioneered by Loie Fuller in which the performer uses her arms to manipulate her long skirt in broad, waving motions. The Lumière brothers made a short film of Annabelle Whitford performing it.

ANSWER: **serpentine** dance

[10] In the 1890s, Fuller was a star at this cabaret hall of Belle Époquere Paris. Edouard Manet showed an odd reflection in a mirror in his painting of “A Bar at” this place.

ANSWER: **Folies Bergère** [accept *A Bar at the* ***Folies-Bergère*** or *Un bar aux* ***Folies Bergère***]

[10] In 1926 this black American expatriate dancer starred in the revue *La Folie du Jour* at the Folies Bergère. This star of *La Revue Nègre* was awarded the Legion of Honor for her work with the Resistance and Free French.

ANSWER: Josephine **Baker** [or Freda Josephine **McDonald**]

14. One of these equations predicts that the self-diffusion coefficient depends on the square of the velocity. For 10 points each:

[10] Name these equations which set linear transport coefficients equal to the time integral of autocorrelation functions. They can be used to obtain expressions for momentum and thermal diffusivity too.

ANSWER: **Green-Kubo** relations [or **Kubo** relations; prompt on Green relations]

[10] The Green-Kubo relations can be derived from the central limit theorem and a theorem named for this process, which shows how the rate of entropy generation evolves in time. A different theorem in statistical mechanics relates the rates of this process and dissipation.

ANSWER: thermodynamic **fluctuation**s [or **fluctuation** theorem]

[10] In nonequilibrium stat mech, the dissipation of entropy is often described as a contraction of this hypothetical quantity. This quantity symbolized capital gamma or capital omega is usually the normalization constant for the microcanonical ensemble and equals Planck’s constant to the N in N dimensions.

ANSWER: the **volume** of **phase space** [prompt on partial answer]

15. This play's prologue, which begins with the dramatic declaration "Exult each patriot heart!", is followed by a scene in which Charlotte and Letitia discuss the relative merits of pocket-hoop and bell-hoop skirts. For 10 points each:

[10] Name this play by the judge Royall Tyler in which the foppish Billy Dimple is eventually rejected by Maria van Rough, who chooses instead to marry Colonel Henry Manly.

ANSWER: *The* ***Contrast***

[10] Royall Tyler was the basis for Judge Jaffrey, a member of this cursed family from *The House of the Seven Gables.*

ANSWER: **Pyncheon** [accept Judge Jaffrey **Pyncheon**]

[10] This other early American playwright was a Federalist who portrayed Major John Andre in a sympathetic light in his play *Andre.* He was supposedly called a “disloyal dramatist” for his play.

ANSWER: William **Dunlap**

16. In 1975, the co-editor of this publication, Ross McWhirter, was killed by the Provisional IRA after offering a 50,000-pound bounty for information leading to the arrest of IRA members in London. For 10 points each:

[10] Name this publication named for a brewery that was founded after Sir Hugh Beaver got into an argument on a hunting expedition in North Slob over whether or not the golden plover was Europe’s fastest game bird.

ANSWER: ***Guinness Book of World Records*** [or ***Guinness Book of Records*** or ***Guinness World Records***; prompt on “Guinness Book”]

[10] Beaver was recommended to hire McWhirter by Christopher Chataway, who, along with Chris Brasher, paced this man in his successful bid to become the first person to run a mile in under four minutes.

ANSWER: Roger **Bannister** [or Sir Roger Gilbert Bannister]

[10] *Guinness World Records* certified this election as the “most fraudulent ever” because Charles D. B. King received about 243,000 votes despite only about 15,000 voters being registered. Country and Year required.

ANSWER: **1927 Liberia**n presidential election

17. One member of this group nicknamed the “Holy Prince” died in captivity in Fez after a loss at the Battle of Tangier. For 10 points each:

[10] Name this group of royals, the children of John I of Portugal and his wife Philippa of Lancaster. They included Pedro, Duke of Coimbra, who served as regent for his nephew Afonso V.

ANSWER: **Illustrious Generation** [or **Ínclita Geração**]

[10] The only member of the Illustrious Generation to become king was this man known as the “Philosopher” or “the Eloquent.” He wrote the treatise “The Loyal Counsellor” and a thrilling manual teaching one “how to ride well on every saddle.”

ANSWER: **Duarte** [or **Edward**]

[10] Duarte was part of this dynasty, which was founded by John I. This dynasty’s rule over Portugal ended when Philip II of Spain took the crown in 1580.

ANSWER: **Aviz**

18. The most common model for these diagrams is named for van Genuchthen and predicts that the dependent variable is an exponential function of pressure with two empirical parameters. For 10 points each:

[10] Name these curves that are often estimated using software like RETC. They are usually plots of a dimensionless concentration labelled theta and the negative potential psi, measured in hectopascals.

ANSWER: soil **water retention** curves [or S**WRC**s; or **water characteristic** curves; prompt on partial answer]

[10] In a hydrogeologic budget, the net change in retention equals inflow minus outflow, where outflow often occurs via this process, which is is the flow of water over land that can’t absorb it quickly enough.

ANSWER: surface **runoff**

[10] Determining a hydrogeologic budget is often done using water retention curves and tensiometers, which measure the amount of water in these zones. In these zones the water is unsaturated, meaning it will fall into the phreatic layers down below.

ANSWER: **vadose** zone

19. The red canopy of this structure stands out below the white stone facade of a palace and the San Marco in several paintings executed in the mid-1700s. For 10 points each:

[10] Name this structure that was shown “returning to the Molo” in two paintings of it on “Ascension Day.”

ANSWER: *Il* ***Bucintoro*** [or ***Bucentaur***; accept 1727 ***Bucintoro*** or ***Bucentaur***]

[10] This Venetian painter, whose scenes were often purchased as mementos by Englishmen on the Grand Tour, painted at least four pictures showing the *Bucintoro*.

ANSWER: **Canaletto** [or Giovanni Antonio **Canal**]

[10] Canaletto’s paintings were in this genre of works that depict cityscapes and ruins. Their name comes from the Italian for “view.”

ANSWER: **vedute** [or **veduta**]

20. This author examined "Rilke and Death's Demand" and "Kafka and Work's Demand" in two sections of his critical text *The Space of Literature*. For 10 points each:

[10] Name this literary theorist whose fictional works include the existential romance *Thomas the Obscure.* Jacques Derrida praised his story *The Madness of the Day* as an “attempt to see-beyond-sight”.

ANSWER: Maurice **Blanchot**

[10] Blanchot is often compared to this Polish author, who wrote the surreal novel *The Baphomet* in which he inserts himself and Friedrich Nietzsche as animal characters who interact with the Grandmaster of the Knights Templars.

ANSWER: Pierre **Klossowski**

[10] A 1949 book by Blanchot discusses the "Reason" of this author of *Justine* and *The 120 Days of Sodom*.

ANSWER: Marquis de **Sade** [or Donatien Alphonse François de **Sade**]