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Tossups

1. The diaries of a surgeon in this conflict were held in a foreign country for 35 years before being published under the name *Last Night I Dreamed of Peace*. One side in this conflict employed “hooch maids” to clean their camps. A woman who fought in this conflict is the subject of the “Smile of Victory” photograph. A term that means “dust of life” gained international usage following this war when it began to be applied to a class of children born during it. While fighting in this conflict, (*) South Korean soldiers fathered children known by a term containing the pejorative *lai* (“lye”). A radio personality during this conflict nicknamed “Hannah” attempted to convince soldiers to kill their commanding officers. Approximately 3,300 children were evacuated at the end of this conflict by the US in Operation Babylift. For 10 points, a photo from what conflict depicts Phan Thị Kim Phúc (“fahn tee kim fook”) fleeing a napalm bombing?

ANSWER: Vietnam War [or Second Indochina War, or Chiến tranh Việt Nam or or Kháng Chiến Chống Mỹ]
(The leadin is about Đặng Thùy Trâm. The third clue is about Võ Thị Thắng. The term in the fourth clue is *bụi đời*. The term in the fifth clue is *lai Đại Hàn*.)

<Alex Fregeau, World History>

2. In this novella, a woman conducts an affair in silence “broken only by the measured ticking of her husband’s pocket watch,” which “didn’t interfere with anything.” In this novella, a young boy with a “squirrel-skin coat” reads the lives of the saints while down with chicken pox. A character in this novella dreams of a crescent moon and a fluffy gray tomcat, the latter of which is the spirit of her father-in-law. In this novella, a woman gives her lover blue (*) stockings with clocks on them, which she later sees on another woman’s legs. The last chapters of this novella center on a group of convicts, including Fiona and Sonetka, the latter of whom is thrown off a barge into the Volga. This novella’s title character murders her father-in-law Boris, her husband Zinovy, and the sick child Fyodor Lyamin so she can be with Sergei. For 10 points, Katerina Lvovna is compared to a Shakespeare villainess in what novella by Nikolai Leskov?

ANSWER: A Lady Macbeth of the Mtsensk District [or Lady Macbeth of Mtsensk or Ledi Makbet Mtsenskovo uyezda]

<John Lawrence, European Literature>

3. Precursors of these cells differentiate in response to dimers of SPEECHLESS, MUTE, and FAMA proteins with SCREAM or SCRM2 (“scream two”). They’re not o·o·cytes, but these cells’ function may be regulated by aluminum-activated malate transporters like QUAC1 (“quack one”). A “master switch” of metabolism, the potassium channel GORK, is primarily studied in these cells. The kinase BLUS1 mediates (*) phototropin signaling in these cells. These cells activate an H-plus-ATPase in response to blue light, which increases their turgor pressure, as do antitranspirants like abscisic acid. In organisms that use crassulacean acid metabolism, these cells activate at night, allowing carbon dioxide to enter. For 10 points, name these cells that flank stomata in pairs on the undersides of plant leaves.

ANSWER: guard cells

<Eric Mukherjee, Biology>

4. An American musician caused a craze for this instrument in the UK after a performance in the London-based revue *Streamline*. Playing one of these instruments tuned a perfect fourth up from a song's key signature is called this instrument's "second position." John Hammond invited Sonny Terry to play this instrument at the "From Spirituals to Swing" concerts. Mike Bloomfield and Elvin Bishop began their careers in a "blues band" named for a musician who played these instruments using Richter tuning, Paul Butterfield. Howard Levy of the Flecktones developed the (*) overbending technique for this instrument, which was also championed in jazz by Toots Thielemans. Magnus and Hohner are manufacturers of these instruments, which use tuned reeds made from plastic or metal. For 10 points, Little Walter and Slim Harpo played what rectangular reed instrument that often imitates trains in country music?

ANSWER: harmonica [or mouth harp, mouth organ, blues harp; reject "harp" or "organ"]

<Victor Pavao, Other Fine Arts>

5. A series of seven prayers made before this action references prostration as the antidote of ignorance and rejoicing as the antidote to envy. In Vajrayāna, a snake in a bamboo tube is analogized to the nature of this action's 14-root downfall pathway. A person undergoing the *bodhichitta* in action or aspiration may perform this action either through Nāgārjuna's Profound View chariot or Asanga's Vast Conduct tradition. The Seven Branch practice is made prior to this action. The *samaya* ("SUH-muh-yuh") are examples of these actions, which were taken (*) 22 times by over half a million dalits at the behest of B. R. Ambedkar. Lay Buddhists perform this action when committing to the tenets of the Five Precepts. For 10 points, it's not begging, but noisy staffs known as *khakkharas* may be used by monks who have taken what kind of action "of silence?"

ANSWER: vows [or oaths; accept similar answers; accept Bodhisattva vows; accept samaya until read; prompt on precepts or rules until "precepts" is read; prompt on becoming a bodhisattva; prompt on conversion to Buddhism by asking "through what method?"]

<Kevin Thomas, Beliefs>

6. The narrator stacks these objects "for the children of Kentucky, one gray boxcar at a time" in Philip Levine's poem "You Can Have It." The addressee spends her "last damn dime" on one of these objects in a Mathew Olzmann poem that claims to be a commercial for one of these objects "Disguised as a Love Poem." The speaker of a poem titled for one of these objects explains that a statement is "partly because of my love for you, partly because of your love for yoghurt." The speaker of that poem titled for one of these objects later adds "and the fact that you move so (*) beautifully more or less takes care of Futurism." One of these objects titles a poem whose speaker would "rather look at you than all the portraits in the world / except possibly for the *Polish Rider* occasionally." For 10 points, Frank O'Hara claims that the most fun activity is having what drink "with You?"

ANSWER: soda [or pop or soft drink; accept cola or orange soda; accept Coca-Cola; accept "Having a Coke with You"; accept "Mountain Dew Commercial Disguised as a Love Poem"; prompt on drink; prompt on beverage; prompt on cases, cans, or bottles by asking "of what substance?"]

<Seth Ebner, American Literature>

7. Jerome Namias and Robert Born hypothesized that patterns in the variability of this quantity recur from winter to winter via a so-called "re-emergence" mechanism. This quantity's namesake Optimum Interpolation dataset is built using data from AMSR and AVHRR. The bulk value for this quantity is derived from its skin value as measured by radiometers on MODIS and other satellites. Changes in this quantity characterize the (*) Indian Ocean Dipole, which is a climate pattern driven by Bjerknes ("b'yehrk-ness") feedback. The variation of this quantity with an approximate period of 65 to 80 years in the North Atlantic is called the Atlantic Multidecadal Oscillation. Low values of this quantity alongside high chlorophyll a concentrations are a common indicator for upwelling zones. For 10 points, what quantity is abnormally high during the El Niño phase of the ENSO?

ANSWER: sea surface temperature [or SST or ocean surface temperature; accept bulk sea surface temperature or bulk SST; accept skin sea surface temperature or skin SST; prompt on ocean temperature; prompt on surface temperature]

<Jonathen Settle, Earth Science>

8. A holder of this office was lambasted for remarking that “outside of the killings,” a certain location had “one of the lowest crime rates in the country.” A 1986 law restricting people with too much side income from obtaining this office was dubbed the “Jesse Jackson law.” Walter Fauntroy, whose advocacy led to the creation of this office, took fifth place in the election that chose its first female holder, Sharon Pratt. The first holder of this office ignored J. Edgar Hoover’s advice to shoot rioters in the aftermath of a (*) 1968 speech by Stokely Carmichael. This position gained its current title after a 1973 “Home Rule Act.” In 1990, a holder of this office exclaimed that Rasheeda Moore had “set me up” after being caught smoking crack. For 10 points, name this city-leading office once held by Marion Barry.

ANSWER: mayor of Washington, DC [or mayor of Washington, DC; accept Mayor-Commissioner in place of “mayor,” as that technically applies to the Walter Washington clue]

<Will Alston, US History>

9. This symphony’s slow movement starts with muted strings playing rising parallel E minor, F-sharp minor, and G-sharp minor triads twice, before an English horn introduces the melody. The slow introduction to this symphony’s first movement and the slow coda to its finale are based on the rising half notes D, G, and A in 3/2 (“three-two”) time. In 2001, this symphony’s original version was recorded for the first time by Richard Hickox, who also conducted that version’s first live performance since 1918 at the (*) Barbican Centre. This symphony’s first movement quotes “have a banana” from “Let’s All Go Down the Strand,” and its Epilogue was inspired by H. G. Wells’s *Tono-Bungay*. In this symphony’s first and last movements, a solo harp imitates the Westminster Chimes. For 10 points, name this Ralph (“rafe”) Vaughan Williams symphony that comes one after his *Sea Symphony* and is titled for a city.

ANSWER: A London Symphony [or Ralph Vaughan Williams’s Symphony No. 2]

<John Lawrence, Classical Music and Opera>

10. It’s not in Maryland, but the Yellow Shack houses a Goatman from this region who wears a yellow raincoat stained with his murdered goat’s blood as he hunts for teenagers. The murder of wealthy palatine passengers in this non-Rhode Island region spawned a vengeful burning ghost ship. In this region, Captain Eli Bloody held a trial for a witch who carved 6·6·6 into a man’s forehead, only to vanish after lightning burned the word “CORA” into an oak tree. A Sallie Cotten epic recounts how a silver arrow gifted by Elizabeth II and an arrow made of nacre pierced the heart of a (*) young girl from this region who was transfigured into a white doe by a scorned Indian sorcerer. The spirit of a headless pirate’s body that swam thrice around Robert Maynard’s ship appears as a ghostly light while calling for its head near this region’s Teach’s Hole. For 10 points, Virginia Dare was born in what island chain’s Lost Colony of Roanoke?

ANSWER: Outer Banks [prompt on North Carolina; prompt on Nag’s Head, Ocracoke, Cape Hatteras, or Roanoke by asking “what larger island chain is that a part of?”] (The Goatman is from Nag’s Head. The palatine ship is from Ocracoke. Blackbeard died in Hatteras.)

<Kevin Thomas, Beliefs>

11. *Specific term required.* The concept of “cultural” examples of these people was introduced in a study by Paul DiMaggio of how elite 19th-century Bostonians created a base for “high culture.” Studying these people involves considering a “nexus of individuals” to understand processes of “discovery and exploitation” according to a definition proposed by Shane and Venkataraman. In economics, the term for these people was first used by Richard Cantillon, who used it to denote those with known costs but (*) unknown future incomes. Many libertarians contrast “market” examples of these people with “political” ones, who are opportunistic rent-seekers. The “spirit” of these people was described by Joseph Schumpeter, who argued that they drive “creative destruction” by introducing innovations. For 10 points, give this French-derived term for businessmen who operate risky ventures.

ANSWER: entrepreneurs [accept Unternehmer or Unternehmergeist; accept cultural/market/political entrepreneurs or entrepreneurial spirit; prompt on innovators or businessmen or businesspeople or founders of companies or capitalists]

<Will Alston, Social Science>

12. This thinker posited a kind of *jouissance* that moves beyond the oculo-centric and takes each figure back to its tactile source, called “disruptive excess.” This thinker’s concept of a society arranged around exchanges among men is usually spelled with a second letter “m” in parentheses; that concept is “hom(m)osexuality.” This thinker read Plato’s Allegory of the Cave as an escape from the womb to be born, in a work that rejects the phallogocentric flat mirror view of Freud in favor of the title (*) concave mirror view. This thinker was expelled from Lacan’s *École freudienne* for writing that work, *Speculum of the Other Woman*. In another work, this thinker suggested that rigid mechanics is privileged over fluid mechanics, because the former is masculine and the latter feminine. For 10 points, name this author of *The Sex Which is Not One*, a Belgian-born feminist theorist who suggested that “ E equals mc squared” might be a “sexed equation.”

ANSWER: Luce **Irigaray**

<John Lawrence, Philosophy>

13. In this play, a woman reads an advertisement for an Arab sheik who provides character analyses, leading another woman to say “There’s two w’s in your future. Work or want, and no Arabian Knight can tell you different.” This play’s central character refuses to drink a cold remedy consisting of milk with a pill dissolved in it given to her by a former male nurse. After seeing and detesting *Variation on a Theme*, a 19-year-old was inspired to write this play and send it to Joan Littlewood. One character in this play wears an engagement ring on a (*) hair ribbon around her neck. That character in this play flings away a life-sized doll given to her by the gay art student Geof. At the end of this play, a woman walks out on her daughter, who is in labor, because the baby’s father is Black. For 10 points, Helen and her daughter Jo feature in what early kitchen sink realist play by

Shelagh (“SHEE-luh”) Delaney?

ANSWER: *A Taste of Honey*

<John Lawrence, British Literature>

14. A measure named for these functions is sandwiched between a linear operator and its adjoint to Naimark dilate a different measure into higher dimensions. In quantum information theory, one of these functions corresponding to a “typical” space satisfies a lower bound trace condition of “one minus epsilon” asymptotically. Positive operator-valued measures, or P·O·V·Ms, (*) generalize a type of measure that maps from sets to these functions. The density matrix for a pure state, but not a mixed state, is one of these functions. One of these functions can be written as “ket psi bra psi.” A namesake “postulate” of quantum mechanics treats measurement as applying one of these operators for a given eigenstate. For 10 points, name these idempotent operators that map onto a subspace.

ANSWER: **projection** operators [or orthogonal **projection** or **projector**; accept **projection**-valued measures; prompt on **outer products** by asking “what is this achieving geometrically?”]

<Tim Morrison, Physics>

15. This is the [emphasize] largest city to have the *zilat* as its symbol, which some sources claim is the beast being slain on another city’s coat of arms. After a 1579 fire in this city, its archbishop Gourias was led by a young girl named Matrona to the buried location of a long-lost object donated by Germanos II. The regent Söyembikä (“say-yem-bee-KAH”) allegedly threw herself from a tower of this non-Moscow city’s kremlin. Both Dmitry Pozharsky and (*) Mikhail Kutuzov credited military successes to praying to an icon of the *Theotokos* named for this city. Along with the conquest of a city to its south, the architects Barma and Postnik were allegedly blinded after designing a cathedral in Moscow celebrating the conquest of this non-Astrakhan city. For 10 points, Ivan the Terrible gained access to the Volga by conquering what capital of Tatarstan?

ANSWER: **Kazan** [accept Our Lady of **Kazan** or **Kazan** Kremlin] (Some people have claimed that the depiction of St. George and the Dragon on Moscow’s coat of arms symbolizes the conquest of Kazan.)

<Will Alston, European History>

16. Polyaeus wrote that a Spartan admiral named Pharakidas bypassed this city's blockade of another's harbor by capturing nine of their ships and sailing right through. The very large Temple of Olympian Zeus is believed to have been constructed to commemorate a victory over this city, but was never finished due to a siege by this city. A hailstorm allegedly helped defeat this city's forces at the Battle of Crimissus, where they were attacked while crossing a river by (*) Timoleon. According to Herodotus, this city was stopped from reinstating the tyrant of Himera when it lost a battle that occurred on the same day as the Battle of Salamis. Before seeking the help of Rome, the Mamertine defenders of Messina called for the aid of this city against an attack by Hiero II. For 10 points, name this city that fought the Greeks of Sicily under generals like Himilco and Hannibal Mago.

ANSWER: Carthage [or Qārt Hadāsht, Carthago, or Karkhēdōn]

<Alex Fregeau, Other History>

17. These people owned a diamond brooch decorated with mother-of-pearl inlacing and named for the spoons used to pay for it. An artist who typically depicted these people crouching with a handkerchief over the knee or sniffing a rose depicted two men playing mancala ("mahn-kuh-luh") while one of these people's sons undergoes surgery. The names of these people appeared below elaborate concentric loops named for eggs and a series of vertical lines called a flagstaff. A drawing of a blue dragon surrounded by vines appears in a (*) *muraqqa* gift for one of these people that popularized *saz* painting. These people's head calligrapher was a *nişancı* ("nee-shahn-JUH") and created a monogram called the *tughra*. Workshops called *nakkashanes* worked for these rulers, one of whom is surrounded by six crowns and wears a red and white turban in a 1480 portrait. For 10 points name these rulers, one of whom is the subject of Gentile Bellini's *Portrait of Mehmed II*.

ANSWER: Ottoman sultans [accept word forms such as sultan of the Ottoman Empire; accept Caesar of Rum or Kayser-i-Rum; accept emperors, padishah, or badshah in place of "sultan"; prompt on sultan, emperor, or padishah alone by asking "of what?"; prompt on rulers of the Ottoman Empire; reject "king", "caliph", or "emir"]

<Ganon Evans, Visual Fine Arts>

18. This poet writes "Today / you would not be / lonely" to conclude a poem addressed to a Frenchman who would be "a hundred years old / this October." This author of "Ode to Jean Arthur Rimbaud" is the dedicatee of an *Élégie* by lifelong friend Louis Aragon, written after an earthquake wrecked this author's house in 1965. A speech by this author quotes a Rimbaud "prophecy" that describes the conquest of "the (*) splendid city" through "burning patience." As a teenager, this poet neglected university studies of French to write a collection whose last poem describes sex as an encounter of "hungering teeth" and "entwined bodies." This poet's collections *Spain in Our Hearts* and *Residence on Earth* draw on his time as a diplomat in Europe. For 10 points, name this poet who wrote "The memory of you emerges from the night around me" to begin his "Song of Despair."

ANSWER: Pablo Neruda [or Ricardo Eliécer Neftalí Reyes Basoalto; accept *Élégie à Pablo Neruda*] (The third sentence refers to Neruda's Nobel speech.)

<Will Alston, World Literature>

19. Hornik, Stinchcombe, and White used this theorem to prove an analog of it for neural networks that is often called the UAT. A probabilistic proof of this theorem applies the weak law of large numbers to a sequence of functions named for Bernstein. In its modern form, this theorem is typically stated in terms of sub-algebras that separate points and contain a nonzero constant. This theorem implies that the space (*) C -zero-comma-one is separable with respect to capital- L -infinity, meaning that it has a countable dense subset. For suitable functions f , this theorem gives a function p such that the maximal distance between f and p is less than epsilon. For 10 points, name this theorem that states that any continuous function on a bounded interval can be arbitrarily approximated by a polynomial, developed by a German mathematician and generalized by Marshall H. Stone.

ANSWER: Weierstrass approximation theorem [or Stone-Weierstrass theorem] (The UAT is the universal approximation theorem.)

<Tim Morrison, Other Science - Mathematics>

20. Note to players: Either an original-language term or its common English translation is acceptable.

According to one essay, this concept affects Los as he “comes crashing down in our Creation-Fall” and “stems from a 'Pataphysical sense of the arbitrary.” This concept was called *parenklisis* in the “Letter to Herodotus.” The “strong poet” can say “I lie here in a Hell improved by my own making” per a chapter titled for this concept, which contrasts the Sphinx with Blake’s “Covering Cherub.” This concept illustrates (*) “poetic misprision” in the first “Revisionary Ratio” of Harold Bloom’s *The Anxiety of Influence*. This concept titles a book about Poggio Bracciolini’s rediscovery of *De rerum natura* by Stephen Greenblatt. For 10 points, Lucretius introduced what concept to Epicurean atomism by positing unpredictable deviations from an atom’s typical fall?

ANSWER: clinamen [or the clinamen atomorum, swerve, or declination; accept parenklisis until read; accept *The Swerve*; prompt on poetic misprision until read by asking “what other concept is mentioned in the title of that essay?”]
<Arya Karthik, Other Academic>

Bonuses

1. Teenager Ajo Kawir struggles with sexual impotence in this author's novel *Vengeance Is Mine, All Others Pay Cash*. For 10 points each:

[h] Name this author whose epic novel *Beauty Is a Wound* is about decades in the life of the prostitute Dewi Ayu.

ANSWER: Eka **Kurniawan**

[m] Before writing novels, Kurniawan penned a monograph on socialist realism in the work of this author. This author wrote a tetralogy of novels, starting with *This Earth of Mankind*, while in a prison camp in Maluku.

ANSWER: **Pramoedya** Ananta Toer (“pruh-MOOD-yah uh-NUHN-tah toor”)

[e] Kurniawan's novels are often given this genre label, associated with authors like Miguel Ángel Asturias. Alejo Carpentier coined a variation of this genre label in the introduction to *The Kingdom of this World*.

ANSWER: **magical realism** [or **magic real**, **realismo mágico**, **marvelous realism**, or lo **real maravilloso**; reject “realism”]

<John Lawrence, World Literature>

2. In the Marcus inverted region, this quantity's logarithm surprisingly increases with the square of standard free energy change. For 10 points each:

[e] Name this quantity given as the transmission coefficient times $k_B T$ over h , times the negative exponential of “free energy of activation over $k_B T$,” per the Eyring equation.

ANSWER: **rate** constant

[h] In Marcus theory, this expression approximates the free energy of activation for outer-sphere electron transfer. This expression can be derived by setting standard free energy change to zero in the Marcus equation.

ANSWER: **solvent reorganization energy over four** [or **one-fourth** the **solvent reorganization energy** or equivalents; accept **lambda** sub *S* **over four** or equivalents; reject partial answers]

[m] From this result, an expression can be derived that sets the rate constant for electron transfer equal to two pi over h -bar, times an electronic term, times the Franck-Condon-weighted density of states. This result states that transition rate is proportional to the square of a matrix element.

ANSWER: Fermi's **golden rule** [or the **golden rule** of time-dependent perturbation theory]

<Arya Karthik, Chemistry>

3. A mineral boom in this country allegedly began either when a mythical bird led a prospector to a vein, or when that prospector's mother revealed that vein to him on her deathbed. For 10 points each:

[h] Name this country that experienced a silver rush in the mid-19th century. This country's economy had earlier been characterized by its first “wheat cycle” and a “century of suet.”

ANSWER: **Chile** [or Republic of **Chile** or República de **Chile**]

[m] The Chilean silver rush began when a man with this surname discovered a silver outcrop at Chañarcillo (“chahn-yahr-SEE-yoh”). A “Prince of Peace” with this surname was First Secretary of State under Charles IV of Spain.

ANSWER: **Godoy** [accept Juan **Godoy** or Manuel **Godoy** y Álvarez de Faria Rios]

[e] Declining silver and wheat profits in the 1870s likely encouraged Chile to enter this war with Bolivia and Peru, in which it seized the former's nitrate-rich coastline.

ANSWER: War of the **Pacific** [or **Saltpeter** War, Guerra del **Pacífico**, or Guerra de **Salitre**]

<Alex Fregeau, World History>

4. *Two answers required.* John Calvin claimed that the distinction between these two terms was introduced to allow “divine honors” to be given to “angels and dead men.” For 10 points each:

[h] Give the Latin or Greek terms for [emphasize] *both* of these types of worship. The greater of them can only be directed towards God and the Trinity, while the lesser is directed towards saints and images.

ANSWER: **latria** AND **dulia** [or **latreia** AND **douleia**; prompt on, BUT DO NOT REVEAL, adoration in place of “latria” AND eneration in place of “dulia”]

[m] In Catholicism, *dulia* is called veneration while *latria* is often translated as this word. A Eucharistic “practice” named for this word refers to devotional prayers made while a monstrance holding the sacred host faces the assembly.

ANSWER: **adoration** [accept Eucharistic **adoration**; prompt on Eucharistic exposition or benediction by asking “what other practice is that associated with?”]

[e] *Hyperdulia*, a type of worship lesser than *latria* but greater than *dulia*, is reserved for this figure, who visited three shepherd children in the Portuguese town of Fátima.

ANSWER: The Virgin **Mary** [or The **Blessed Virgin**; accept **Maria** or **Maryam**; prompt on Our Lady of Fátima] <Will Alston, Beliefs>

5. This piece’s Allemande is the longest one that its composer wrote for its instrument. For 10 points each:

[h] Name this piece whose manuscript explicitly states “for five strings.” That fifth string is helpful for reaching the G5s in this piece’s 12/8 (“twelve-eight”) Prelude.

ANSWER: Johann Sebastian **Bach**’s **Cello Suite No. 6** in D major [accept **BWV 1012**; prompt on cello suite; prompt on J. S. **Bach**’s cello suites]

[e] This composer may have played a five-stringed cello in performances of his sonata

“L’Imperatrice” (“leem-pay-rah-TREE-cheh”) One of this composer’s cello quintets includes his “celebrated minuet.”

ANSWER: Luigi **Boccherini** (“boh-keh-REE-nee”) [or Luigi Rodolfo **Boccherini**]

[m] This other composer may have written his Cello Concerto in A major for a five-string cello. Fritz Kreisler wrote a popular cadenza for a different piece that this composer based on a satanic nightmare.

ANSWER: Giuseppe **Tartini**

<John Lawrence, Classical Music and Opera>

6. A model that exhibits excitations of this type can be solved by decomposing the spin-one-half degrees of freedom into four Majorana fermions that are paired by x , y , and z -link nearest neighbor interactions. For 10 points each:

[h] Give this property of excitations in the gapped phase of the Kitaev honeycomb model. Google researchers verified the experimental production of a system with this property in 2023 by checking “fusion rules.”

ANSWER: **anyon**ic (“any-on-ic”) [reject “anion” or “anionic” (“AN-eye-on-ic”); accept abelian **anyons** or non-abelian **anyons**]

[e] Anyons are identical particles that behave more generally than fermions or bosons under this process. For fermions, the wavefunction picks up a minus sign under this process.

ANSWER: particle **exchange**

[m] Anyons appear in many models designed for this task needed for fault tolerant quantum computing, such as one studied by Kitaev on a torus. On that model, syndromes can be found by measuring star and plaquette operators.

ANSWER: quantum **error correction** [accept word forms like **correcting errors** in quantum computers]

<Eric Bobrow, Physics>

7. For its 200th anniversary in 2019, the Prado celebrated Lavinia Fontana and this artist, whose portrait of Philip II was long misattributed to Juan Pantoja de la Cruz. For 10 points each:

[m] Name this artist of *Child Bitten by a Lobster*, who depicted a maid watching a girl raise her hand towards her sister as she moves a piece in *The Game of Chess*.

ANSWER: Sofonisba **Anguissola** [or Sophonisba **Angussola** or Sophonisba **Anguisciola**]

[e] Anguissola depicted a Spanish queen with this name in a *zibellino* (“see-beh-YEE-no”) made from marten fur. Another queen with this name holds a globe and sits in front of two depictions of a fleet in the *Armada Portrait*.

ANSWER: **Elizabeth** [or **Isabela**; accept **Elisabeth** of Valois, **Elisabeth** of France, or **Elizabeth** I of England]

[h] The later Sophonisba Anguisciola Peale was a quiltmaker influenced by this medical condition. An artist suffering from this condition painted *tache* (“tahsh”) brushstrokes of a Japanese footbridge against bright orange backgrounds.

ANSWER: **cataracts** [or **nuclear sclerosis**] (The unnamed artist is Claude Monet.)

<Eric Bobrow, Visual Fine Arts>

8. Answer the following about medieval ideas about the reality of mental propositions, for 10 points each:

[e] This French philosopher developed an early theory of propositional attitudes based on his distinction between expression’s *nominatio* and its *significatio*. However, he is perhaps better known for his love affair with Héloïse.

ANSWER: Peter **Abelard** [or Pierre **Abélard**, Petrus **Abaclardus**, or **Abailardus**]

[m] John Duns Scotus presented his composition-based theory of propositional attitudes in a commentary on this Aristotle text, which illustrates the problem of future contingents with the example of a sea battle.

ANSWER: **On Interpretation** [or **De Interpretatione** or **Peri Hermeneias**]

[h] This 14th-century philosopher distinguished between subjective propositions and what he called *propositiones in re*, which objectively exist in the mind. This author of *De Puritate Artis Logicae* was known as *Doctor Planus et Perspicuus*.

ANSWER: Walter **Burley** [or Walter **Burleigh**]

<John Lawrence, Philosophy>

9. After pushing his wife to have an affair with William Sloper, a member of this family grew jealous, forged several incriminating letters, led a band of thugs to kidnap his wife, and sued. For 10 points each:

[m] Name this family married into by the actress Susannah Maria Arne. A playwright and actor from this family played Baron Foppington in the premiere of *The Relapse*, a sequel to his own play *Love’s Last Shift*.

ANSWER: **Cibber** (“SIB-er”) [accept Theophilus **Cibber**, Susannah Maria **Cibber**, or Colley **Cibber**]

[h] This adjective titles Mary Nash’s biography of Susannah Cibber. Colley Cibber adapted the unfinished play *A Journey to London* into a play titled for this adjective, which centers on the marital strife of Lord and Lady Townly.

ANSWER: **provoked** [accept *The Provoked Wife*; accept *The Provoked Husband*; reject synonyms] (*A Journey To London* is by John Vanbrugh, who also wrote *The Relapse*.)

[e] This actor, whose “favorite leading lady” was for a time Susannah Cibber, rose to fame by playing the title character of Colley Cibber’s version of *Richard III*. This actor managed Drury Lane for 30 years in the mid-1700s.

ANSWER: David **Garrick**

<Arya Karthik, British Literature>

10. This ruler summed up his utilitarian support of one of his prime ministers by calling him “a pig, but a useful pig.”
For 10 points each:

[m] Name this ruler whose reign saw the rise of a centrist political ideology called “transformism.” This ruler was assassinated in 1900 by an anarchist in Monza.

ANSWER: **Umberto I** [or **Umberto** Rainerio Carlo Emanuele Giovanni Maria Ferdinando Eugenio **di Savoia**;
prompt on **Umberto**]

[h] This was the prime minister whom Umberto I called a “pig.” This alleged bigamist formed the Dissident Left political group in response to the centrist coalition formed by Agostino Depretis and Marco Minghetti.

ANSWER: Francesco **Crispi**

[e] Despite the latter’s tarnished reputation, Umberto appointed Crispi to his second term as prime minister in the wake of a scandal in this industry. The Bardi, Peruzzi, and Medici families were pioneers in this industry in the 14th and 15th centuries.

ANSWER: **banking** [accept word forms; accept **money lending** or **finance**; accept **Banca** Romana Scandal]
<Alex Fregeau, European History>

11. These two theorems establish elementary separation results for complexity classes. Intuitively, that means these two theorems state that a Turing machine with more resources can solve more problems, for each of two kinds of resources. For 10 points each:

[h] Name these two closely related theorems, the slightly simpler of which states that strictly more functions can be computed in space $f(n)$ (“f of n”) than in space asymptotically dominated by $f(n)$.

ANSWER: **space hierarchy** theorem AND **time hierarchy** theorem [prompt on **hierarchy theorems**]

[e] The space hierarchy theorem can be proven using this technique, which is also used in common proofs that some languages are uncomputable as well as that the real numbers are uncountable.

ANSWER: **diagonalization** [accept Cantor’s **diagonal** argument]

[m] Since by the hierarchy theorems $E \cdot X \cdot P \cdot \text{SPACE}$ and $E \cdot X \cdot P \cdot \text{TIME}$ are strict supersets of $P \cdot \text{SPACE}$ and P , a language that is complete in both has the Cobham-Edwards form of this property, since it can’t be decided in polynomial time or space.

ANSWER: **intractability** [or **intractable**]

<Eric Bobrow, Other Science - Computer Science>

12. Answer the following about Minnette de Silva, the first Sri Lankan woman architect, for 10 points each:

[e] As the youngest and first Asian delegate to a meeting of the International Congress of Modern Architecture, de Silva befriended this architect, whose later works in the Indian subcontinent include designing Chandigarh.

ANSWER: Le **Corbusier** [or Charles-Édouard **Jeanneret**]

[m] De Silva highlighted traditional crafts by employing artisans to create *dumbaras*, a Sri Lankan type of these decorative items, for many of her houses. Traditional Japanese homes feature a sort of these items called *tatami*.

ANSWER: **mats** [accept **flooring**; reject “rugs”]

[h] Although de Silva’s style is often dubbed “tropical modernism,” she preferred to call it a “modern” form of this term. Her use of this term predates the popularization of a similar term in an essay subtitled “six points for an architecture of resistance” by nearly 25 years.

ANSWER: **regionalism** [or modern **regionalism** or critical **regionalism**]

<Ani Perumalla, Other Fine Arts>

13. Companies such as Forex Cargo specialize in shipping cardboard boxes filled with gifts and household goods that emigrants from this country send home, especially around Christmas. For 10 points each:

[m] Name this country whose newly-created Department of Migrant Workers lifted a ban in 2022 on taking jobs in Saudi Arabia, where nearly a million of its citizens work.

ANSWER: **Philippines** [or Republic of the **Philippines** or Republika ng **Pilipinas**]

[e] The Department of Migrant Workers was created by this populist president from the PDP-Laban party, who was succeeded in 2022 by Bongbong Marcos.

ANSWER: Rodrigo **Duterte** [or Rodrigo Roa **Duterte**; accept **Digong**]

[h] The Filipino government has long suppressed organized labor via this specific practice, expanded by a 2020 antiterrorism bill, which involves blacklisting organizations by linking them to communists or terrorists.

ANSWER: **red-tagging**

<Will Alston and Caleb Kendrick, Modern World>

14. After returning from the Supreme Court hearing of *Me v. The United States*, this novel's narrator watches racist *Little Rascals* tapes such as "Hotsy Totsy Nazi." For 10 points each:

[m] Name this winner of the 2016 Booker Prize. This novel's narrator tries to reintroduce segregation to the fictional ghetto of Dickens after it becomes unincorporated.

ANSWER: *The **Sellout*** (by Paul Beatty)

[e] In *The Sellout*, Dickens disappears from maps in an effort to keep property values up on the outskirts of this city. This city is the setting of Thomas Pynchon's novel *Inherent Vice*.

ANSWER: **Los Angeles** [or **LA**]

[h] Cuz teaches Colin Powell and Condoleeza Rice to Crip Walk at this Dickens bakery. A group of "Intellectuals" who meet at this bakery are led by Foy Chesire, who rewrites famous novels with titles like *Measured Expectations*.

ANSWER: **Dum Dum Donuts** [accept **Dum Dum Donut Intellectuals**]

<Seth Ebner, American Literature>

15. This document, which is included in the Doctrines and Covenants, was passed after the Supreme Court upheld the constitutionality of the Edmunds-Tucker Act. For 10 points each:

[h] Name this document that ended LDS-sanctioned polygamy.

ANSWER: **1890 Manifesto** [or **Woodruff Manifesto** or **Anti-Polygamy Manifesto**]

[m] Wilford Woodruff's diaries formed the basis of this feminist historian's 2017 book *A House Full of Females*. This historian is best-known for a microhistory based on the diaries of Martha Ballard, *A Midwife's Tale*.

ANSWER: Laurel Thatcher **Ulrich** [or Laurel **Thatcher** Ulrich]

[e] The Second Manifesto was issued in 1904, reaffirming Woodruff's 1890 Manifesto during the three-year long attempt to impeach this Mormon senator, who names a 1930 tariff along with Willis C. Hawley.

ANSWER: Reed **Smoot** [accept **Smoot**-Hawley Tariff Act]

<Caleb Kendrick, American History>

16. Conventional implicatures are contrasted with implicatures that arise in these situations. For 10 points each:

[e] Name this kind of situation that occurs between two interlocutors. This kind of situation is paired with "logic" in the title of a seminal lecture by Paul Grice.

ANSWER: **conversations** [or **dialogues**; accept "Logic and **Conversation**"]

[m] Grice's maxims of conversation are derived from this general rule that participants adhere to in order to communicate effectively. Under this principle, participants normally try to be informative, truthful, relevant, and clear.

ANSWER: **cooperative** principle

[h] Susan Brennan proposed a "conceptual pact" analysis of this phenomenon, by which one interlocutor adopts a referring expression used by the other in order to use a shared vocabulary. This phenomenon is mediated through embedded or exposed correction.

ANSWER: **lexical entrainment** [accept **lexical accommodation**, **lexical alignment**, or **lexical convergence**; prompt on **entrainment**, **alignment**, **accommodation**, or **convergence**]

<Seth Ebner, Social Science>

17. A 1981 paper by Kacelnik et al. describes optimal territorial defense and this behavior in the great tit, *Parus major*. For 10 points each:

[e] Name this feeding behavior in which an organism searches its environment for food.

ANSWER: **foraging** [accept word forms like **forage**]

[m] Richard J. Cowie employed Aschoff and Pohl's equation for this quantity to demonstrate the optimality of *Parus major*'s foraging. The Harris–Benedict equation gives this quantity as a function of height, age, and weight.

ANSWER: **BMR** [or **base metabolic rate**, **basal metabolic rate**, **SMR**, or **standard metabolic rate**; prompt on partial answer]

[h] *Specific term required.* Eric Charnov's marginal value theorem of optimal foraging models animals that travel among these discretized subsets of its habitat. An ecological approach popular in the late 20th century studied the "dynamics" of these things that cluster into mosaics.

ANSWER: **patches** [or **patch** dynamics]

<Eric Mukherjee, Biology>

18. This architect designed German theater director Christoph Maria Schlingensief's Opera Village, an arts education center located on the edge of Ouagadougou ("wah-gah-DOO-goo"). For 10 points each:

[m] Name this winner of the 2022 Pritzker Prize, who used mudbrick in his design of two naturally air-conditioned schools for his hometown of Gando in Burkina Faso.

ANSWER: Francis **Kéré** [or Diébédo Francis **Kéré**]

[e] Kéré began the Mango Tree Project in Gando to combat malnutrition due to the village subsisting almost entirely on *fufu*, a sticky dough typically made from pounded millet or this tuber, which is used to make tapioca.

ANSWER: **cassava** [or **manioc** or **yucca**]

[h] Together with fellow Pritzker winner Wáng Shù, Kéré is working on an urban renewal project intended to transform a harbor in the city of Pǔtuó on this urban archipelago at the mouth of the Yangtze.

ANSWER: **Zhōushān**

<Will Alston and Caleb Kendrick, Geography>

19. Vera Komissarzhevskaya, one of the lead actresses of this play's disastrous 1896 St. Petersburg premiere, was so intimidated by hecklers that she lost her voice before even taking the stage. For 10 points each:

[e] An 1898 Moscow Art Theater production of what play cast Vsevolod Meyerhold ("F'SAY-vuh-lut MYE-er-holt") as Konstantin Treplev?

ANSWER: *The* **Seagull** [or **Chayka**]

[h] One of the few instances in which the MAT's production of *The Seagull* sticks to Chekhov's original directions is a scene in which a character silently performs this action for two whole minutes after remarking, "It would be a pity if she were seen in the garden."

ANSWER: **tearing up manuscripts** [accept answers indicating that Konstantin Treplev's **papers** are being **torn** up or equivalents]

[m] Earlier, a costly MAT production of this author's play *Hannele* was aborted due to resistance from the Orthodox Church. The MAT also produced a play by this non-Russian author in which the Nickelmann repeats "Brekekekex."

ANSWER: Gerhart **Hauptmann** [or Gerhart Johann Robert **Hauptmann**] (The unnamed play is *The Sunken Bell*.)

<Ani Perumalla, European Literature>

20. Anglo-Saxon commoners were required to provide services that later writers called the “three-knotted obligation” or *trinoda necessitas*. For 10 points each:

[m] The first “knot” of the obligation was to serve in this militia of freemen, whose members served in Anglo-Saxon armies alongside more experienced troops such as housecarls.

ANSWER: **fyrd**

[e] The second “knot” was to construct and maintain *burhs*, or fortifications, which this king first systematically built in the late 9th century to protect Wessex from Viking invasion.

ANSWER: **Alfred** the Great

[h] The third “knot” was to repair these things, many of which were built by a medieval brotherhood founded by Saint Bénézet (“bay-nay-ZEH”). Walter Gervase traveled across England to raise funds for one of these things called “Old Exe.”

ANSWER: **bridge** [accept roads and **bridges**; accept **brycg**-bote, Old Exe **Bridge**, or **Bridge** Building Brotherhood; prompt on **roads**]

<Will Alston, Other History>