

2024 ACF Nationals

Packet A, Prelims Round 1 by Claremont A, Columbia A, Cornell A, MIT A

TOSSUPS

1. This book inspired James P. Butler to create an analytical method that involves imagining a kaijū suddenly destroying each item on a “critical list.” Mary Kaldor argued that this book no longer applies to “new” types of its title concept. This book, whose author was pilloried as the “Mahdi of the Mass” by B. H. Liddell Hart, inspired the “Godzilla Method” and other forms of “center of gravity analysis.” This book lionizes a talent called *coup d’oeil* (“koo DOY”). This book calls its title subject a “fascinating trinity” and divides it into “real” and “on paper” forms distinguished by “friction.” This book popularized the metaphor that uncertain data and time stress create the “fog” of its title concept, which is called “continuation of policy by other means.” For 10 points, name this unfinished book on military strategy by Carl von Clausewitz.

ANSWER: *On War* [or *Vom Kriege*]

<Social Science>

2. Louis Gillet labeled some paintings of these objects “upside-down” according to Ross King’s book *Mad Enchantment*, which describes an artist’s visit to the 1889 Exposition Universelle. The last volume of a *catalog raisonné* by Daniel Wildenstein is dominated by paintings of these objects, including *Green Reflections*. In a letter to Gustave Geffroy, an artist described paintings of these objects creating an “illusion of an endless whole” after a successful exhibit at the Galerie Durand-Ruel. The World War I armistice led Georges Clemenceau to manage a decade-long commission for paintings of these objects, which was delayed by the artist’s cataract surgeries. Two oval rooms house paintings of these objects at the Musée de l’Orangerie (“mew-zay duh lo-ronzh-REE”). For 10 points, a Japanese bridge at Giverny is featured in Claude Monet’s paintings of what aquatic plants?

ANSWER: water lilies [or water lily; or nymphéas; or lily pads; prompt on flowers, aquatic plants, blooms, or equivalents of any until “plants” is read; reject “lilies”]

<Painting & Sculpture>

3. In 1660, factions of this group destroyed two cities of the Old Yishuv (“yee-SHOOV”) after the death of their emir Mulhim, who leased silk farms to the Christian Khazen family. This group, whose 1838 revolt against Ibrāhīm Pasha was suppressed by Bashir Shihāb II, ran Buhturid tax farms until their Ma’n dynasty took over as emirs of the Chouf. The Jumblatt clan of this group massacred Deir al-Qamar’s Christians in an 1860 civil war mediated by the Algerian emir Abdelkader, after which they shared a “dualistic” mutasarrifate. This group received an autonomous “jabal” in the French Mandate, where their al-Atrash clan led the Hauran rebellion and Great Syrian Revolt. This ethnoreligious group closed its “unitarian call” to convert under the Shī’a Fāṭimids. For 10 points, Maronites divided Mount Lebanon with what monotheists symbolized by a five-colored star?

ANSWER: Druze [or al-Muwahhidūn, durūz, darzī, or durzī; accept Jabal al-Druze or Jabal al-durūz; accept Druze Revolt; prompt on Arabs or ‘arab; prompt on Tanūkhids or Banū Tanūh; reject “Jews”] (The first line refers to the destruction of Tiberias and Safed.)

<World History>

4. The position of these regions can be approximated with the Haley–Knott method, which outputs LOD (“lod”) values. Eric Lander modified MAPMAKER for a landmark paper with David Botstein on the statistical identification of these regions, which established them as concrete Mendelian factors. The PrediXcan tool uses a generalized version of these regions prefixed “e” as reference for a TWAS (“TEE-woss”). Marker-directed selection in cereals usually uses microsatellites that flank these regions instead of SNPs (“snips”). Inbreeding two parent lines in opposite directions is a major cost when mapping these regions with linkage analysis. Most agriculturally-relevant phenotypes have additive contributions from several of these regions, which contain candidate genes. For 10 points, name these DNA regions that produce continuous phenotypes like size and color.

ANSWER: **quantitative trait loci** [or **QTLs** or **quantitative trait locus**; accept **eQTLs** or expression **quantitative trait locuses** or **xQTLs**; prompt on genetic **locus**, genetic **loci**, trait-associated **loci**, susceptibility **loci**, risk **loci**, or trait **loci**] (H–K regression is sensitive to selective genotyping, which only samples from individuals with extreme phenotypes.)

<Biology>

5. These people’s word for “farewell” titles a poetic lament that asks “who now shall refill the cup” and opens, “Ah! like gold fall the leaves in the wind.” A language spoken by these people is called “over-pretty” and “semantically sentimental” and compared to Nevbosh and Naffarin in the essay “A Secret Vice.” The poem “Namárië” is in this people’s language, for which the *Tengwar* script was developed by a master craftsman whose father Finwë was the first of these people to be killed in Aman. These people revered Varda the “star-kindler,” whose epithet is “*Tintallë*” in their Quenya language and “*Gilthoniel*” in the related Sindarin. After migrating to Valinor, many of these people returned with Fëanor to Beleriand to wrest three jewels back from Morgoth. For 10 points, Galadriel is a member of what immortal race in the writings of J. R. R. Tolkien?

ANSWER: **Elves** [or **Elf**; accept **Quendi** or **Eldar** or High **Elves**; accept **Elvish**; accept **Noldor** or **Vanyar**; prompt on descriptions of the people of **Middle Earth** or people from **Tolkien**’s legendarium]

<British Literature>

6. Rasoalao and Rapeto’s conflict over cattle destroys this substance, whose theft is punished by Zanahary’s hailstorms, in Malagasy myths. This substance’s soul is called into a doll by its pregnant Thai mother goddess, who flees into a cave and returns with fish. An egg hatches a goddess of this substance who is killed to avoid marrying her stepfather Batara Guru. Khun Borom’s fifth son receives a “million” units of this substance in Lan Nā. The Buddha’s father Śuddhodana (“shood-OH-duh-nuh”) is named for a pure grade of this substance, which is provided by Dewi Sri and Pārvatī’s avatar Annapūrṇa. Bulul figures multiply this substance for Banaue’s (“buh-NAH-way’s”) Ifugao people. Fish, wildlife, and this substance are vomited by Ukemochi (“OO-kay-mochi”) to prepare Tsukuyomi’s (“tsuku-yomi’s”) feast. This substance names a *kami* of ambiguous gender who rides a white fox. For 10 points, Inari is the *kami* of what grain?

ANSWER: **rice** [or **Oryza** or **O. sativa**; accept Banaue **Rice** Terraces; prompt on **grains** until read; prompt on **cereals**, **crops**, **plants**, **food**, or equivalents] (The second line refers to the Tai goddess Mae Phosop. Dewi Sri is also called Nyai Pohaci.)

<Mythology>

7. This property names a type of statement exemplified by one involving the log squared of the Mandelstam variable s , named for Marcel Froissart (“fwah-SAR”). The Wightman axioms entail the existence of a representation of the Poincaré (“pwann-ka-RAY”) group with this property in a QFT’s Hilbert space. Operators with this property cannot copy arbitrary quantum states according to the no-cloning theorem. One of a type of bound named for this property can be derived from the fact that the S-matrix displays it. This property is held by all matrices representing quantum gates and by the time evolution operator. The gauge group of QED is the group of matrices with this property of dimension 1. When multiplied by two vectors, matrices with this property leave the Hermitian (“her-MISH-un”) inner product unaltered. For 10 points, name this property of a matrix whose conjugate transpose is its inverse.

ANSWER: **unitarity** [or **unitary** or **unitary** matrix or **unitary** matrices or **unitary** operators or **unitarity** operators; accept **unitary** bound or **unitarity** bound; accept **unitary** group; accept **unitary** representations; prompt on **U** or **U(1)**]

<Physics>

8. This man’s personal assistant Claus von Bülow was acquitted for attempting to murder his wife in 1979. Interior designer Penelope Kitson refused to marry this man over his abusive past, including reportedly forcing his wife to climb Mount Vesuvius while eight months pregnant. This man purchased William Skelly’s Spartan Aircraft Company and started making camper trailers. This man, whose mother ironically devised a family trust to curb his spendthrift tendencies, owned the “Nancy Taylor No. 1” site outside of Tulsa. This man’s son commissioned a “house” as an official residence for mayors like Tom Bradley and Eric Garcetti. This man only paid the maximum tax-deductible amount as ransom for his kidnapped grandson, whose left ear was cut off by the ’Ndrangheta (“un-DRAHN-get-uh”) mafia. For 10 points, what oil magnate names a private art museum in Los Angeles?

ANSWER: J. Paul **Getty** [or Jean Paul **Getty** Sr.; accept the **Getty**, **Getty** Center, **Getty** Museum, **Getty** Villa, or J. Paul **Getty** Museum; accept **Getty** House; accept **Getty** Trust]

<American History>

9. This event occurs in a Las Vegas hotel room in the first play in Neil LaBute’s collection *Bash*. The chorus describes a saffron robe falling to the ground during this event in the first *stasimon* of a play that claims it occurred under the “yoke of necessity” after two eagles killed a pregnant hare. Aristotle hated the abrupt change of mind that allows this event, which is averted with the revelation of the maid Ériphile’s (“eh-ree-FEEL’s”) birth name in Jean Racine’s adaptation. In a sequel to the play about this event, its subject gets a job guarding a *xoanon* (“ZOH-uh-non”) statue and killing Greek visitors to the realm of King Thoas. The subject of this event is replaced with a deer and whisked off to Tauris in a Euripides play set in Aulis. For 10 points, Aeschylus’s Clytemnestra avenges what event that was ordered by Agamemnon to allow the Greek fleet to sail for Troy?

ANSWER: **sacrifice** of **Iphigenia** [or descriptions of the **murder** of **Iphigenia** or **death** of **Iphigenia**; accept descriptions of **Iphigenia** being **rescued** or **Iphigenia** being **replaced** by a deer during her sacrifice; accept **Iphigénie** in place of “Iphigenia”; prompt on *Iphigenia in Aulis* or *Iphigenia at Aulis* or *Iphigénéia en Aulidi* until “Aulis” is read; prompt on **sacrifice** or **murder** or equivalents by asking “of who?”]

<European Literature>

10. In the opening montage of a 1929 film that pays homage to this movement, a voiceover warns the village children to keep silent, lest they start an avalanche. In a film from this movement, a woman finds her husband alone in a room, stabbing at the air with a knife that was in his piano. That film from this movement ends as a couple embraces after learning that Vasseur, the original owner of the title body parts, was not a murderer. Guy Maddin's *Careful* visually imitates this movement by tinting frames in monochrome orange or blue. This movement is studied in Lotte Eisner's ("LOT-uh EYES-nur's") *The Haunted Screen* and was linked to totalitarianism by Siegfried Kracauer ("KRAH-cow-er"). Robert Wiene's ("VEE-nuh's") *The Hands of Orlac* is from this movement, along with a film whose villain's claws appear in his silhouette as he ascends the stairs. For 10 points, F. W. Murnau's *Nosferatu* was part of what movement?

ANSWER: **Expressionism** [or **Expressionist** cinema or **expressionistische** Film; accept German **Expressionism** or deutscher **Expressionismus**]

<Other Fine Arts>

11. This process is less vulnerable to state compromise extension when it is backtracking-resistant. The so-called "HILL" paper by Håstad, Impagliazzo, Levin, and Luby showed that an algorithm for this process can be constructed from any one-way function. The quadratic residuosity problem is the basis of the security of an algorithm for this process that requires both inputs to be congruent to 3 mod 4. Cryptographically secure algorithms for this process are used to create initialization vectors and nonces, and such algorithms for it must pass the next bit test. A simple algorithm for this process repeatedly performs xorshifts ("X-or-shifts"). The Mersenne ("mair-SEN") Twister and other algorithms for this process are initialized with a seed. For 10 points, name this process that creates a sequence whose next value cannot be predicted.

ANSWER: pseudor**andom number generation** [or **PRNG**; accept descriptions of **creating** sequences of pseudor**andom numbers**; accept deterministic **random bit generation**, **DRBG**, non-deterministic **random bit generation**, or **NRBG**; accept pseudor**andom string generation** or pseudor**andom bit string generation**; prompt on **randomization** or word forms of **randomness**]

<Other Science>

12. *Original-language term required.* A royal inscription denoted "XPh" is nicknamed for these beings and enigmatically boasts of destroying their *dānā*, or sanctuary. An 8th-century text argues against interfaith marriage because *xwedōdah* ("kweh-DOH-dah") weakens these beings, whom Mary Boyce argued were originally gods of specific war bands. A text detailing "Rules for Keeping Away" these beings, like one called "the Long-Handed," requires anyone who kills an otter to hunt thousands of vermin to atone. Because one of these beings called Nasu hates dogs, dogs watch over corpses in the *sagdīd* ("sahg-DEED") ritual. These beings, which are repelled by the mantra "truth is the best of all good," personify the concept of *druj* ("dooj"). The *Fravarānē* ("frah-vah-RAH-neh") begins "I scorn" these beings, who oppose the *yazatas* in the *Yasna*. For 10 points, name these demons that serve Ahriman and represent evil and impurity in Zoroastrianism.

ANSWER: **daivas** [or **daevas** or **daēwa**; accept **divs**, **devs**, **dēw**, **yatu**, **jadu**, or **pairikas**; prompt on **druj** or **drugvant** until "druj" is read by asking "what beings personify that concept?"] (The first line refers to Xerxes I's "Daeva Inscription." "Xwedōdah" refers to consanguineous marriages. The *Vendidad* calls otters "water dogs.")

<Religion>

13. Beatrice Knight's compendium documents popular colors used when this ruler first gained power, including Dust of Ruins and Pomona Green. This ruler's landmark visit to Edinburgh influenced fashion's "Great Tartan Revival." In the satirical etching *Modesty!*, several men in a Genoa theater gaze up disapprovingly at this ruler's wife, who is seated next to her longtime secretary Bartolomeo Pergami. Former American slave Bill Richmond appeared at this ruler's coronation due to his celebrity status as a bare-knuckle boxer. A strict social order known as the "ton" proliferated under this "first gentleman," who commissioned an Indo-Saracenic seaside pavilion in Brighton. This ruler failed to pass the Pains and Penalties Bill to divorce his wife, Caroline of Brunswick. For 10 points, name this heirless Hanoverian monarch who acted as his father's regent from 1811 to 1820.

ANSWER: **George IV** [or **George Augustus Frederick**; prompt on Prince **George**; prompt on the Prince **Regent** until "regent" is read]

<European History>

14. In a novel titled for this place, an intern steals and burns his teacher's prized butterfly and ridicules his colleague with the motto "today everybody's on the way out." In another novel, a man who goes to this place in search of the "Grand Cause" is vilified in a speech about how fathers are "evil itself" by a boy called Number One. In a novel titled for this place by Shūsaku Endō, a medical student is asked to perform vivisections on American POWs. A novel titled for this place in English ends by noting "glory, as anyone knows, is bitter stuff" as a man drinks drugged tea. In that novel titled for this place, a boy who spies on his mother through a peephole loses his admiration for a man who serves as second mate aboard the *Rakuyo*. For 10 points, the title of a Yukio Mishima novel notes that Ryuji "fell from grace with" what place?

ANSWER: the **sea** [or **ocean**; or **umi**; accept *The Sailor Who Fell from Grace with the **Sea***; accept *The **Sea** and Poison* or **Umi to dokuyaku**]

<World Literature>

15. This thinker compared interpretations of scripture to the innumerable colors in a peacock's tail feathers. This thinker replied "only a table" when a king seated across from him asked what separates him from a fool. In a five-book dialogue between a magister and a student, this thinker differentiated species such as "that which creates and is not created" and "that which was created and does not create." Using his then-unusual knowledge of Greek, this thinker translated writings he thought were by an Athenian disciple of Saint Paul, the *Divine Names* and the *Celestial Hierarchy* of Pseudo-Dionysius. This author succeeded Alcuin as leader of the Palace School and wrote *The Division of Nature*. For 10 points, name this 9th-century Neoplatonist philosopher, whose Gaelic origin earned him the same nickname as a 13th-century scholastic named Duns.

ANSWER: John Scotus **Eriugena** [accept variants like Johannes Scotus **Erigena** or John the Scott **Erigena**; prompt on John **Scotus** or John the **Scott**; reject "John Duns Scotus"]

<Philosophy>

16. A festival in Bahia ("bah-EE-uh") celebrates these animals pointing the way to Quilombo Kaonge ("kee-LOAM-boo kah-OWN-jee"). Black workers processed these animals until a resort polluted their Daufuskie ("duh-FUSS-kee") cannery. The abolitionist Thomas Downing was dubbed the "king" of these animals in the Five Points. Guilty husbands from Tremé ("truh-MAY") supposedly ordered "peacemakers" made from these animals at the French Market. These animals were burnt to build Kingsley Plantation and Fort Frederica with "tabby concrete." Freedmen's villages like Hobson harvested these animals near Suffolk until chlordecone polluted an ecosystem where their so-called "pirates" fought wars over dredging their beds. These animals were considered a poor man's food prior to factory farming of chickens. They are fried with shrimp in New Orleans po' boys. For 10 points, watermen on the Chesapeake shucked what edible mollusks?

ANSWER: **oysters** [accept **oyster** beds, **oyster**men, **oyster** pirates, **oyster**ing villages, **oyster** cottages, or Festa da **Ostra**; prompt on **mollusks** or **Mollusca** until "mollusks" is read; prompt on **seafood** or **bivalves**; reject "clams" or "mussels"] (The resort was Hilton Head. The lime in tabby concrete comes from burnt oyster shells.)

<Geography>

17. The ability of these materials to isolate “aristocratic atoms” is essential to the function of SACs (“S-A-C’s”). Khoobiar reported that a material serving this role formed a non-stoichiometric (“non-STOY-kee-oh-metric”) blue compound in the first documented case of spillover. Incipient wetness is a method of impregnating these materials that relies on surface tension to achieve high dispersion. These materials may be immersed in cyanide to transform expensive clusters into single atoms. Though theoretically inert, acidic examples of these materials can stabilize preferred oxidation states and greatly increase the surface area available for adsorption (“ADD-sorption”). Palladium is often placed “on” examples of these materials like alumina, carbon, or calcium carbonate. For 10 points, name these materials that mount the active metal in many solid heterogeneous catalysts.

ANSWER: catalyst **supports** [or **supported** catalysts; accept **carriers** or solid **supports**; prompt on heterogeneous **catalysts** or single-atom **catalysts** until “catalysts” is read; prompt on **substrates**; reject “zeolites” or “MOFs” or “metal-organic frameworks”]

<Chemistry>

18. A symphonic piece by this composer begins its last movement, marked *Lento lugubre*, with an English horn solo over harp and *divisi* strings, after which a baritone soloist enters. In that piece by this composer, voices enter for the first time with the tenor soloist singing a very long E-flat on the word for “do you hear,” after which the full chorus sings a D-flat major chord on the same word. Tchaikovsky inspired this composer to write a 15-movement setting of the Vespers and Matins for a *cappella* chorus. In accordance with his wishes, this composer’s funeral performed the “Nunc dimittis” movement from his *All-Night Vigil*. This composer used the “Dies irae” to unify the four movements of a choral symphony based on a loosely translated poem by Edgar Allan Poe. For 10 points, name this Russian composer of the choral symphony *The Bells*.

ANSWER: Sergei **Rachmaninoff** [or Sergei Vasilyevich **Rachmaninoff**] (The word for “do you hear” is *slyshish’*.)

<Classical Music>

19. In a story by this author, Urszula, who believes she is not from Earth, decides to poison a man who hurts young girls when her brother says she must kill someone to return home. This author of “A Better Place” wrote a novel in which the blind Ina starts to lactate sight-restoring milk in her forties. In that novel by this author, the shepherd’s boy Marek is given to Lord Villiam after killing his son. The title character of a novel by this author helps Rebecca Saint John prove that a boy at a juvenile correctional facility was raped by his father. This author of *Homesick for Another World* and *Lapvona* wrote a novel whose protagonist is fired from a Manhattan art gallery for defecating on the floor. That woman created by this author loses her friend Reva on 9/11 after deciding to spend all of her time sleeping. For 10 points, name this author of *Eileen* and *My Year of Rest and Relaxation*.

ANSWER: Ottessa **Moshfegh** (“MOSH-feg”) [or Ottessa Charlotte **Moshfegh**]

<American Literature>

20. This deity names a vassal king whom Piye (“pee-yay”) relieved at Heracleopolis (“hera-lee-opolis”) and a rebel of the Dakhla oasis who alternately titles the *Inaros Cycle*. This deity names a city whose Sed Festival Gateway depicts a king identified with Zerah the Cushite. This deity’s namesake portal at Karnak’s Temple of Amun records conquests by Shoshenq I that may corroborate Shishak’s sack of Judah in Second Chronicles. Meshwesh pharaohs built up Tanis and this deity’s namesake Nile delta cult center near Zagazig, which alternately names the Libyan 22nd Dynasty. Ptolemy claims that sheep, dogs, ibises, and this deity’s totem shielded Cambyses II’s troops at Pelusium. This Egyptian goddess was called “Ailuros” in Greece, where her sacred animal supplanted ferrets. For 10 points, name this goddess.

ANSWER: **Bast** [or **Bastet**, **Pasht**, **bst**, **B’sst**, **Baset**, or **Ubasti**; accept **Ailuros** until read; accept **Bubastis**, Tell **Basta**, **Poubasti**, Per-**Bast**, Pi-**Beset**, **Bubastite** dynasty, **Bubastite** Portal, **Petubastis**, or **Peftjauawybast**; prompt on **Sekhmet**, **Sachmis**, **Sahmat**, or **Sakhmi** by asking “which form of Sekhmet?”]

<Other History>

BONUSES

1. Martha Nussbaum critiqued this tradition's bifurcation of the duties of justice and material aid in a book that calls it a "noble but flawed ideal." For 10 points each:

[10m] What tradition names a "right" outlined in Kant's *Perpetual Peace*? A 2006 book titled for this "caring" and "curious" tradition builds on the dying words of the author's father, a Gold Coast independence leader.

ANSWER: **cosmopolitanism** [accept *Cosmopolitanism: Ethics in a World of Strangers*, **cosmopolitan** right, **cosmopolitan** law, *ius cosmopolitanicum*, or *The Cosmopolitan Tradition*]

[10e] Both Kwame Appiah's *Cosmopolitanism* and Martha Nussbaum's *The Cosmopolitan Tradition* draw on this Scottish author of *The Theory of Moral Sentiments*.

ANSWER: Adam **Smith**

[10h] Nussbaum credits this thinker with bringing the tradition into the modern world with the *etiamsi daremus* ("et-ee-AHM-see dah-RAY-muss") argumentative move, in which he held that norms would still exist "even if we should concede... that there is no God."

ANSWER: Hugo **Grotius** [or Hugo de **Groot**; or Huig de **Groot**]

<Philosophy>

2. In a novel by this author, a half-written story discarded by a humorist continues on its own, describing how a sudden appearance of a hat causes chaos in a Southwestern town. For 10 points each:

[10h] Name this author of *Sombrero Fallout*. In a gothic western by this author, Magic Child hires two hitmen to kill a monster living in ice caves beneath her house, which is affected by mysterious "Chemicals."

ANSWER: Richard **Brautigan** [or Richard Gary **Brautigan**] (The second novel is *The Hawkline Monster*.)

[10e] In the *Sombrero Fallout* story, this man joins a bloody war between the town and the Federal government. This author drew on his real war experience to write *The Naked and the Dead*.

ANSWER: Norman **Mailer** [or Norman Kingsley **Mailer**; or Nachem Malech **Mailer**]

[10m] In this post-apocalyptic Brautigan novel, inBOIL leads a gang at the Forgotten Works after leaving iDEATH, a commune where the title substance is used as a building material.

ANSWER: *In Watermelon Sugar*

<American Literature>

3. These rodents are the most common animals protected by the Animal Welfare Act, which excludes both rats and mice. For 10 points each:

[10e] Name these lab animals used by Lavoisier and Koch. Today, they are a colloquial term for human test subjects.

ANSWER: **guinea pigs** [or domestic **cavy** or **cavies**; or *Cavia porcellus* or *C. porcellus*]

[10m] SV40 produces tumors in these rodents, which can transmit a reticulum-cell sarcoma via cannibalism. EGFR is absent in an ovarian cell line derived from a species of these rodents, which is used to produce most mAbs ("mabs").

ANSWER: **hamster**s [or *Cricetinae*; accept Chinese **hamster**, Chinese **hamster** ovary cells, Chinese **hamster** ovaries, *Cricetulus*, *C. griseus*, or *C. barabensis*; accept golden **hamster**, Syrian **hamster**, *Mesocricetus*, or *M. auratus*; prompt on *cricketids*]

[10h] This docile dog breed was adopted *en masse* after Envigo's Cumberland site was closed for AWA violations. A Superfund site at UC Davis exists to clean up a long-term radiation study on this breed, whose frequent use in non-rodent testing has attracted the ire of activists.

ANSWER: **beagles** [or English **Beagle**; prompt on *scenthounds*]

<Biology>

4. During 2013 protests over bus taxes in this country, demonstrators adopted the Johnnie Walker slogan “the giant has awoken.” For 10 points each:

[10m] Name this country that an adage says is “not for beginners.” Charles de Gaulle supposedly called it “not a serious country” and said it was “the country of the future – and always will be” after visiting the home city of its *cariocas*.

ANSWER: **Brazil** [or Federative Republic of **Brazil**; or República Federativa do **Brasil**; accept “**Brazil** is not for beginners” or “O **Brasil**, não é para principiantes”] (“Carioca” is a demonym for Rio de Janeiro.)

[10e] The Brazilian flag features the national motto “order and progress,” which promotes the positivism of this French philosopher of social evolution.

ANSWER: Auguste **Comte** (“kawnt”) [or Isidore Marie Auguste François Xavier **Comte**; accept **Comtean** positivism]

[10h] The Brazilian military dictatorship’s propaganda posters displayed this nationalistic slogan. SBT aired this slogan after the election of Jair Bolsonaro, who has recited it along with “Brazil above all, God above everything.”

ANSWER: “**love it or leave it**” [or “Brazil, **love it or leave it**”; or “Brasil, **ame-o ou deixe-o**”; or “**love Brazil or leave it**”; or “**ame o Brasil ou deixe-o**”]

<Other Academic>

5. Antiquarians built Qutb ud-Din Aibak’s tomb in this city, where he founded the Delhi Sultanate 20 years after its 1186 siege by Muhammad of Ghōr, which ended Ghaznavid rule. For 10 points each:

[10m] Name this city whose tombs of Anarkali and Jahangir were plundered by Ranjit Singh, who made it the Sikh Empire’s capital. Maḥmūd of Ghazni occupied a precursor of this walled city’s Mughal fort.

ANSWER: **Lahore** [or variants of **Lahāwar** or **Rahwar** or **Lawhūr**; accept **Lahore** Fort; accept Siege of **Lahore**]

[10h] A tomb in Lahore inters an enslaved governor of this name, whom Islamicate poets idealized as Maḥmūd of Ghazni’s beloved. A Mamluk admiral of this name fortified Diu and won the Battle of Chaul for Gujarat.

ANSWER: Malik **Ayaz** [or Malik **Ayyaz**; accept **Meliqueaz**; accept Ahmed **Ayaz** or Malik Ahmed **Ayaz**; prompt on **Malik**]

[10e] Lord Ellenborough used the 1026 sack of Gujarat’s Somnath (“SOHM-not”) temple as a pretext to move the gates of Maḥmūd of Ghazni’s tomb to this city’s fort. This city houses the tombs of Akbar and Mumtaz Mahal.

ANSWER: **Agra** [accept **Agra** Fort; accept **Sikandra**] (The Taj Mahal is Mumtaz Mahal’s tomb.)

<World History>

6. Suspecting that this play was a forgery, actor John Philip Kemble sarcastically said the line, “And when this solemn mockery is ended” to elicit laughs. For 10 points each:

[10h] Name this supposed lost Shakespeare play that William Henry Ireland claimed to have discovered in 1796. This play’s plot concerns the aftermath of the murder of the Briton king Constantius.

ANSWER: **Vortigern and Rowena** [or **Vortigern, an Historical Play**]

[10m] The Stationers’ Register credits this man with co-writing Shakespeare’s lost play *Cardenio*, which is based on an episode from *Don Quixote*. Palamon and Arcite quarrel over Emilia in another play by this man and Shakespeare.

ANSWER: John **Fletcher** (The second play is *The Two Noble Kinsmen*.)

[10e] Another lost Shakespeare play may have been a sequel to this comedy, in which the king of Navarre and three of his lords try to avoid women for three years.

ANSWER: **Love’s Labour’s Lost** (The possible lost sequel is *Love’s Labour’s Won*.)

<British Literature>

7. Answer the following about 18th-century opera in the Americas, for 10 points each.

[10e] This composer's rival Domenico Zipoli wrote *San Ignacio de Loyola* as a Jesuit missionary in Paraguay. This composer's own works include the 1733 opera *Motezuma*, a D-major Gloria, and the collection *L'estro armonico*.

ANSWER: Antonio **Vivaldi** [or Antonio Lucio **Vivaldi**]

[10h] This character's death ends the opera *La púrpura de la rosa*, which premiered in Lima in 1701. Henry Purcell's ("PUR-sull's") *Dido and Aeneas* is modeled on John Blow's opera about this character and his lover.

ANSWER: **Adonis** [accept *Venus and Adonis*] (Tomás de Torrejón y Velasco composed *La púrpura de la rosa*, or *The Blood of the Rose*.)

[10m] Popular in the colonial United States was this satirical opera that features folk songs like "Over the Hills and Far Away." Near this opera's end, a condemned man laments his fate to the tune of "Greensleeves."

ANSWER: *The **Beggar's Opera*** (by John Gay)

<Other Fine Arts>

8. This city's "Blind Donkey Alley" is apocryphally named for an ass who failed to stop a neighboring city from stealing the belfry's golden dragon statue in 1382. For 10 points each:

[10m] Name this city whose militia supposedly massacred French soldiers who could not pronounce a phrase meaning "shield and friend," triggering the Battle of the Golden Spurs.

ANSWER: **Bruges** ("broozh") [or **Brugge**] (The neighboring city is Ghent. The shibboleth is "schild en vriend.")

[10e] Bruges's Gruuthuse ("HROOT-hoo-suh") family created the "White Bear" society devoted to this activity. Henry II died from injuries suffered during this activity during celebrations for the Peace of Cateau-Cambrésis.

ANSWER: **jousting** [accept **tournaments**, **melées**, **lancing**, **spearing**, **haslitudes**, or word forms or equivalents; accept **tournament** society or **jousting** society; prompt on **games**, **sports**, **duels**, **combat**, or equivalents of any]

[10h] In 1323, the Burgomaster of Bruges joined a tax revolt led by Nicolaas Zannekin, but was killed at a battle outside of this town. Philippe of Orléans won a 1677 battle near this town in the Franco-Dutch War.

ANSWER: **Cassel** [accept Battle of **Cassel**; accept Mont **Cassel** or **Kasselberg** or Mont-**Cassel**]

<European History>

9. The Praia Declaration promoted the stabilizing value of these events, for which a Ghanaian real estate developer known as "Cheddar" donned a mask in 2023. For 10 points each:

[10e] Name these events whose 2023 credibility was validated by monitors in Guinea-Bissau. They were deemed "free and fair" despite some irregularities in the Comoros ("COM-uh-roze") in 2024.

ANSWER: **elections** [or word forms of **electing**; accept electoral **campaigns** or **polls** or equivalents of each; accept general **elections** or presidential **elections** or answers that specify other positions; accept **election** monitors or **electoral** commissions or **election** management bodies]

[10h] Macky Sall delayed Senegal's elections after Karim Wade was disqualified for being one of these people, who were legalized in Burundi in 2000. Chad bars the presidency to these people, who are not recognized in Cameroon.

ANSWER: **dual citizens** [or **dual nationals** or people with **multiple nationalities** or equivalents; accept **foreign citizens** or **French citizens** or citizens of other specific countries; accept **citizenship** or **naturalization** or **naturalized** in place of "citizens"; prompt on **citizenship** or **nationality**]

[10m] Afrobarometer found increased trust in Liberian institutions after the 2017 election of this former footballer, whose 2023 concession marked the country's second peaceful democratic transfer of power.

ANSWER: George **Weah** [or George Manneh Oppong **Weah**]

<Current Events>

10. Mysterious circles of diffuse radio emission called odd radio circles, or ORCs (“orcs”), usually have steep values for this quantity between negative two and negative one. For 10 points each:

[10h] Name this quantity that, for a source with flux density S at frequency ν , is the exponent α in the equation “ S is proportional to ν to the α .”

ANSWER: **spectral index** [or **spectral indices**]

[10m] The steep spectral index of ORCs suggests that the source of radio emission is this type of radiation.

Relativistic jets emit this type of radiation that is beamed in the direction of motion.

ANSWER: **synchrotron** radiation [prompt on **magnetobremstrahlung**; reject “bremstrahlung”]

[10e] Observed values for this property’s fractional form show that the tangential magnetic field varies smoothly around an ORC. This property refers to the orientation of the E- and B-fields of light.

ANSWER: **polarization** [accept **polarized** light; reject “polar” or “polarity”]

<Other Science>

11. The works of this author and the Bible were the two “indispensable” books of a poet who claimed that reading him could be one of the most “important threads among all the threads of your experiences.” For 10 points each:

[10h] Name this author of *Niels Lyhne* (“nils LOO-nuh”), whom Rainer Maria Rilke extravagantly praised in *Letters to a Young Poet*.

ANSWER: J. P. **Jacobsen** (“YOCK-up-sun”) [or Jens Peter **Jacobsen**]

[10e] Rilke’s two “masters” were Jacobsen (“YOCK-up-sun”) and an artist in this medium whom he served as a secretary in Paris. A work in this medium is the subject of a poem by him that ends “You must change your life.”

ANSWER: **sculpture** [or **sculptor**s; accept **marble** sculpture or **bronze** sculpture; prompt on **plastic** art or **three-dimensional** art or **3D** art] (Rilke served as Auguste Rodin’s secretary. The poem is “Archaic Torso of Apollo.”)

[10m] Rilke wrote the first drafts of this collection in a copy of Jacobsen’s *Novellas*. The line “I live my life in circles that grow wide / And endlessly unroll” begins this collection’s first section on “monastic life.”

ANSWER: *The **Book of Hours*** [or *Das **Stunden-Buch***]

<European Literature>

12. A method of measuring zeta potential involves observing this process in an electric field. For 10 points each:

[10m] Name this process surveyed from multiple angles in “dynamic” and “static” methods of determining a polymer’s radius of gyration. A Zimm plot depicts the change in intensity due to this process.

ANSWER: light **scattering** [or word forms of **scattered**; accept dynamic light **scattering**, static light **scattering**, multi-angle light **scattering**, **DLS**, **SLS** or **MALS**]

[10e] This quantity’s distribution can be extracted from the autocorrelation of scattering intensity over time. This quantity can be measured in daltons.

ANSWER: molecular **weight** [accept molecular **mass** or molar **mass**; prompt on **size** or **length**]

[10h] The y -intercept of a Zimm plot can be divided into a term for weight and a term for this quantity times concentration. The BWR equation of state requires more constants to express this quantity than its relatives, but it only takes one Mayer f -function to express this quantity exactly.

ANSWER: **second virial coefficient** [or **B2**; or **A2**; prompt on **virial coefficients**]

<Chemistry>

13. *Specific term required.* Joffre Dumazedier (“ZHOFF-ree doo-mah-zed-YAY”) created sociology’s standard definition of this concept, whose “mass organization” by fascist Italy is described in Victoria de Grazia’s *The Culture of Consent*. For 10 points each:

[10h] Name this concept whose classical ideal was ended by “the tyranny of the clock,” per Sebastian de Grazia. This concept titles a book claiming that survivals of “barbarian prowess” are expressed by “force and fraud.”

ANSWER: **leisure** [or **loisir** (“lwah-ZEER”)]; accept *The Theory of the Leisure Class*; prompt on class by asking “what other concept characterizes the class in that work’s title?”] (Victoria is Sebastian’s niece.)

[10m] This book controversially argues that Neolithic hunter-gatherers had the most leisure time in history. This book contains the chapter “The Original Affluent Society.”

ANSWER: **Stone Age Economics** (by Marshall Sahlins)

[10e] “Vicarious leisure” flaunts “abstention from productive work” in this thinker’s book *The Theory of the Leisure Class*, which coined the term “conspicuous consumption.”

ANSWER: Thorstein **Veblen** [or Thorstein Bunde **Veblen**]

<Social Science>

14. A dispute with Honduras concerned an 1856 act that claimed this resource in Jarvis and Tokelau soon after their surveys on the US Exploring Expedition. For 10 points each:

[10m] Name this resource whose Black miners led the 1889 Navassa Revolt. France and Mexico disputed the Clipperton case over this resource, which sparked Namibia’s Ichaboe (“EACH-uh-bo”) rush and Peru’s Chincha War.

ANSWER: **guano** [or bird **feces**, **dung**, **excrement**, nitrogenous **waste**, or equivalents; accept **Guano** Islands Act or **Guano** Rush; prompt on fertilizer, nitrates, nitrogen, phosphates, phosphorus, potassium, NPK, NPK, or NPK by asking “obtained from what source?”; prompt on “white gold”]

[10h] An author with this surname traced “territorial pointillism” to the Guano Islands Act. A pacifist chemist with this surname was the first woman to receive a PhD from Breslau University.

ANSWER: **Immerwahr** [accept Clara **Immerwahr** or Clara Helene **Immerwahr**; accept Daniel **Immerwahr**] (Daniel Immerwahr, whose great-grandfather was Clara Immerwahr’s cousin, wrote *How to Hide an Empire*.)

[10e] Clara Immerwahr killed herself after this husband of hers weaponized chlorine gas at Ypres (“EEP-ruh”). This scientist ended Europe’s reliance on guano by industrially fixing nitrogen with a founder of IG Farben.

ANSWER: Fritz **Haber** [accept **Haber** process or **Haber**–Bosch process]

<Other History>

15. While the *genet* system of four of these elements was likely codified in modern Ethiopia, it is often credited to the notation that Saint Yared devised for his 6th-century *zema* hymnary, the Book of Deggua. For 10 points each:

[10m] Name these musical elements that, in Gregorian chant, include four “authentic” and four “plagal” systems, terminology that was reused for modern-day cadences.

ANSWER: musical **modes** [or **modus**; prompt on pentatonic scales]

[10h] This 6th-century Syrian “melodist” developed the eight-mode *octoechos* of monodic Byzantine chant and refined the *kontakion* genre of chanted homilies.

ANSWER: **Romanos** the Melodist [or **Romanós** o Melodós]

[10e] *Kontakia* were succeeded by a genre of this name whose composers included Kassia, Andrew of Crete, and Joseph the Hymnographer. Today, this term denotes a genre of imitative music similar to a round.

ANSWER: **canon** [or **kanōn**]

<Classical Music>

16. Shī'ites argue that Muḥammad made 'Alī his successor at this event, when Muḥammad called him the *mawla* of “whoever had me as their *mawla*” at Ghadīr Khumm (“gah-DEER KOOM”). For 10 points each:

[10m] Name this event in which Muḥammad said that *jāhilīyyah* (“JAH-hill-LEE-yah”) blood feuds will go unavenged and that “you have rights over your women, and your women have rights over you” at Mount Arafat.

ANSWER: Muḥammad's **Farewell Pilgrimage** [or **Farewell Hājj**, or **Hijjat al-Widā'** (“HIJ-jaht ell-wih-DAH”); accept descriptions of Muḥammad's **last pilgrimage** or **last Hājj**, or **last** visit to **Mecca**; accept **Farewell Sermon** or **Khutbat al-Widā'** (“KUT-baht ell-wih-DAH”)]

[10h] *Arabic term required.* One argument for 'Alī's succession is based on his status as one of the *Ahl al-Kisā'* (“AH-hull el-kih-SEH”), or “People of the Cloak,” at this event, in which the Christians of Najrān backed out of a prayer duel.

ANSWER: **Mubāhala** Event [prompt on **mutual cursing**]

[10e] The denial of this woman's inheritance of Fadak influenced Shī'ite inheritance laws and arguments for 'Alī's succession. This wife of 'Alī and daughter of Muḥammad is also one of the *Ahl al-Kisā'*.

ANSWER: **Fātima** [or **Fātima** bint Muḥammad; or Fāṭima al-**Zahrā'**]

<Religion>

17. Abraham Lincoln once leapt out of a first-storey window to prevent the Illinois Legislature from reaching this number. For 10 points each:

[10e] Name this number that can be “busted” in a walkout if the minority party is numerous enough. This is the minimum number of members for an assembly to conduct business.

ANSWER: **quorum** [accept **quorum**-busting]

[10h] Speaker Thomas Reed abolished the “disappearing quorum” in which members of Congress stayed quiet during roll call and subsequently passed this 1890 bill intended to halt disenfranchisement of Black voters; however, it was filibustered to death in the Senate.

ANSWER: **Lodge** Bill [or **Force** Bill or **Federal Elections** Bill]

[10m] Henry Robert created his namesake manual for parliamentary procedure while serving in this organization, which built the Mississippi River Basin Model to test flood control measures like the Old River Control Structure.

ANSWER: **Army Corps of Engineers** [or United States **Army Corps of Engineers**; or **USACE**; prompt on United States **Army**, U.S. **Army**, **military**, United States **Armed Forces**, or equivalents]

<American History>

18. A lone tree looms over a pond and green valley in this artist's pastoral landscape *The Kiss of the Earth*. For 10 points each:

[10h] Name this artist whose *Madonna Oriflamma* includes his “Banner of Peace” symbol. This artist's namesake Upper West Side museum exhibits his many abstract Himalayan landscapes.

ANSWER: Nicholas **Roerich** (“RARE-ick”) [or Nikolai Konstantinovich **Rerikh**; accept Nicholas **Roerich** Museum] (*The Kiss of the Earth* is part of Roerich's set design for *The Rite of Spring*.)

[10e] Roerich helped lead *Mir iskusstva*, or the World of Art movement, which combined influences such as Rococo painting and folk art to critique this group of Russian realists named for their itinerant exhibits.

ANSWER: **Wanderers** [or **Peredvizhniki**]

[10m] An artist with this first name led the Nevsky Pickwickians who started the World of Art movement. An academic artist with this first name and the surname Cabanel painted *The Birth of Venus* and rejected Édouard Manet, creating the Salon des Refusés.

ANSWER: **Alexandre** [or **Alexander**; accept **Alexandre** Cabanel; accept **Alexandre** Benois or **Aleksandr** Nikolayevich Benua]

<Painting & Sculpture>

19. Barium titanate and nitrobenzene can be used in a type of cell that uses this effect to produce microsecond camera shutter speeds. For 10 points each:

[10m] Name this effect that results in a change in index of refraction equal to the product of wavelength, a material-dependent constant, and the square of the strength of the applied electric field.

ANSWER: **Kerr** effect [or **quadratic electro-optic** effect or **QEO** effect; accept **Kerr** cell or **Kerr** shutter; prompt on **EO** effect or **electro-optic** effect]

[10e] Materials subject to the Kerr effect display this phenomenon also exhibited by mica, in which the index of refraction depends on the polarization of light.

ANSWER: **birefringence** [or **birefringent** material]

[10h] The Kerr effect can induce this process for a non-uniform laser beam, canceling out diffraction and allowing the beam to undergo filament propagation. Gugen Askaryan first identified this process in 1962, the same year he proposed the Askaryan effect.

ANSWER: **self-focusing** [or Kerr-induced **self-focusing**; prompt on **focusing**]

<Physics>

20. A woman on honeymoon dies in a hospital after pricking her finger on a rose in this book's story "The Trail of Your Blood in the Snow." For 10 points each:

[10h] Name this collection of stories about Latin Americans in Europe, such as "The Airplane of the Sleeping Beauty." It draws on the author's time as a destitute journalist in Paris.

ANSWER: **Strange Pilgrims** [or **Doce cuentos peregrinos**]

[10e] Gabriel García Márquez also drew on his exile in a novella titled for a cock-fighting veteran with this rank. Aureliano Buendía has this rank in *One Hundred Years of Solitude*.

ANSWER: **colonel** [or **coronel**; accept **Colonel** Aureliano Buendía; accept *No One Writes to the **Colonel*** or *El **coronel** no tiene quien le escriba*]

[10m] In *Strange Pilgrims*, two brothers meet this fate after unscrewing the light bulbs in their Madrid apartment. A story from *Leaf Storm* partly titled for this fate is set in a rocky village where no flowers grow until the title character arrives.

ANSWER: **drowning** [or **ahogo** or **ahogar**; accept "The Handsomest **Drowned** Man in the World" or "El **ahogado** más hermoso del mundo"] (The first story is "Light is Like Water.")

<World Literature>