

2021 ACF Nationals

Packet 6 by the Editors

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Tossups

1. One of these figures had a daughter who drowned after sailing into the ocean on a small boat, so that daughter transformed into a resentful bird that constantly circles the ocean, dropping twigs and rocks to try to fill it up. One of these figures with the body of a snake was born after its mother became pregnant from stepping into a huge footprint in the earth. The most powerful of these figures had his army steal the thigh bones from the sleeping thunder god to use them as drumsticks after building a massive drum to scare away the army of Chiyou (“chee-yo”); that figure’s abode was guarded by a god whose three heads took turns resting, but after that figure spent years in his earthly paradise at Mount Kunlun, he rode a dragon back into the sky. For 10 points, name these figures of Chinese myth often paired with the Three Sovereigns and identified with the colors Green, Red, Black, White, and Yellow.

ANSWER: **Emperors** [or the **Five Emperors**; accept **Sovereigns** or **Augusts** until “Sovereigns” is read; accept the **Fiery Emperor** or **Red Emperor** until “body of a snake” is read]

2. A character in this novel argues with an artist that the sound of peoples’ screams changes depending on the circumstance, citing a time he tried to save an elder being choked with barbed wire. This novel’s narrator is teased at Sunday school when his father’s bulldog mounts a cat, and he frequently observes the hand scar he shares with two men. The protagonist of this novel commits an “unnatural act” when he ejaculates into one of his mother’s squids. This novel’s protagonist is released from captivity at its end when he exclaims “nothing!” and earlier took a job with Avery Hammer at Occidental College. The assassinations of the “crapulent major” and the newspaper editor Sonny occur in this novel, whose narrator works as a consultant on the film *The Hamlet*, based on *Apocalypse Now*. For 10 points, name this novel that depicts the lives of Bon and the narrator after the fall of Saigon by Viet Thanh Nguyen.

ANSWER: *The Sympathizer*

3. A generalization of these things corresponds to the non-trivial center of the Lie group of observables, and was originally considered by Wightman, Wick, and Wigner, who used it to note separation of fermionic and bosonic sectors of nonrelativistic Hilbert spaces. All instances of these statements resulting from rotational symmetry can be obtained from a result connecting the matrix elements of a tensor operator in the basis of angular momentum eigenstates to the Clebsch–Gordan coefficients; that is the Wigner–Eckhart theorem. One of these statements is derived by noting that for a permanent dipole, only one component of the dipole moment is nonvanishing. D-d transitions are suppressed based on another of these statements which forbids parity-preserving changes in molecules with an inversion center. Laporte’s rule exemplifies, for 10 points, what type of statement constraining transitions between quantum states?

ANSWER: **selection** rules [or **transition** rules; accept **superselection** rules]

4. This city’s tallest building, the Devon Tower, was built as part of its Core to Shore development program. Roscoe Dunjee founded this city’s first black newspaper and supported the sit-in campaigns led by schoolteacher Clara Luper. This city’s historic Criterion Theater was torn down as part of an I. M. Pei–designed urban renewal plan that created the Myriad Botanical Gardens. In 1959, this city’s Chamber of Commerce leader Stanley Draper began a campaign to annex surrounding land, making it the largest city by area on the Great Plains. The *Field of Empty Chairs* and the *Gates of Time* are located in this city, along with an arena that temporarily hosted the NBA’s Hornets following Hurricane Katrina. Once home to the Alfred P. Murrah Federal Building, for 10 points, name this city, the capital of a state founded after an 1889 land run led by Sooners.

ANSWER: **Oklahoma City** [or **OKC**]

5. This artist helped inspire the Fluxus movement by editing the anthology *Dada Poets and Painters*, part of his *Documents of Modern Art* series. Wolfgang Paalen's automatism inspired this artist's planned series of 1,000 pieces on Japanese rice paper, which he abruptly abandoned after the death of David Smith. A series by this artist of *Lyric Suite* grew out of his pen-and-ink illustration for a poem written by Harold Rosenberg for the journal *Possibilities*. This artist of the nearly monochromatic *Opens* series incorporated the title cursive French phrase in his series *Je t'aime* ("zhuh TEM"). This artist borrowed the title *At Five in the Afternoon* from a Federico Garcia Lorca poem for the first entry in an acrylic series that primarily features sequences of large black ovals and rectangular forms. For 10 points, name this husband of Helen Frankenthaler, the Abstract Expressionist painter of the *Elegy to the Spanish Republic*.

ANSWER: Robert **Motherwell**

6. In a textbook on these projects, Laura Wildman challenges the notion that they are "radical" modern inventions by showing one took place six separate times in Billerica, Massachusetts. Peter Brewitt's book on three of these projects contrasts the relatively easy Marmot example with a more contentious effort following the passage of the 1992 Elwha Act in a community that had just fought the "spotted owl wars." The largest project of this type to date was completed in 2014 under the supervision of the National Park Service and took place in Washington's Olympic Peninsula. A proposal to perform four of these operations on structures operated by the Army Corps of Engineers will damage the economy of Lewiston, Idaho. The retained sediment approach to these projects is less damaging than rapid release. These projects are often more effective than adding ladders in restoring the salmon population. For 10 points, name this type of project that restores a river to its free-flowing state.

ANSWER: **dam removal** [or **dam demolition** or equivalents; prompt on answers like ecosystem restoration or river restoration; prompt on dams by asking "what type of project involving a dam?"; do not accept or prompt on answers like "dam construction"]

7. This resource appears in the title of a 2003 rural sociology paper by Henk Renting et al. that uses the terms "face to face," "proximate," and "extended" to classify "short" supply chains of it. Harriet Friedmann and Philip McMichael pioneered a term that pairs "regimes" with this resource, which inspired the organization LVC to posit a right to "sovereignty" in this resource. One of the many "alternative" networks for this resource inspired the activist Carlo Petrini to found an international movement advocating for its "slow" use. A 1981 book subtitled "An Essay on Entitlement and Deprivation" posits political causes, rather than natural ones, to this resource's "insecurity." Dollar stores are characteristic of areas with limited access to this resource known as "deserts." Amartya Sen has analyzed situations characterized by the lack of, for 10 points, what resource that is insufficient in famines?

ANSWER: **food** [or short **food** supply chains; or **food** regimes; or **food** sovereignty; or alternative **food** networks; or slow **food**; or **food** insecurity]

8. The name of this musical form may be derived from a medieval instrument common in Northern Europe that is a small bowed form of a lyre. In J. S. Bach's *French Overture*, a movement of this form comes right before an "Echo" movement, and in Bach's *French Suite no. 5*, a movement of this form is preceded by a loure, which is also known as the "lente" ("lont"), or "slow," version of this dance. In Bach's B minor *Orchestral Suite*, this dance form is *replaced* by the badinerie, and in his *Second Partita for Solo Violin*, it is followed by the chaconne. This musical form is often written contrapuntally and in 3/8 or another compound meter. This dance form is typically used as the last movement of Baroque suites. A movement of this type for three violins and basso continuo follows the Canon in D by Johann Pachelbel. For 10 points, name this lively Baroque dance that evolved from the Irish jig.

ANSWER: **gigue** ("zheeg") [accept **giga** ("jee-ga")]

9. In a novel set in this city, the protagonist is framed for the murder of a pedophile after he hides letters proving an affair between Angelina and Dr Savoli; in a prison in this city, the amnesiac protagonist of that novel shares a cell with the rapist Laponder, who magically speaks in the voices of this city's residents in his sleep. In a novel titled for this city, a different amnesiac protagonist fulfills an assignment to destroy some accounting books by blowing up the steamship *Ercole*. The gem-engraver Athanasius Pernath seeks enlightenment in this city in the most famous novel by Gustav Meyrink. The prolific conspiracy theorist Simone Simonini plagiarizes an episode from Alexandre Dumas's *Joseph Balsamo* to write the *Protocols of the Elders of Zion* in an Umberto Eco novel titled for this city's "cemetery." For 10 points, name this central European city whose Jewish ghetto was mythically protected by Rabbi Loew's golem.

ANSWER: **Prague** [or **Praha**]

10. *Two answers required.* During one battle between these two powers, the winning force ignored a "seven-day truce" and attacked on the third night, which its leader justified by claiming the truce was only for days and not for nights. A source claims these powers fought over an area "no bigger than an Egyptian bean" known as Cynuria. Because a battle was mentioned only by the travel writer Pausanias, historians question whether these powers fought at the Battle of Hysiae while one of them was ruled by Pheidon. One of these powers crushed the other at Sepeia, but they may be better known for a fight in which they each chose 300 soldiers to battle each other, ending with one man claiming victory because he did not flee; that fight, the Battle of the Champions, led the losing side to shave their heads, while the winner instructed its children during the agoge to always grow their hair long. For 10 points, name these two city-states that, prior to 500 BCE, vied for control of the Peloponnesus.

ANSWER: **Sparta** AND **Argos**

11. It has nothing to do with the Philadelphia chromosome, but this protein is phosphorylated by the Abelson kinase at Y39, preventing chaperone binding. Its A53T mutant is less susceptible to degradation by Nedd4 ubiquitin ligase. PLK2 phosphorylates this protein at S129. It's not PRP, but this protein transitions between a membrane-bound alpha helical form and a natively unfolded form. On autopsy, most patients with REM sleep behavior disorder or multiple system atrophy have unusual deposits of this protein. In the Braak hypothesis, a pathogen entering the nose causes this protein to accumulate in the gut and olfactory bulb, then spread through the vagus nerve. In another disease, this protein aggregates in the substantia nigra, causing cogwheel rigidity and bradykinesia. For 10 points, name this protein that forms Lewy bodies in several neurological disorders, like Parkinson's disease.

ANSWER: **alpha-synuclein** [or **SCNA**; prompt on **synuclein**]

12. A folklore character who originated in this modern-day country gives an emperor a partially-eaten goose and claims all geese from his hometown have only one leg. Two characters from this country were legendarily executed for being so funny they slowed down a building project. That duo, an educated man and a common man whose name means "Black Eye," are from this non-Indonesian country's shadow puppetry. A trickster from this country, who puts his donkey up for sale so its examiners will commiserate with how much it bites him, anachronistically tries to have sex with Muhammad's camel in one tale and uses wit to save his town from Tamerlane in others. A donkey-riding Sufi philosopher appears in tales from, for 10 points, what country home to the Karagoz and Hacivat plays, the stories of Nasreddin Hoja, and the later author of *The White Castle* and *My Name is Red*?

ANSWER: **Turkey**

13. With her performance in this ballet, Maya Plisetskaya popularized the “Plisetskaya leap,” a jump in which the ballerina nearly kicks her head with her back foot. The prima ballerina repeatedly snaps a fan open and shut with one hand during the grand *pas de deux* from the wedding in this ballet’s third act. In a dream scene from this ballet, the title character meets Amor and the Queen of the Dryads in a garden he discovers after cutting a giant spider and its web in half. In this ballet, the title character helps the innkeeper’s daughter Kitri trick Lorenzo into marrying her to Basilio. Ludwig Minkus composed the music for this ballet, whose title character disrupts a puppet show before launching an attack on some supposed giants. For 10 points, name this ballet that has choreography by Marius Petipa and whose title character rides out to find Dulcinea with his squire, Sancho Panza.

ANSWER: *Don Quixote*

14. Modeling these things with an “ultrasoft” or “norm-conserving” function decreases the number of rapidly oscillating functions required in plane-wave methods; those functions that model these things are pseudopotentials. Because their interaction gives roughly constant energy, these things are “frozen” in many post-HF correlation methods. The “loss” of these things names the rightmost region of an EELS spectrum. The “6” in the 6-31G Pople basis set indicates that it uses 6 Gaussians to model the region containing them. The removal of one of these things, leaving a vacancy, is the first step in the mechanism of the Auger (“oh-ZHAY”) effect. Their binding energy [emphasize] *cannot* be measured by UV PES but can be by X-ray PES. These things are [emphasize] *not* written out in the noble gas configuration. For 10 points, name these electrons close to the nucleus that do [emphasize] *not* participate in bonding.

ANSWER: core electrons [or core atomic orbitals; or core molecular orbitals; accept inner-shell electrons or non-valence electrons; accept non-bonding electrons until “bonding” is read and prompt after “bonding” is read; prompt on electrons; prompt on orbitals, atomic orbitals, or molecular orbitals]

15. During a festival in this state, celebrants create four-faced, red-painted pyramids called *thrikkakara apan*. As many as 128 participants row individual “snake boats” that compete in *vallam kalli* races during this state’s official festival, which celebrates King Mahabali’s annual return to Earth. The Onam Harvest Festival is the most popular holiday in this state, home to the Mappila Muslim community. In this state, *kathakali* dancers act out stories from the *Ramayana* and *Mahabharata*. The Mary Roy case occurred in this state, whose Sabarimala Temple was the site of protests in 2018 after India’s Supreme Court ruled that adult women had to be allowed to enter. A cross with four flowery points symbolizes the St. Thomas Christians, who make up 18 percent of this state’s population. For 10 points, name this religiously diverse southwestern Indian state on the Malabar Coast.

ANSWER: Kerala State

16. Andrew L. Jenks, whose biography called this man a person “who couldn’t stop smiling,” examined how military veterans resented his double promotion from lieutenant to major following his “second birth.” This man, who popularized the term “Poyekhali,” now routinely used in giving toasts, was almost killed following a day of drunken speedboating when he jumped out of a second-floor hotel room so that his wife wouldn’t find him sleeping with a nurse. Documents declassified in 2011 revealed a weather balloon may have led to this Star City commander’s early death a few days after celebrating his 34th birthday. He may have declared “I see no god up here” at some point in his 1-hour-and-48-minute mission, which he falsely claimed ended in a “planned spot” rather than near a terrified farmer. For 10 points, name this commander of the Vostok 1 mission, the first man in space.

ANSWER: Yuri Gagarin [or Yuri Alekseyevich Gagarin]

17. In 2015, Minchev et al. demonstrated that the scale height of coeval (“co-EE-vull”) populations in this region increases with radius, a phenomenon called “flaring.” Briggs’s rules describe the kinematic “warping” of this region. The “inside-out” model of the formation of this region explains the observed inversion in metallicity gradients in the midplane of this region. This region is represented by an exponential profile of Sersic index 1 which is combined with a de Vaucouleurs profile to model one type of galaxy. In the Milky Way, this structure is divided into a metal-poor “thick” component and a metal-rich “thin” component. Spiral galaxies and lenticular galaxies are members of a class of galaxies that are named for containing this structure, which surrounds a central bulge and is surrounded by a halo. For 10 points, identify this flat component of a galaxy that is usually aligned with its galactic plane.

ANSWER: galactic **disc** [or **disc** galaxies; accept **disc** flaring; accept **disc** warp; accept young thin **disc**; accept old thin **disc**; accept thick **disc**; prompt on galactic **plane**; do not accept or prompt on “bulge” or “halo”; do not accept or prompt on answers referring to “accretion discs”]

18. This poem draws on Porphyry’s “Cave of the Nymphs” essay for its Neoplatonic metaphor of “honey of generation,” which “betrays” a child to “sleep, shriek, struggle to escape as recollection or the drug decide.” The speaker of this poem asks of an image, “Did Quattrocento finger fashion it, hollow of cheek as though it drank the wind, and took a mess of shadows for its meat?” This poem contrasts the idealistic Plato with “solider Aristotle,” who “played the taws upon the bottom of a king of kings.” In the last of this poem’s eight *ottava rima* stanzas, the speaker asks a chestnut tree if it is “the leaf, the blossom, or the bole” and concludes the poem by asking, “How can we tell the dancer from the dance?” The speaker of this poem sees a vision of Maud Gonne’s “Ledaean body” while observing students who “learn to cipher and to sing.” For 10 points, name this W. B. Yeats poem about a visit to a classroom.

ANSWER: “**Among School Children**”

19. This leader acquired a railway contract with Northern Construction by negotiating with George Sokolsky. This leader’s bodyguard, a Jewish card shark from Canada, carried Smith and Wessons in both hands, earning him the name Morris “Two-Gun” Cohen. This leader’s son proposed relocating Austrian Jews along the Yunnan–Burma border in his four-point plan to gain Jewish support. This man’s agreement with diplomat Adolph Joffe, called their “Joint Manifesto,” resulted in him gaining Soviet cooperation. Though he was educated in Hawaii, he was in exile in Japan when he formed the Tongmenghui society. A national anthem was taken from his founding speech at the Whampoa Military Academy. This man formulated the “Three Principles of the People,” which inspired the Wuchang Uprising. For 10 points, name this doctor and philosopher who was succeeded by Chiang Kai-shek as leader of the Kuomintang.

ANSWER: **Sun** Yat-sen

20. A footnote in this essay cites portmanteau company names like Compupro, Syntex, and Statcom to show how multinational corporations destroy nouns. This essay uses retellings of the La Malinche story as an example of how women of color write about writing, allowing them to “seize the tools” in a postwar world with increasingly textualized bodies. This is the most famous essay in a collection that includes analyses of Buchi Emecheta’s novels and Robert Yerkes’s work in primatology. This essay argues for replacing the Western myth of “original wholeness” with a myth of “partiality, irony, intimacy, and perversity” emblemized by the title “ontological chimera.” This 1984 essay suggests that women can “learn from our fusions with animals and machines how not to be Man.” For 10 points, name this essay titled for figures like Rachel from *Blade Runner*, which was written by Donna Haraway.

ANSWER: “A **Cyborg Manifesto**” [or “A **Cyborg Manifesto**: Science, Technology, and Socialist-Feminism in the Late Twentieth Century”]

Bonuses

1. This genre was greatly developed by Sima Xiangru, who wrote the most iconic work of this type “on the Imperial Park.” For 10 points each:

[10] Name this rhymed intermediary between prose and poetry that was a dominant literary form during the Han dynasty.

ANSWER: **fu** [prompt on rhapsody by asking “what is the Chinese term?”]

[10] Fu developed from the mixed poetic forms in the *Chu ci* collection, which is traditionally attributed to Qu Yuan. It’s one of two major pre-Qin poetry collections, along with this one that exclusively employs four-character lines.

ANSWER: ***Shijing*** [or *Classic of Poetry*; or *Book of Songs*; or *Book of Odes*]

[10] The earliest confirmed example of a fu is Jia Yi’s “Lament for Qu Yuan,” which compares the two poets’ experience of this punishment. Li Bai once had his death sentence commuted to this punishment, which Ovid also experienced in 8 CE.

ANSWER: being **exiled**

2. This newspaper published articles under bynames such as “Sunflower,” and its articles include an editorial by Elizabeth Cady Stanton explaining “why women must vote.” For 10 points each:

[10] Name this publication started six months after the Seneca Falls Convention. It was the first newspaper to produce articles for women and by women.

ANSWER: *The Lily*

[10] *The Lily* was started by this activist, who used the newspaper to popularize a style of comfortable, baggy garments for women, which are named for her.

ANSWER: Amelia **Bloomer**

[10] A series of articles in *The Lily* reported on the story of the “forgotten women” of this city. The “Rhode Island system” of production in one industry was replaced by a vertically integrated system named for this city.

ANSWER: **Lowell**

3. Unlike naive methods, this technique is immune to the length-extension attacks caused by improperly using functions created by the Merkle–Damgård construction. For 10 points each:

[10] Name this technique that creates two keys through the XOR of a secret key with an inner and outer pad and then performs an algorithm such as SHA-1 or SHA-256 twice after appending those keys.

ANSWER: **HMAC** [prompt on MAC; accept, but DO NOT REVEAL, **hash-based message authentication code**; prompt on, but DO NOT REVEAL, message authentication code]

[10] Along with integrity, an HMAC ensures this property of cryptography. This process of determining the identity of a sender or user can be done through SMS in “two-factor” methods.

ANSWER: **authentication** [or **authenticity**]

[10] HMACs provide authentication in this kind of encryption scheme, which is used in block ciphers like AES.

Unlike public-key cryptography, this kind of encryption scheme relies on both parties sharing the same secret key.

ANSWER: **symmetric**-key cryptography

4. The gorgeous nocturne-like *larghetto* movement of this composer's second piano concerto was inspired by his infatuation with fellow music student Konstancja Gładkowska. For 10 points each:

[10] Name this composer of two piano concertos in E minor and F minor as well as 27 etudes including "Black Key" and "Revolutionary."

ANSWER: Frédéric **Chopin**

[10] Chopin used this lively triple-time folk dance for the finale of his second piano concerto. This dance's characteristic rhythm, two eighth notes followed by two quarter notes, puts the emphasis on beat 2 or 3.

ANSWER: **mazurka**

[10] The third movement of Chopin's Piano Concerto No. 1 is based on this fast, syncopated folk dance in 2/4 time. Chopin also composed a *Rondo à la* [this folk dance] in F minor for piano and orchestra.

ANSWER: **krakowiak**

5. In 2016, four cardinals submitted a letter to Pope Francis listing five *dubia*, or "doubts," regarding this apostolic exhortation. For 10 points each:

[10] Name this 2016 document published by Pope Francis, which controversially asserts that people in "irregular" family situations are not necessarily living in mortal sin.

ANSWER: ***Amoris Laetitia*** [or *The Joy of Love*]

[10] The first of the *dubia* asked whether *Amoris Laetitia* allowed Catholics in this position to receive Communion. Conservative Catholics like Ross Douthat oppose the document for making allowances for Catholics in this position.

ANSWER: civilly **remarried** Catholics [prompt on divorced Catholics or civilly married Catholic]

[10] Cardinal Raymond Burke has argued that *Amoris Laetitia* does not possess this attribute. The First Vatican Council ruled that papal statements have this attribute when the pope speaks *ex cathedra*.

ANSWER: papal **infallibility**

6. According to James Burley's *Romance of Invention*, the performer Karl Eulenstein invented a method that allowed him to play four of these instruments at once. For 10 points each:

[10] Name this wind instrument, for which Johann Albrechtsberger composed several concerti. It's played by inserting its sole vibrating reed into the player's mouth and flicking it repeatedly.

ANSWER: **Jew's harp** [or **jaw harp**; or **mouth harp**; or **gewgaw**; or **guimbard**; or **khomus**; or **jew's trump**; or **trump**; or **Ozark harp**; or **Gallician harp**; or **murchunga**]

[10] The writer Thomas Browne mentions a "brass gilded Jew's harp" in an essay about a site where several of these objects were buried. In another poem, one of these objects is called an "unravished bride of quietness."

ANSWER: **urns**

[10] This so-called "father of acoustics" praised the Jew's harp as "worthy of consideration" in his book *Harmonie Universelle*. An air attributed to him was used by Respighi in *Ancient Airs and Dances*.

ANSWER: Marin **Mersenne**

7. While working for i-D Magazine, this artist photographed a man and woman wearing only raincoats in “Lutz and Alex Sitting in the Trees.” For 10 points each:

[10] Name this first photographer to win the Turner prize, a German artist whose early work captures Berlin nightlife and gay subculture.

ANSWER: Wolfgang **Tillmans**

[10] Tillmans designed a series of posters against this political event by combining his landscape photos with text like “No man is an island.” A 2017 Banksy mural about this event depicts a worker on a ladder chipping yellow stars off a blue flag.

ANSWER: **Brexit** [or descriptions of the **UK leaving** the **EU**]

[10] Like Tillmans, this photographer’s work was included in the Reading Gaol exhibit *Inside*. This woman chronicled the love lives of Greenwich Village inhabitants in her artist’s book *The Ballad of Sexual Dependency*.

ANSWER: Nan **Goldin**

8. The theory of workerism was developed in this country in journals like *Red Notebooks*. For 10 points each:

[10] Name this country where autonomist Marxism developed. With an American, a philosopher from this country wrote a 2000 book theorizing the Spinoza-inspired concept of the “multitude” as a collective revolutionary subject.

ANSWER: **Italy** [or **Italian** Republic; or Repubblica **Italiana**]

[10] This other autonomist Italian Marxist, who cofounded the pirate radio station Radio Alice, focuses on poetry as a solution to the sense of suffocation that characterizes modern life in his book *Breathing*.

ANSWER: Franco **Berardi** [or **Bifo**]

[10] A key concept in Italian Marxist Antonio Gramsci’s thinking is this Greek-derived term for the process of enacting or embodying Marxist principles, specifically by taking action toward societal change.

ANSWER: **praxis**

9. Unlike its rival, this Mayan city had a line of female rulers within its “Kaan dynasty,” a name that refers to its glyph emblem of a snake head. For 10 points each:

[10] Name this Snake Kingdom known for being the bitter enemy of Tikal during the Classical Mayan period.

ANSWER: **Calakmul** [or **Kalakmul**]

[10] Calakmul is literally named for being the place of two adjacent examples of these things. There’s one “of the Magician” in Uxmal, and Tikal’s longtime ally Teotihuacan had one “of the Moon” and one “of the Sun.”

ANSWER: **pyramids**

[10] In the “star wars” that it fought with Calakmul, Tikal often allied with this city in the far south that had a strained relation with its vassal state of Quirigua. It had the largest ballcourt after Chichen Itza and a monument known as Altar Q.

ANSWER: **Copán**

10. For the linear Ising chain, this value blows up exponentially for large coupling constants, and in mean field theory, it diverges at the critical point. For 10 points each:

[10] Identify this value that represents the spatial scale on which order exists inside a physical system.

ANSWER: **coherence** length [or **correlation** length]

[10] The ratio between the coherence length and the London penetration depth can be used to determine whether one of these materials is Type I or Type II. Ginzburg and Landau name a phenomenological theory of these materials.

ANSWER: **superconductor**

[10] This type of superconductor has a short coherence length. CeCu₂Si₂ and UBe₁₃ are superconductors of this type, which have strongly correlated electrons resulting in an effective mass much higher than the electronic mass.

ANSWER: **heavy fermion** superconductor

11. The professor Gary Kelly coined the name for this set of novels, citing a periodical founded by George Canning to oppose their ideas. For 10 points each:

[10] Name this type of novel popular in late 18th-century England, exemplified by Robert Bage's *Man as He Is* and *Hermesprung: Or, Man as He Is Not*. Elizabeth Inchbald's *Nature and Art* is another example of this politically engaged genre of novel.

ANSWER: **Jacobin** novels

[10] In this quintessential Jacobin novel, the title character discovers that his boss, Mr. Falkland, murdered his neighbor Barnabas Tyrrel. This novel reflects many ideas from its author's *Enquiry concerning Political Justice*.

ANSWER: **Caleb Williams** [or **Things as They Are**; or, *The Adventures of Caleb Williams*]

[10] The author of *Caleb Williams*, William Godwin, was the husband of this author of the Jacobin novel *Maria*; or, *The Wrongs of Woman*. That novel's title references her earlier treatise *A Vindication of the Rights of Woman*.

ANSWER: Mary **Wollstonecraft**

12. This honor was awarded to Publius Decius Mus twice, by his own army and the army that he rescued, after coming to the relief of Marcus Corvus during the First Samnite War. For 10 points each:

[10] Name this military honor given to a Roman general who single-handedly saved a legion from destruction.

ANSWER: **Grass Crown** [or **Corona Obsidionalis**; or **Corona Graminea**; or **Blockade Crown**]

[10] The elder historian of this name wrote in his *Natural History* that the grass crown was given eight times, with the final award being to Augustus.

ANSWER: **Pliny** the Elder [or Gaius **Plinius** Secundus]

[10] This man was awarded the grass crown for defeating an insurrection as a tribune under Titus Didius. He later took over the province of Hispania Ulteria after leading a rebel army at Baetis River, ejecting the lawful proconsul Metellus Pius.

ANSWER: Quintus **Sertorius**

13. Many Northern Renaissance artists, including Baldung and Cranach the Elder, painted depictions of a myth in which a whip-brandishing woman named Phyllis rides this man like a horse. For 10 points each:

[10] Name this man. Julius Held cited other depictions of this man in expensive jewelry to argue that a Rembrandt painting of a man with a gold chain depicts him rather than, as Simon Schama claimed, Apelles.

ANSWER: **Aristotle** [or **Aristoteles**] (The Dutch painting is Rembrandt's *Aristotle Contemplating a Bust of Homer*.)

[10] Depictions of Phyllis riding Aristotle were examples of this *topos* popular in Northern Renaissance art. This motif is also exemplified by paintings of Virgil in his basket and Judith with the head of Holofernes.

ANSWER: the "**Power of Women**" [or the **Weibermacht**; accept the **battle for the trousers** or the **follies of love**; prompt on descriptive answers like **strong women** or **women overcoming men**]

[10] Aristotle, gesturing toward the ground, converses with his teacher, Plato, who points up at the sky, in this Raphael fresco depicting many ancient Greek mathematicians and philosophers.

ANSWER: *The **School of Athens*** [or **Scuola di Atene**]

14. In this technique, a mixture is subject to a centrifugal, thermal, magnetic, or electric force perpendicular to its direction of laminar flow, which pushes analytes to the accumulation wall. For 10 points each:

[10] Name this separation technique in which an analyte flows through a thin channel to an outlet.

ANSWER: **field-flow fractionation** [or **FFF**]

[10] The *x*-axis of a fractogram usually displays this quantity, which in most separation techniques is defined as the amount of time an analyte spends in the column or apparatus.

ANSWER: **retention** time [or **RT**]

[10] FFF can separate aggregates of these macromolecules, which can be purified using affinity chromatography if they have been engineered with epitope tags. These molecules are polymers of amino acids.

ANSWER: **protein** [or **polypeptides**; accept **antibodies** or **immunoglobulins** because affinity chromatography is often used on those in particular]

15. After performing as the “African Roscius,” this actor moved to Coventry and became the first non-white theatre manager in England. For 10 points each:

[10] Name this actor who in 1825 became the first African American to play Othello.

ANSWER: Ira **Aldridge**

[10] Over a hundred years later, Aldridge’s daughter Amanda presented this actor with the earrings from Aldridge’s original costume when he became the second African American to portray Othello in London. He had recently been feted by British audiences for his performance of “Ol’ Man River” in *Showboat*.

ANSWER: Paul **Robeson**

[10] Although Robeson’s performance as Othello was well received, the play as a whole was ruined by producer Maurice Browne’s choice to make this casting decision for another role. Shakespeare likely made this casting decision for the roles of Adam in *As You Like It* and King Hamlet’s ghost in *Hamlet*.

ANSWER: playing the part **himself** [or equivalents like **self-casting**]

16. This doctor’s expert testimony suggesting a “73 million to 1” chance of two children dying from SIDS helped wrongfully convict Sally Clark of murdering her infant sons. For 10 points each:

[10] Name this British pediatrician who advanced a discredited “law” about SIDS deaths, summarized as “one is tragic, two is suspicious, and three is murder,” and coined the now deprecated term “Munchausen by proxy.”

ANSWER: (Samuel) Roy **Meadow**

[10] The term “Munchausen by proxy” is replaced by “factitious disorder imposed on another” in the fifth and most recent version of this American Psychiatric Association handbook usually known by a three-letter acronym.

ANSWER: **DSM-5** [or **Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition**]

[10] *DSM-5* distinguishes between factitious disorders, malingering, and disorders involving unconscious and non-deliberate symptoms denoted by this three-syllable term. Under *DSM-5*, most people formerly diagnosed as hypochondriacs are now diagnosed as having either illness anxiety or a disorder involving this type of symptom.

ANSWER: **somatic** symptoms [accept **somatic** symptom disorders]

17. The literary critic Azorin is sometimes credited with coining the name for this group, which included the poet of *Castilian Plains*, Antonio Machado. For 10 points each:

[10] Name this group of Spanish writers from the late 19th century who responded to the cultural crisis resulting from Spain's loss of its overseas empire.

ANSWER: Generation of **'98** [or Generacion del **98**; or the Generation of 18**98**; or Generacion del **Noventa y Ocho**]

[10] The play *Bohemian Lights* is an example of this Generation of '98 author's *esperpento* style. *Bohemian Lights* features the Marquis of Bradomin, the protagonist of this author's series of novellas *Sonatas*.

ANSWER: Ramón María del **Valle-Inclán**

[10] This Spanish writer, who wrote between the Generations of '98 and '27, may be best known for a prose poem about a man and a donkey, *Platero y Yo*.

ANSWER: Juan Ramón **Jiménez**

18. One story claims that this geographical feature was inhabited by a gigantic female serpent with a heart made of crystal. For 10 points each:

[10] Name this once-flooded location. In a fit of rage, the Wakinyan monster killed the Uncegila snake in it, leaving this place strewn with bones, after which time Wakinyan dried it up.

ANSWER: **Badlands** [or **Makhosica**]

[10] The Wakinyan was one of these animals in Native American religion. In many stories in Native American folklore, this kind of avian does battle with a Whale.

ANSWER: **thunderbirds**

[10] The story of Wakinyan doing battle against the Uncegila is described in the folklore of this tribe, who also venerated a spider god named Ikhtomi.

ANSWER: **Lakota** [prompt on **Sioux**]

19. One book by this author argues that the "Franco-Burgundian elite" chose to "color life with lustrous tones [and] to live in a dreamland of shining fantasies" in an attempt to "play out a dream." For 10 points each:

[10] Name this historian who wrote a study of the late-medieval mentality of northern France and the Netherlands titled *The Autumn of the Middle Ages* as well as the seminal 1938 book *Homo Ludens*.

ANSWER: Johan **Huizinga**

[10] In the book *Dutch Civilization of the 17th Century*, Huizinga compares the university as a cultural form of association to these Dutch and Belgian institutions, a kind of civic society for poets and playwrights.

ANSWER: **chambers of rhetoric** [or **rederijkerskamers**]

[10] Huizinga notes that chambers of rhetoric were organized as one of these institutions, which were economic associations that took charge of a specific good or industry. The Arte della Lana was one of these that dominated wool production in medieval Florence.

ANSWER: **guilds**

20. Walter Gilbert originally posited this process as critical to the evolution of new genes, and this process is believed to have created the *jingwei* gene in *Drosophila*. For 10 points each:

[10] Name this process in which expressed portions of a gene are moved, duplicated, or excluded within an organism's DNA.

ANSWER: **exon shuffling** [accept, but DO NOT REVEAL, **domain shuffling**]

[10] Exon shuffling was used to explain the importance of introns, which are sequences removed from pre-mRNA by this process. This process allows a single segment of DNA to code for multiple isoforms of the same protein.

ANSWER: alternative **splicing**

[10] Exon shuffling can create new proteins by moving these evolutionary-conserved functional protein units from one gene to another. Examples of these units include SH2 and the leucine zipper.

ANSWER: protein **domain**