Tossups

1. During this war, the Spanish diplomat Diego de Gardoqui lent his home to Catholic dignitaries such as Thomas Fitzsimmons. José Solano y Bote ("ee BO-tay") commanded a squadron during this war after the Spanish capture of Fort Bute ("byoot"). To provide arms to a side in this conflict, Luis de Unzaga created Roderigue Hortalez and Company with Pierre Beaumarchais ("bo-mar-SHAY"), who conducted business with Silas Deane. Bernardo de Gálvez led the siege of Pensacola in this war's Gulf Coast campaign. Spain provided gold to the victors of a battle in this conflict in which the Comte de Grasse provided naval assistance. During this war, Charles III sent livestock to a commander at Mount Vernon. For 10 points, name this war in which Spain provided funding during the Battle of Yorktown.
ANSWER: **American Revolution** [or **American Revolutionary** War; or **American** War of **Independence**]
<NS, American History>

2. The speaker of a poem in this collection bemoans the "happy highways where I went / And cannot come again" after invoking a "land of lost content" ("cun-TENT"). In another poem in this collection, a character commands "noisy bells" to "be dumb" after his lover dies as snow falls on Bredon Hill. A tree in this collection "stands about the woodland ride / Wearing white for Eastertide." A speaker in this collection ignores the advice of a "wise man" who says "Give pearls away and rubies / But keep your fancy free." The nostalgic poems "1887" and "Loveliest of trees, the cherry now" open this 1919 collection, which drew on its author's childhood in a West Midlands county. For 10 points, "When I Was One-and-Twenty" appears in what debut collection by A. E. Housman?
ANSWER: *A **Shropshire Lad*** (The first poem is "Into my heart an air that kills.")
<Virginia Tech A, British Literature>

3. A virtuosic A minor sonata for this group of instruments was written for Queen Elisabeth of Belgium. Students often perform from a set of 44 works for this group of instruments by Bartók. A concerto opens with this group of instruments in fugue playing a theme beginning with [read slowly] the sixteenth-note run "D E F G A, up to eighth-note D." Piano accompanies this group of instruments in a Sarasate ("sa-ra-SAH-tay") piece inspired by his birthplace of Navarre. Six B2TSM music videos were released in 2024 as a send-off for an Australian YouTube channel whose name references this group of instruments. Bach's D minor concerto for this pair of instruments was performed in 1905 by Fritz Kreisler and Eugène Ysaÿe ("oo-ZHEN ee-ZYE"). For 10 points, what pair of instruments are joined by viola and cello in a string quartet?
ANSWER: **two violins** [accept **violin duo** or **violin AND violin** or equivalents; accept **TwoSet Violin**; prompt on violins by asking "how many?"; reject "violin"] (The first clue is about Ysaÿe's Sonata for Two Violins.)
<MY, Classical Music>

4. Shot noise in the detector of this technique induces a standard deviation in its main output T proportional to the square root of T times T plus one. In this technique, using the octant rule to predict the Cotton effect can distinguish enantiomers through circular dichroism. Potassium dichromate is a calibration standard for this technique. Using this technique, the purity of a DNA or RNA mixture is characterized by the 260 to 280 ratio. This technique's input value for a highly conjugated compound can be estimated by applying the Woodward–Fieser rules. This technique's primary measurement equals the product of concentration, the path length of a cuvette, and the molar extinction coefficient, by the Beer–Lambert law. For 10 points, name this technique that tracks the absorbance of a sample with respect to low wavelengths.
ANSWER: **ultraviolet** spectroscopy [or **ultraviolet**–visible spectroscopy or **UV** spectroscopy or **UV**/Vis spectroscopy; accept **spectrophotometry**; prompt on spectroscopy]
<MY, Chemistry>

5. This thinker claimed that God created the world instantaneously rather than over the course of six days in the work *The Literal Meaning of Genesis*. This thinker quoted Ticonius's seven rules of interpretation in a work that argued for using signs to properly teach scripture. This thinker influenced Wesleyan–Arminian theology with his distinction between "prevenient" and "operative" grace, which he used to justify predestination. The theologian Pelagius was condemned for denying this thinker's conception of original sin. This author of *On Christian Doctrine* and *On the Trinity* originated the term "just war" in a book contrasting an "earthly" realm with a metaphysical "heavenly" realm. For 10 points, name this theologian who wrote *The City of God* and *Confessions*.
ANSWER: **Augustine** of Hippo [or Saint **Augustine**]
<AK, Religion>

6. A ruler of this dynasty legendarily discovered the Coronation Gospels in a tomb where a ghost cursed him to die without any heirs. The first ruler of this dynasty briefly married the then-nun Hatheburg of Merseburg, causing their son Thankmar to be of questionable legitimacy, before remarrying the queen St. Matilda. The *Liber Tertius* recounting the rise of this dynasty was written by its contemporary Hrotvistha of Gandersheim. A ruler of this dynasty shared power with his canonized wife Adelaide of Italy. The East Francian king Henry the Fowler fathered the namesake of this dynasty, who defeated the Magyars at the 955 Battle of Lechfeld and revived a title first given to Charlemagne. For 10 points, name this first German dynasty to rule the Holy Roman Empire.
ANSWER: **Ottonian** dynasty [or **Ottonen**; accept **Saxon** dynasty or **Ludolfing** dynasty]
<Virginia Tech A, European History>

7. The ideas of Kant, Heisenberg, and this author are considered in parallel in William Egginton's book *The Rigor of Angels*. A character created by this author is irritated that the "dog of three-fourteen" "seen in profile" and the "dog of three-fifteen, seen frontally" are indicated by the same noun. This author may have anticipated the Many Worlds interpretation of quantum mechanics via a story in which a prisoner telegraphs the location of an artillery park by shooting a man. This author wrote a story about a boy who is unable to generalize after falling from a horse and gaining perfect memory. In a story by this author, the German spy Yu Tsun learns that his ancestor's unfinished novel and labyrinth are one and the same. For 10 points, name this author of "Funes the Memorious" and "The Garden of Forking Paths."
ANSWER: Jorge Luis **Borges** ("BOR-hess")
<Virginia Tech A, World Literature>

8. After his death, one of these places housed the body of the African-born Viennese Freemason Angelo Soliman. Ferrante Imperato created a woodcut of one of these places, another of which was set up at Roman College by Athanasius Kircher. Narwhal tusks were popular in these places, such as one kept by Danish polymath Ole Worm. A film titled for one of these places is linked to Hitler's rise in the title of a book by Siegfried Kracauer, used painted sets with pointy forms, and ends with the twist that Franzis is in an asylum. These places name "wonder-rooms" of natural oddities that predated museums, which were called these places "of curiosities." For 10 points, a 1920 German Expressionist horror film is titled for what sort of place "of Dr. Caligari"?
ANSWER: **cabinet**s [accept **cabinet** of **curiosities** or **cabinet** of **curiosity**; accept curiosity **cabinet**; accept *The* **Cabinet** *of Dr. Caligari* or *Das* **Cabinet** *des Dr. Caligari*; accept Wunder**kammer** or Kunst**kammer**; prompt on wonder-<u>rooms</u> or <u>museums</u> until read]
<Yale, Other Academic>

9. Systems that admit low-cost implementations of these constructs may be described as "embarrassingly easy." Hybrid implementations of these constructs may be described as "M:N" ("M-to-N") systems, where M is the number of these constructs being mapped and N is the number of virtual processors. Two operations commonly used when implementing these constructs are denoted P and V, based on two Dutch terms. "Pools" of these constructs consist of "workers" waiting to be allocated to tasks. Issues of synchronization between these constructs are illustrated by the dining philosophers problem. Unlike another construct, these constructs share heap memory, which can cause race conditions when modified at different times. For 10 points, name these smallest units of execution for a process that allow for parallel computation.
ANSWER: **thread**s [accept multi**thread**ing; accept **process**es until "processors" is read; prompt on <u>parallel</u> or <u>concurrent</u> architectures until "parallel" is read]
<UNC B, Other Science>

10. An article analogizes evidence for a form of this ideology to leaving a room with scratches from a black cat on one's arm. That "embedded" form of this ideology was discussed in an article by John Ruggie about the "Postwar Economic Order." In a Stephen Walt essay, a system described by this ideology in the context of the international order is considered "bound to fail." A theory named for this ideology's adjectival form was described in *After Hegemony* by Robert Keohane ("ko-HAIN") and extended by Joseph Nye. A process named for this ideology involves reducing government involvement within industry, leading to increased privatization. For 10 points, laissez-faire capitalism associated with Friedrich Hayek and Milton Friedman is part of what political ideology's "neo" form?
ANSWER: **liberal**ism [accept **liberal**ization; accept embedded **liberal**ism; accept neo**liberal**ism; accept **liberal** constructivism]
<Waterloo A, Social Science>

11. *Description acceptable.* Members of the genus *Roridula* exhibit a borderline form of this process that involves symbiosis with species of assassin bugs. This process was first detailed in an 1875 book by Charles Darwin describing years of experiments studying activity in the *Drosera* genus. Organisms in the genuses *Utricularia* and *Dionaea* have evolved a thigmonastic response to aid this process. The cost–benefit model posits that modifications for this process explain why it is only observed in sunny, moist, and nutrient poor areas. A method for performing this process used by *Nepenthes jamban* involves a combination of sticky mucilage and a pool of enzymes. "Lobster-pot" and "pitfall" traps are used by some species exhibiting this behavior. For 10 points, name this method of deriving nutrients used by the Venus flytrap.
ANSWER: plant **carnivory** [accept **carnivore** or **carnivorous** plants; accept **insectivore** or word forms; accept descriptions of plants **eating meat** or **insect**s or **animal**s; prompt on eating or digestion; prompt on tropism or movement by asking "what behavior are they engaging in by moving?"; prompt on trapping or attracting insects or animals until "traps" is read] (The Charles Darwin book is *Insectivorous Plants*.)
<Yale, Biology>

12. In a film by this director, the song "Strong as I Am" plays as a serial killer tells a blind woman that "Francis is gone forever." The lead actor learned safe-cracking for a film by this director with an electronic score by Tangerine Dream. In 2022, Meg Gardiner and this director wrote a novel as a sequel to one of his films. This director of *Manhunter* and *Thief* pioneered digital cameras on a film whose silver-haired antagonist asks, "yo homie, is that my briefcase?" before killing men who mugged a taxi driver. A showdown near an airport ends a three-hour epic by this showrunner of *Miami Vice*. That 1991 film by this director, known for its realistic gunfire between bank robbers and LAPD officers, stars Robert De Niro and Al Pacino. For 10 points, name this director of the neo-noir crime films *Collateral* and *Heat*.
ANSWER: Michael **Mann** [or Michael Kenneth **Mann**] (The novel is *Heat 2*.)
<AP, Other Fine Arts>

13. In one story, this figure is attacked by a massive three-horned beast called the Odontotyrannos, or "tooth-tyrant." This figure's servant Andreas loses a fish while in the Land of Darkness but subsequently discovers the Water of Life. Hoping to breed a race of strong children, the Amazonian queen Thalestris brought 300 women to this figure. According to Plutarch, a priest at a temple mispronounced the Greek for "my son" while meeting with this figure, who is sometimes depicted with two horns. Plutarch claims that since Artemis was attending to this ruler's birth, her temple at Ephesus burnt down on the same day. An object connecting an ox to a tree was cut in half by this ruler. For 10 points, the Gordian Knot was severed by what Macedonian conqueror of the Achaemenid Empire?
ANSWER: **Alexander the Great** [or **Alexander III** of Macedon; or **Alexandros III**; prompt on Alexander or Alexandros]
<MS, Mythology>

14. An "epistemic add-on" to this problem was posed in a paper that uses the example of Commander Data's trial in a *Star Trek* episode. This problem is "about the performance of functions" like reportability and requires an "extra ingredient," in contrast to a related problem about functions themselves, according to a paper "Facing Up to" both. A garage rock band lends its name to a view supported by Colin McGinn that this problem is unsolvable by humans, called new mysterianism. The "explanatory gap" refers to the difficulty of physicalist models in solving this problem, the name for which was coined by David Chalmers. For 10 points, name this problem in the philosophy of mind that asks how neurological processes give rise to subjective experience.
ANSWER: **hard** problem of consciousness [prompt on the problem of consciousness or descriptions; prompt on explanatory gap until read] (The paper in the first sentence is "The Harder Problem of Consciousness" by Ned Block, and the paper in the second sentence is "Facing Up to the Problem of Consciousness" by David Chalmers.)
<Virginia Tech A, Philosophy>

15. The right side of a painting of this person features a large cabinet referencing the story of Cornelia, as well as a young boy pulling back a green cloth from an empty cradle. A portrait of this person "with a Rose" was repainted to show this person in more formal attire. In a painting located in the Uffizi's Vasari Corridor, an artist in a red sash and white hat holds a palette while painting this person. That artist, who worked for and frequently painted this person, also painted a *Self-Portrait in a Straw Hat*. A biopic of this woman by Sofia Coppola portrays her signature "pouf" and the extravagant creations, such as a model ship, that were made for her hair. For 10 points, Élisabeth Vigée Le Brun ("vee-ZHAY luh brun") painted many portraits of what wife of Louis XVI?
ANSWER: **Marie Antoinette** [or **Marie Antoinette** Josèphe Jeanne; or **Maria Antonia** Josepha Johanna; prompt on Marie or Antoinette]
<Harvard A, Painting and Sculpture>

16. The narrator describes a river that has "two shores: / the one in hell, the other / in [this US state]" in a poem titled for a [emphasize] *neighboring* state's "Oldest Whorehouse." Sons who "grow suicidally beautiful" appear in a poem titled "Autumn Begins in" a town in this state. This was the home state of the poet of *The Branch Will Not Break*, James Wright, who contributed to a literary magazine founded at a college in this state by John Crowe Ransom. In a story, a teacher's tendency to caress his students forces him to flee [emphasize] *to* this state and change his name from Adolph Myers. Wing Biddlebaum appears in a collection set in this state introduced as a "Book of the Grotesque." For 10 points, the story "Hands" appears in a Sherwood Anderson collection set in what state's fictional town of Winesburg?
ANSWER: **Ohio** [or **OH**; accept *Winesburg, **Ohio***] (The magazine is *The Kenyon Review*.)
<Waterloo A, American Literature>

17. A primary source marvels at this ruler's poetic quoting of the line "Tis by the hand of the mighty Aeneas you perish" when executing an opponent, as this ruler was a so-called "military man." A column erroneously known as "Pompey's Pillar" honors this ruler as *polioúchos* ("po-lee-OO-koss") of Alexandria, the city where he defeated Aurelius Achilleus ("ack-il-AY-us"). The final section of the *Historia Augusta* records this ruler's killing of Aper ("AY-per") after the death of Numerian. This ruler reformed his empire by grouping new, smaller provinces into a system of twelve dioceses. The destruction of a church in Nicomedia in 303 CE began the Great Persecution instituted by this ruler, who also issued the ineffective Edict on Maximum Prices. For 10 points, name this emperor who co-ruled with Maximian before establishing the Tetrarchy.
ANSWER: **Diocletian** [or Gaius Aurelius Valerius **Diocletianus**; or **Diokletianós**; accept **Diocles**; prompt on Jovius] (The first sentence refers to Diocletian's killing of Aper in the *Historia Augusta*.)
<Waterloo A, Other History>

18. This particle is the heaviest theorized to occur in a stable three-particle mixture proposed by Bodler and Witten. The "eta–eta-prime puzzle" concerns two composite particles with different numbers of this particle. Pair production of this particle occurring from gluon fusion is used to determine the formation of QGPs. This particle occurs in the lightest lambda baryons. Electric charge and a property characterizing this particle were proposed to describe the "eightfold way" classification of mesons and hadrons. This fundamental particle is the lightest to have an isospin of zero. The unusually long lifetime of kaons is due to this particle, since they consist of one of these second-generation particles along with an up or down quark. For 10 points, name this quark paired with charm.
ANSWER: **strange** quark [or **sideways** quark; accept **strange**ness or **strange** matter or **strange**lets; accept **s** quark; reject "squark"]
<MY, Physics>

19. Letters between members of this family make up the second half of the memoir *491 Days*, the amount of time one of them spent in solitary confinement. A member of this family stated that "with our boxes of matches and our necklaces, we shall liberate this country," which was seen as endorsing extrajudicial killings called necklacings. Jerry Richardson led a group of violent bodyguards of a member of this family that killed teenage activist Stompie Seipei, known as [this family's] "United Football Club." A member of this family referenced the Sharpeville massacre in a speech in which he claimed a "democratic and free society" is "an ideal for which I am prepared to die," which was delivered during the Rivonia Trial. For 10 points, name this family of Winnie and the first president of South Africa, Nelson.
ANSWER: **Mandela** family [accept Nelson **Mandela**; accept Winnie Madikizela-**Mandela**; accept **Mandela** United Football Club; prompt on Winnie Madikizela or Nomzamo Winifred Zanyiwe Madikizela by asking "into what family did she marry?"]
<Harvard A, World History>

20. The oppressive heat of the setting of this play is mentioned in a scene where a character angrily discards a fan with red and green flowers. While holding a lamb like a baby, a senile character in this play declares her intent to get married by the seashore. A character in this play claims to be playing a joke when a photograph of a man is found hidden in her bed. This play's second act concludes as a woman is beaten to death offstage for killing the baby she conceived out of wedlock. The male suitor Pepe el Romano never appears onstage in this play, whose cast only has female characters. This play ends with the title character demanding silence after learning that Adela has hanged herself. For 10 points, the title matriarch oppresses her daughters in what play by Federico García Lorca?
ANSWER: The ***House of Bernarda Alba*** [or *La **Casa de Bernarda Alba***]
<Harvard A, European Literature>

Bonuses

1. This leader was asked to leave the AUSSOM mission after he recognized a government in exchange for a naval base. For 10 points each:
[10m] Name this leader of the Prosperity Party who agreed to end a border conflict by ceding the town of Badme. This leader launched a war with a northeastern neighbor in 2020 after winning the 2019 Nobel Peace Prize.
ANSWER: **Abiy** Ahmed [or **Abiy** Ahmed Ali; prompt on Ahmed]
[10h] Under Abiy, Ethiopia has also raised tensions with nearby nations after finishing construction of this massive project on the Blue Nile, located near the country's border with Sudan.
ANSWER: **Grand Ethiopian Renaissance Dam** [or **Hidase Dam** or **Millennium Dam**; accept Tālāqu ye-Ītyōppyā **Hidāsē Gidib**]
[10e] Ethiopia has feuded with this country over the control it will have over waterflow that ends up in the Nile. This country has been governed by Abdel Fattah el-Sisi since 2014.
ANSWER: **Egypt** [or **Misr**]
<Waterloo A, Current Events>

2. A figure named for this concept lives in the thirteenth "aeon," according to a text named for this concept narrated by Jesus. For 10 points each:
[10m] What concept names a genre of ancient literature that includes the Book of Job?
ANSWER: **wisdom** [or **sophia**; accept **wisdom** literature; or *hokhmah*; or *khokhmah*; accept *Pistis **Sophia***; reject "knowledge"]
[10e] Sophia is represented as a divine feminine figure in many of these traditions. Many of these traditions, named for their emphasis on spiritual knowledge, believe in a malevolent "demiurge."
ANSWER: **Gnostic**ism [or **Gnostic** traditions]
[10h] In Gnosticism, Sophia is the creator of the first of these figures, Yaldabaoth. The Nag Hammadi library contains a Gnostic text about the *Hypostasis of* these figures, five of whom rule the "Kingdom of Darkness" in Manichaeism.
ANSWER: **archon**s [or **archon**tes; accept *Hypostasis of the **Archon**s*]
<AK, Religion>

3. In Turkish, the front version of this phenomenon leads to the inclusion of "de" suffixes, while its back form requires "da" suffixes. For 10 points each:
[10m] Name this "long-distance" assimilation phenomenon. The Hungarian dative suffixes "nak" and "nek," which match the class of earlier vowels, result from this phenomenon.
ANSWER: vowel **harmony**
[10e] Vowel harmony is a rule in many Uralic languages studied in this subfield of linguistics that, in contrast to morphology, examines the organization of sound patterns.
ANSWER: **phonology**
[10h] In Finnish, seven of these morphemes change according to vowel harmony, such as "-kO" and "-kA." These morphemes resemble a word but depend phonologically on an adjoining word.
ANSWER: **clitic**s [or en**clitic**s]
<NS, Social Science>

4. The archaeologist Linda Schele ("SHEE-lee") popularized the association of warfare events with a glyph that combines one of these objects with a shell. For 10 points each:
[10e] Name these celestial objects whose "wars" name Mayan conflicts. The planet Venus was often referred to as the "morning" or "evening" one of these objects.
ANSWER: **star**s [or **ek'**; accept **star** wars; accept Morning **Star** or Evening **Star**]
[10m] This city lost the first recorded "star war" in 562 CE to its main rival, beginning a namesake hiatus. This city later fought a cold war against that rival, Calakmul ("kah-lahk-MOOL"), using vassal cities it controlled in Guatemala's Petén ("peh-TEN") basin.
ANSWER: **Tikal** ("tih-KAHL") [or Yax **Mutal** or Yax **Mutul** or First **Mutal**]
[10h] Altar 21 in this city, which was initially a vassal of Tikal before changing sides, records the 562 defeat of Tikal by Calakmul. The Hieroglyphic Stairway at Naranjo ("na-RAHN-ho") records the reign of this city's ruler K'an II.
ANSWER: **Caracol**
<MS, Other History>

5. The majority of this novel consists of the recollections of the narrator while waiting inside a periscope in the Musée des Arts et Métiers ("moo-ZAY day ZAR ay mate-YAY"), which also contains this novel's title object. For 10 points each:
[10m] Name this novel in which three men use the computer Abulafia to invent an intricate conspiracy theory called The Plan.
ANSWER: ***Foucault's Pendulum*** [or *Il **pendolo di Foucault***]
[10e] The protagonists of Umberto Eco's novel *Foucault's Pendulum* discover a plot for world domination by this medieval order of Catholic knights, who are the guardians of the Holy Grail in *The Da Vinci Code*.
ANSWER: Knights **Templar** [or the **Templar**s]
[10h] The Templar plot revolves around controlling these currents of energy, which flow to an "Omphalos" at the center of the earth. Thomas Pynchon's *Mason & Dixon* describes these forces as a secret communication system through a Hollow Earth.
ANSWER: **telluric** currents [prompt on Earth current_s or current_s]
<Virginia Tech A, European Literature>

6. The partial derivatives of this quantity with respect to q and q-dot appear in a second-order PDE co-named for Euler. For 10 points each:
[10e] Name this quantity defined as kinetic energy minus potential energy, which is used in a formulation of classical mechanics contrasted with Hamiltonian mechanics.
ANSWER: **Lagrangian** [accept **Lagrangian** mechanics]
[10m] The variable q in the definition of the Lagrangian is a generalized one of these quantities. These quantities are called "cyclic" or "ignorable" if they correspond to a constant of motion.
ANSWER: **coordinate**s [accept generalized **coordinate**s or cyclic **coordinate**s]
[10h] In a system with cyclic coordinates, the equations of motion can be solved using a method named for this physicist, which defines a new quantity from the Lagrangian and Hamiltonian. With Hurwitz, this physicist names a stability criterion for control systems.
ANSWER: Edward **Routh** ("rao'th") [or Edward John **Routh**; accept **Routh**'s method or **Routhian** mechanics; accept **Routh**–Hurwitz criterion]
<Virginia Tech A, Physics>

7. An ethnic group opposed the achievement of this goal without a corresponding *taksim* that would partition Cyprus. For 10 points each:
[10m] What Greek word meaning "union" names the political goal of Cyprus's unification with the Greek mainland? This goal was pursued by members of the EOKA-B ("ay-OH-kuh B") guerrilla group.
ANSWER: *__enosis__*
[10h] The EOKA-B was led by this general, who fought both Axis forces during World War II and British forces after the war. This general resisted both the military regime in Greece and Archbishop Makarios III before his death in 1974.
ANSWER: Georgios **Grivas** [accept **Digenis**]
[10e] A pro-enosis coup supported by the Regime of the Colonels in Greece led to an invasion of Cyprus by this country. That invasion by this country installed a friendly government that controls the island's north today.
ANSWER: **Turkey** [or **Türkiye**; or Republic of **Türkiye**; or **Türkiye** Cumhuriyeti]
<Waterloo A, European History>

8. This genus contains a bacterium sometimes spread by armadillos, which can invade Schwann cells and lead to severe nerve damage. For 10 points each:
[10m] Name this genus of bacteria. A species of bacteria in this genus attacks macrophages after entering the lungs, forming granulomas and causing infected patients to cough up blood.
ANSWER: **Mycobacterium** [or **Mycobacteria**; accept **Mycobacterium** leprae; accept **Mycobacterium** tuberculosis]
[10e] Mycobacteria such as those that cause tuberculosis are often identified by an "acid-fast" form of this technique. This technique applies dyes to specimens to make them more visible under a microscope.
ANSWER: **stain**ing [or word forms; accept acid-fast **staining** or Ziehl–Neelsen **staining**]
[10h] The presence of phenol in this dye allows it to penetrate the lipid-rich walls of Mycobacteria, making it the primary stain used in the acid-fast stain. This dye is also sometimes used instead of safranin as a counterstain in Gram staining.
ANSWER: carbol **fuchsin** [or **carbolfuchsin**; or **Castellani's paint**; accept basic **fuchsine**]
<Virginia Tech A, Biology>

9. After reading Hermann von Helmholtz's *Sensations of Tone*, Harry Partch burned all his previous work to devote himself to systems of this type. For 10 points each:
[10h] Give the exact term used to describe the compositional system of Ben Johnston. Partch introduced the analysis of systems of this type via odd numbers of "limits."
ANSWER: **just** intonation [or **pure** intonation; prompt on microtonal or xenharmonic or descriptions of using whole-number ratio intervals or unusual tuning or intonation; prompt on JI]
[10m] This composer of *A Rainbow in Curved Air* recorded the albums *Shri Camel* and *The Harp of New Albion* in just intonation. Performers repeat 53 short fragments in a piece by this composer simply titled for its key.
ANSWER: Terry **Riley**
[10e] Terry Riley's fragmented piece for an indefinite number of musicians is titled for being *In [this key]*. This fundamental major key of Johnston's notation contains no sharps or flats.
ANSWER: **C** major [accept *In **C***]
<JC, Classical Music>

10. An author from this region wrote a picaresque novel in which the protagonist desperately searches for a cure for his butt pain called *Kisses in the Nederends*. For 10 points each:
[10h] Name this transnational region whose most acclaimed author, Albert Wendt, wrote *The Leaves of the Banyan Tree* and *Black Rainbow*.
ANSWER: South **Pacific** Islands [accept **Polynesia**; accept **Samoa**; accept **Tonga**; prompt on Oceania] (*Kisses in the Nederends* is by Tongan author Epeli Hau'ofa. Albert Wendt is from Samoa.)
[10m] A University Press based in this country has published Pacific literature like Victoria Nalani Kneubuhl's ("NEW-bull's") *Island Plays* and the poems of Wayne Kaumualii Westlake. Asian-Pacific writers Cathy Song and Hanya Yanagihara were born in this country.
ANSWER: **United States** [or **United States** of America; or **US**A; accept **America**]
[10e] The University of Hawaii's *Talanoa* literature series has also published fiction by Witi Ihimaera ("WIT-ee ee-hee-MY-ruh") and Patricia Grace, two members of this Indigenous ethnic group of New Zealand.
ANSWER: **Māori**
<TH, World Literature>

11. Thelma Golden's 2001 exhibition *Freestyle* introduced the term "post-Black art" for a movement in which African-American artists distance themselves from race while remaining interested in it. For 10 points each:
[10e] Pieces in the exhibition by Mark Bradford and Kori Newkirk incorporated products like pomade, which is most often used with what material? This material is manipulated in Jheri curls and box braids.
ANSWER: **hair**
[10m] Glenn Ligon, who coined the term "post-Black" with Golden, made many works that place these elements over a white background. Barbara Kruger put these elements in a square overlaid on a hand in *I shop therefore I am*.
ANSWER: **word**s [or **text**; or **letter**s]
[10h] The exhibition is a focus of a book by Touré ("too-RAY") whose title precedes "Post-Blackness" with these three words. In an artwork whose title begins with these three words, a woman opens a Harlem restaurant with her husband, Big Rufus.
ANSWER: **Who's Afraid of** [accept **Who's Afraid of** *Aunt Jemima?*; accept **Who's Afraid of** *Post-Blackness?*] (*Who's Afraid of Aunt Jemima?* is a narrative quilt by Faith Ringgold.)
<Waterloo A, Painting and Sculpture>

12. A play by this author begins with an excerpt of a real-life chat log between an 18-year-old boy and a former mayor of Spokane, Washington, using the handle "theright-biguy." For 10 points each:
[10h] Name this American playwright who depicted three teenagers' plan to expose their predatory teacher in *Speech and Debate*. This author won a Tony Award for Best Play in 2016 for *The Humans*.
ANSWER: Stephen **Karam** ("CARE-um")
[10m] In *Speech and Debate*, the precocious Diwata performs a one-woman musical centered on a maid from this play. That character gives a pregnant woman a "poppet" stuck with a needle in this play.
ANSWER: The **Crucible** (by Arthur Miller)
[10e] In 2016, Karam produced a semi-translated vernacular adaptation of a play by this author. Christopher Durang's play *Vanya and Sonia and Masha and Spike* riffs on *Uncle Vanya* and other plays by this Russian author.
ANSWER: Anton **Chekhov**
<HG, American Literature>

13. The *Haerye* ("HEH-r'yeh") commentary helps explain how to use this system, whose creation is commemorated by a national holiday on October 9. For 10 points each:
[10m] Name this system said to be easy enough to understand that even a stupid man could learn how to use it in ten days.
ANSWER: **Hangul** [or **Hangeul**; or **Chosongeul**; accept **Korean alphabet** or **Korean script**; prompt on Korean; prompt on alphabet or script]
[10e] Hangul was created to replace the use of Chinese characters in Korea by Sejong the Great, a leader of this Korean dynasty that fell in 1910 after a Japanese invasion.
ANSWER: **Joseon** dynasty [or **Choson** dynasty; or Great **Joseon** State]
[10h] During the 16th century, the use of Hangul was banned by the "tyrant king" Yeonsangun ("YUN-sahn-goon"), who initiated the *sahwa*, or literati purges, against this group. This neo-Confucian faction opposed the Hungu faction under King Sejo.
ANSWER: **Sarim** [or **Saarim**; accept "**forest of scholars**" faction]
<AK, World History>

14. Answer the following about mythological interpretations of auroras, for 10 points each.
[10m] In Inuit mythology, the Northern Lights are believed to be children playing ball with the skull of a walrus, an animal created when this sea goddess's fingers were cut off by her father Anguta.
ANSWER: **Sedna** [or **Sanna**]
[10e] The Gunai people of this country believe the Southern Lights to be fire from the spirit world. Nabunum the eel made the frog Tiddalik laugh, releasing all the world's water, in the mythology of this country's Aboriginal peoples.
ANSWER: **Australia** [or Commonwealth of **Australia**]
[10h] In Chinese mythology, this figure was conceived either by an aurora or lightning from the Big Dipper. In the *Records of the Grand Historian*, this figure teamed up with the emperor Yuwang to win the battle of Zhuolu.
ANSWER: **Yellow** Emperor [or **Yellow** Thearch or **Huangdi** or **Xuānyuán**] (Huangdi legendarily founded huaxia civilization after winning Zhuolu.)
<Yale, Mythology>

15. A novel by Eugene Burdick and William Lederer titled in reference to this older novel follows the engineer Homer Atkins and has come to name a type of obnoxious and ignorant foreign visitor. For 10 points each:
[10h] Name this novel in which the narrator is left by his mistress Phuong for a man he suspects is working for the CIA, the idealist Alden Pyle.
ANSWER: *The **Quiet American*** (The Burdick and Lederer novel is *The Ugly American*.)
[10e] This novelist set *The Quiet American* in Vietnam. This British author's other novels set abroad include *Our Man in Havana* and *The Power and The Glory*.
ANSWER: Graham **Greene** [or Henry Graham **Greene**]
[10m] The narrator of *The Quiet American*, Thomas Fowler, holds this profession. William Boot travels to the fictional East African country of Ishmaelia as a member of this profession in a novel by Evelyn Waugh.
ANSWER: **journalist** [or **reporter** or member of the **press** or a foreign **correspondent**; accept **newspaper** writer; prompt on writer] (Waugh's novel is *Scoop*.)
<Waterloo A, British Literature>

16. The linear relationship between these two quantities for closely-related reactions, such as similar solvents or substituents, may be a statistical artifact. For 10 points each:
[10h] Name both of these two quantities subject to a "compensation effect" that is a sufficient condition for LFERs ("L-F-E-R's").
ANSWER: **entropy** AND **enthalpy** [accept **enthalpy–entropy** compensation; accept **S** in place of "entropy"; accept **H** in place of "enthalpy"]
[10e] LFERs model linear relationships for this quantity, which is defined as the enthalpy of a system minus the product of temperature and entropy.
ANSWER: **Gibbs free energy** [or **G**; or **Gibbs energy** or **reaction energy**; prompt on free <u>energy</u> or potential <u>energy</u>]
[10m] This scientist's namesake plot of "log K-sub-eq" against inverse temperature has enthalpy and entropy in the formulas for its intercept and slope, respectively. A quantity named for this scientist is less than one for compounds that dimerize in solution.
ANSWER: Jacobus Henricus **van 't Hoff** ("van utt HOFF") [accept **van 't Hoff** equation or **van 't Hoff** plot or **van 't Hoff** factor]
<Harvard A, Chemistry>

17. This musician was working as a janitor in Detroit when he recorded his breakthrough single, which B. B. King gave heavy airplay while working as a radio DJ in Memphis. For 10 points each:
[10h] Name this blues guitarist who wrote the songs "Boogie Chillen'" and "Boom Boom."
ANSWER: John Lee **Hooker**
[10m] Like Hooker, this guitarist who recorded "Hoochie Coochie Man" was able to quit his day job after his first hit. Mick Jagger named The Rolling Stones after that recording by this Chicago blues guitarist, who was known by a two-word nickname.
ANSWER: **Muddy Waters** [or McKinley **Morganfield**; prompt on <u>Waters</u>]
[10e] A band from this country recorded blues classics like "Boom Boom" and "The House of the Rising Sun" for their debut self-titled album, *The Animals*. The US experienced a 1960s "invasion" of music acts from this country.
ANSWER: **United Kingdom** [or **UK**; or **United Kingdom** of Great Britain and Northern Ireland; accept Great **Britain**; accept **England**; accept **British** Invasion]
<Waterloo A, Other Fine Arts>

18. G. E. Schulze's skepticism about the existence of this concept in his *Aenesidemus* ("eh-ness-ih-DEE-muss") partly inspired Johann Fichte to abandon this concept in his *Wissenschaftslehre* ("VISS-in-shafts-LAY-ruh"). For 10 points each:
[10m] Give the English or German term for this concept that is often linked with the *noumenon*. The transcendental idealism presented in *Critique of Pure Reason* distinguishes this unknowable concept from its appearances.
ANSWER: **thing**-in-**itself** [or ***Ding** an **sich***; or **things**-in-**themselves**; prompt on <u>thing</u>s]
[10e] This German philosopher expounded his view of the thing-in-itself in his *Critique of Pure Reason*.
ANSWER: Immanuel **Kant**
[10h] In her first book, Rae Langton referred to Kant's view that we cannot know the thing-in-itself as a "Kantian" form of this trait. The "epistemic" form of this trait refers to the view that one's knowledge is always incomplete.
ANSWER: **humility** [accept Kantian **humility** or epistemic **humility**]
<TM, Philosophy>

19. The so-called "Grand Village" of these people, also called Old Kaskaskia Village, was where Jacques Marquette celebrated Mass near Starved Rock despite being terminally ill. For 10 points each:
[10h] Name these people who included the Moingwena and Tamaroa tribes. These people, who clashed with the Fox, formed a confederation that inhabited a region of New France called Upper Louisiana.
ANSWER: **Illinois** Confederation [or **Illiniwek**; or **Illini**]
[10e] The Illinois Confederacy included a tribe of this name that clashed with the Shawnee and Meskwaki. The largest center of Mississippian culture, located near St. Louis and known for burial mounds, had this name.
ANSWER: **Cahokia**
[10m] The population of Illinois plummeted after disease spread during these 17th-century conflicts, primarily fought between the Iroquois and French-allied tribes. These conflicts ended with the Great Peace of Montreal.
ANSWER: **Beaver** Wars
<NS, American History>

20. This natural phenomenon causes an increase in earthquake frequency as a consequence of Mohr–Coulomb theory. For 10 points each:
[10h] Name this phenomenon that creates forebulges due to elastic lateral stress on the lithosphere. The Arun River's contribution to this phenomenon has been hypothesized to affect Mount Everest's height.
ANSWER: **isostatic rebound** [or **post-glacial rebound**; prompt on rebound; prompt on glacial isostasy or glacial isostatic adjustment]
[10m] The mechanism of isostatic rebound occurs due to pressure from this layer. This layer forms a low-velocity zone for seismic waves and causes seafloor spreading.
ANSWER: **asthenosphere** [prompt on mantle]
[10e] Measurements of this quantity account for gravitational variations from isostatic rebound. Global warming has caused a several-inch increase in this quantity over the past century, some of which is from melting glaciers.
ANSWER: mean **sea level** [or **MSL**]
<Yale, Other Science>