

ACF Fall 2019

Packet by Grinnell, Millersville, Notre Dame A

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Tossups

1. These compounds are produced in a process whose first step is the reaction of an aliphatic carboxylic acid with TCBC. The catalyst DMAP is used in conjunction with DCC to form these compounds. A member of this class of compounds reacts with a hydroxide nucleophile to generate a carboxylate and an alkoxide leaving group in a process called saponification. The cyclic form of these compounds are called lactones, and they can be synthesized via Claisen condensation or by the acid-catalyzed reaction of an alcohol with a carboxylic acid under reflux, a reaction named for Emil Fischer. For 10 points, name these fruity-smelling compounds with general formula R-C-O-O-R.
ANSWER: **esters** [accept **lactones** until read]

<Chemistry>

2. This author was investigated by MI5 after naming the unlikable character Major Bletchley after Bletchley Park. That character appears in a novel by this author featuring the duo Tommy and Tuppence, titled *N or M?* In another novel by this author, a reckless driver dies of cyanide after a gramophone recording accuses each of U. N. Owen's dinner guests of committing murder. In that novel, Vera Claythorne hangs herself after Justice Wargraves orchestrates a series of murders based on the poem "Ten Little Soldier Boys" on a coastal island. For 10 points, name this English murder mystery writer of *And Then There Were None*, who also created the detective Hercule Poirot ("pwah-ROH").

ANSWER: Agatha **Christie**

<British Literature>

3. A song named for this genre introduced the "Bird changes." Cannonball Adderley sat out on a song named for this genre often credited to Bill Evans; that song is followed by another piece named for this genre in G Mixolydian. Charlie Parker wrote one of these pieces "for Alice." Notes on the lowered third, fifth, and seventh scale degrees are nicknamed for this genre. An album titled in reference to this genre contains the tracks "Freddie Freeloader" and "So What" and makes liberal use of this genre's namesake twelve-bar progression. For 10 points, name this genre of music that titles a modal 1959 Miles Davis album, which was allegedly joined with "rhythm" in early R&B.

ANSWER: the **blues** [accept jazz **blues** or "**Blues for Alice**" or "**Blue in Green**" or "**All Blues**" or ***Kind of Blue*** or **blue** notes or **twelve-bar blues** or **rhythm and blues**]

<Other Arts>

4. Ned Block's brute-force "Blockhead" challenges a construct proposed by this scholar's October 1950 article in *Mind*. That article by this thinker was later critiqued for not distinguishing "formal symbol manipulation" from understanding language. In that article, this scholar described a game whose participants goad the interrogator into incorrectly guessing their gender. John Searle ("surl") analogized a test proposed by this thinker to a man in a locked room who uses a dictionary to fraud knowledge of Chinese. For 10 points, name this scientist who used the "imitation game" to explain a namesake test to distinguish humans from computers.

ANSWER: Alan **Turing** [or Alan Mathison **Turing**]

<Philosophy>

5. In 1961, a populist president of this country banned bikinis and resigned seven months into his term due to the evil power of "occult forces." A dictatorship in this country restricted freedoms through the Institutional Acts after toppling João Goulart ("zh'WOW goo-LAR"). A failed assassination attempt on Carlos Lacerda led to the suicide of a longtime corporatist leader of this country, who ended its "coffee with milk" political period and created its

state-owned oil monopoly Petrobras. That man founded this non-European country's Estado Novo ("ee-STAH-doo NOH-voo") and was named Getúlio Vargas. For 10 points, name this South American country governed until 1960 from Rio de Janeiro.

ANSWER: **Brazil** [or Federative Republic of **Brazil**]

<World History>

6. The Navier–Stokes equations are nonlinear due to a convective form of this quantity. This quantity and charge are squared when determining the power radiated by a nonrelativistic point charge in a formula named for Larmor. Charged particles that are repeatedly reflected experience a form of this quantity named for Fermi. Changes in this quantity lead to the production of "braking radiation," or bremsstrahlung. The angular form of this quantity is equal to torque divided by moment of inertia. This quantity is equal to the net force divided by mass according to Newton's second law. For 10 points, name this quantity defined as the rate of change of velocity.

ANSWER: **acceleration** [accept angular **acceleration** or Fermi **acceleration** or convective **acceleration** or **deceleration**; prompt on *a*]

<Physics>

7. One story explains that this god's lack of popularity results from an intentional disrespect by Bhṛigu. In another such story, this god induced the *ketaki* flower to bear false witness that he had found the end of an infinite pillar of flame, after which this god was cursed to not be worshipped. This god is often depicted carrying a water-pot, a sceptre, a spoon, and the Vedas. The Matsya Purana explains that this husband of Saraswati grew five heads to search the world for the beautiful Satarupa, but one of them was cut off by Shiva, so he now has four. For 10 points, name this member of the Trimurti who is referred to as the "creator."

ANSWER: **Brahma** [or **Brahm**; do not accept or prompt on "Brahman" or "Rama"]

<Mythology>

8. A novel by this author includes a story about an aspirin salesman who is taught by a psychiatrist to hate children after killing a child with his car. The homeless drunkard Anselmo plays his harp in the title structure, built by his daughter Chunga, in this author's novel *The Green House*. A character nicknamed "The Slave" is shot in the head for revealing Cava stole a chemistry exam under Jaguar's orders in a novel by this author set at the Leoncio Prado Military Academy, titled *The Time of the Hero*. Another novel by this author features the Panamericana writer Pedro Camacho's radio serials. For 10 points, name this Peruvian author of *Aunt Julia and the Scriptwriter*.

ANSWER: Mario **Vargas Llosa** ("YO-suh") [or Jorge Mario Pedro **Vargas Llosa**]

<World/Other Literature>

9. During an 1843 salute given while sailing past this location, two cabinet secretaries died in an explosion on the USS *Princeton*. Ann Pamela Cunningham organized a "Ladies Association" that revitalized this location in the 1860s. A conference held at this place in 1785 settled water rights between Maryland and Virginia and helped inspire the Constitutional Convention. The owner of this estate, whose half brother Lawrence named it after a British admiral, returned to it after resigning as commander in chief of the Continental Army and again after leaving the presidency in 1797. For 10 points, name this plantation, the home of George Washington.

ANSWER: **Mount Vernon**

<American History>

10. This painting's central figures have the same pose as a group in a painting by Francesco Hayez with the same name. This painting was initially sold for a high sum of 25,000 crowns, likely to compensate for a series of ceiling murals rejected by a university for being pornographic. This painting, which was inspired by its artist's viewing of Byzantine mosaics at the Basilica San Vitale, depicts one figure wearing a crown of vines and a robe with black and white rectangles. Two figures stand on a bed of flowers in this painting, which is the culmination of its artist's "Golden Period." For 10 points, name this Gustav Klimt painting of two lovers performing the title action.

ANSWER: *The Kiss* [or *Der Kuss*]

<Painting/Sculpture>

11. Romberg's method uses Richardson extrapolation to perform this task. The residue theorem can be used to perform the "contour" type of this task in the complex plane. Fubini's theorem allows one form of this process to be performed by using an "iterated" method, and Green's theorem can be used to evaluate the "line" variant of this operation. Limits are used to define the "improper" type of this operation, which can be done "by parts" or "by substitution." This operation can be approximated with Riemann sums, and in the *xy*-plane, it generally describes "area under a curve." For 10 points, name this inverse of differentiation.

ANSWER: integration [accept taking an integral; accept contour integral or iterated integral or line integral or improper integral or integration by parts or numerical integration; accept quadrature; prompt on antiderivative]

<Other Science>

12. A character in this play says his "balls feel like concrete" after telling a story in which a woman brings him a cigarette after sex. In a scene in this play, two characters discuss the difficulty of interacting with people with the surname Patel. A character in this play pretends to be Ray Morton, an executive from American Express. In a scene from this play which is set in a Chinese restaurant, a character talks to James Lingk. A contest for a Cadillac is won by Ricky Roma in this play, which also features Shelley "The Machine" Levene stealing a list of leads. For 10 points, name this play about real estate agents, written by David Mamet.

ANSWER: Glengarry Glen Ross

<American Literature>

13. In the early 1900s, an originally high-class women's argot in this language was mocked as "teyo dawa speech." Female speakers are more likely to add "beautification" prefixes such as *o-* and *go-* to make words more polite in this tongue. As in Thai, men and women tend to use different first-person pronouns to communicate gender expression in this language. In this language, young ladies may refer to themselves in the third-person while using the diminutive honorific suffix *-chan* ("chahn") rather than the more formal *-san* ("sahn") or using the pronouns *boku* or *watashi*. For 10 points, name this language that women traditionally wrote in the *hiragana* script instead of Chinese-derived *kanji*.

ANSWER: Japanese [or Nihongo]

<Social Science>

14. During this decade, the recently formed GSG 9 unit successfully rescued the hostages aboard Lufthansa Flight 181 after its forced landing in Mogadishu. Three concurrent, unlikely suicides on the so-called "Death Night" during this decade prompted the execution of Hanns-Martin Schleyer to close out the "German Autumn." The Red Brigades' kidnapping and murder of former Italian prime minister Aldo Moro occurred during this decade, as did the slaying of eleven Israeli athletes by members of Black September during the Summer Olympics in Munich. For 10 points, name this decade that featured the rise of multiple European left-wing terrorist groups concurrently with the end of the Vietnam War.

ANSWER: 1970s [prompt on '70s] (The group in the first two sentences is the Red Army Faction.)

<European History>

15. In fish, the Root effect occurs in this protein, embryonic types of which are named Portland and Gower. This protein can alternate between its tense T state and its relaxed R states. A breakdown product of this protein is conjugated to glucuronate for excretion in bile and is called bilirubin. Thalassemia is caused by the abnormal production of this protein, which consists of two alpha and two beta subunits. A glutamic acid substitution on this protein results in a disease that confers partial resistance to malaria; that disease is sickle cell anemia. For 10 points, name this iron-containing protein that carries oxygen in red blood cells.

ANSWER: hemoglobin [accept Hb or Hgb]

<Biology>

16. A recurring theme in this work begins *canto espressivo* with the notes [read slowly] “long low G, C, low G, up to short E, long E, long F,” and was taken from the composer’s earlier *Herminie* (“air-mee-NEE”). The autograph score’s solo cornet part is sometimes added to this work’s second movement, which uses a waltz in 3/8 (“three-eight”) to depict a ball. This symphony was written after the composer saw *Hamlet* and fell in love with the Irish actress playing Ophelia. An offstage oboe trades a *ranz des vaches* (“rahntz day vahsh”) with an English horn in this symphony’s third movement, which depicts shepherds in the field. An *idée fixe* (“ee-day FEEKS”) is heard in all five movements of this symphony, which was written under the influence of opium. For 10 points, name this first symphony by Hector Berlioz.

ANSWER: ***Symphonie fantastique*** [accept translations like ***Fantastical Symphony***; accept **Berlioz**’s **first** until “first symphony” is read; accept **Berlioz’s Op. 14**] (The first line refers to the *idée fixe*; the actress was Harriet Smithson.)

<Classical Music>

17. Interrogation tactics known as the “five techniques” were originally developed for use in this region as part of Operation Demetrius. After losing their “special category status,” prisoners in this region chose to wear bedsheets rather than prison garb and smeared excrement across their cells. Paratroopers massacred 14 unarmed civilians in a neighborhood of this region known as the Bogside. In this region’s Prison Maze, a 66-day hunger strike led to the death of Bobby Sands. The Good Friday Agreement ended a 30-year period of warfare in this region known as the Troubles. For 10 points, name this constituent country of the United Kingdom that contains the city of Belfast.

ANSWER: **Northern Ireland** [accept **Tuaisceart Éireann**; prompt on **Ulster**; prompt on **Ireland**; prompt on **United Kingdom** or **UK**; do not accept or prompt on “Republic of Ireland” or “Éire”]

<European History>

18. In one film, Ingvild Deila’s hand was the only non-CGI element in this character’s appearance, during which this character’s only line is the word “Hope.” While disguised as the Ubese (“oo-BEES”) bounty hunter Boushh (“boosh”), this character infiltrates a palace in the Dune Sea and frees another character from carbonite. This character’s home planet of Alderaan is destroyed during a test fire conducted by Grand Moff Tarkin. This character hides plans for the Death Star in R2-D2 before her ship is captured at the beginning of *A New Hope*. For 10 points, name this sister of Luke Skywalker, an iconic Star Wars character played by Carrie Fisher.

ANSWER: Princess **Leia** Organa

<CE/Geo/Other/Pop Culture>

19. On Fridays, the afternoon portion of this practice is replaced with a version that includes a dual portioned *khutbah* and is known as *jumu‘ah*. This practice traditionally begins by raising one’s open hands with palms forward at ear level, and ends by stating the *taslim*. The voluntary *nafl* type of this practice can occur via the performance of additional *raka‘āt*, following the mandatory *fard* and *wajib* forms. Alcoves known as *miḥrābs* are often used to indicate the *qibla*, the direction one must face while performing this action. For 10 points, name this religious activity that Muslims are obligated to perform towards Mecca five times per day.

ANSWER: Islamic **prayer** [or word forms; accept **ṣalāh** or **ṣalat**; accept **ṣalawāt** or **namāz** or **ṣalāt adh-dhuhr**; accept **jumu‘ah** until read and prompt after; prompt on **magrib**, **‘iṣā’**, **faḡr**, **dhuhr**, or **‘asr**]

<Religion>

20. Peter Weiss investigated this event in an “Oratorio in 11 Cantos” based on *The Divine Comedy*. A character who later dies in this event writes a story called *The Word Shaker* in the margins of a book. Victims of this event are classified as “drowned” and “saved” in the memoir *If This Is a Man*. The protagonist of a novel chronicling this event says his “dreams [turned] to dust” while repeating the phrase “Never shall I forget,” and laments “God hanging here on this gallows” after ignoring Moishe the Beadle’s warnings. Max Vandenburg dies during this event

in *The Book Thief*. For 10 points, name this historical event discussed in Elie Wiesel's ("ELL-ee vee-ZEL's") book *Night*, which is about his time in Auschwitz.

ANSWER: the **Holocaust** [or the **Shoah**; prompt on World War II]

<European Literature>

Bonuses

1. A member of this movement wrote “Bobeobi (“bo-beh-OH-bee”) pelis guby,” meaning “Bobeobi sang the lips,” to begin a poem classified as a “sound-painting.” For 10 points each:

[10] Name this literary and artistic movement propounded by Velimir Khlebnikov. The author of *The Bedbug*, Vladimir Mayakovsky, was also a member of this movement.

ANSWER: Russian **Futurism** [or **Budetlyansvo** or Cubo-**Futurism**]

[10] Khlebnikov’s poem “Bobeobi” is a sound-painting since it assigns colors to letters, much like this author’s poem “Voyelles.” This Symbolist also wrote “The Drunken Boat.”

ANSWER: Arthur **Rimbaud** (“ram-BO”)

[10] While Rimbaud assigned colors to vowels, Khlebnikov assigned them to these other sounds. When developing his “alphabet of the intellect,” Khlebnikov related words that share these counterparts of vowels.

ANSWER: **consonants**

<European Literature>

2. Answer the following about protests by the American Indian Movement, for 10 points each.

[10] In 1973, AIM activists occupied this town in the Pine Ridge Reservation. In 1890, hundreds of Sioux were massacred near this South Dakota town’s namesake creek as U.S. forces cracked down on the Ghost Dance.

ANSWER: **Wounded Knee** [accept **Wounded Knee** Creek]

[10] Starting in 1969, Richard Oakes led an AIM occupation of this island, citing the Treaty of Fort Laramie, which returned abandoned federal lands to Native ownership.

ANSWER: **Alcatraz** Island

[10] To protest Hollywood’s treatment of Native Americans, this actor sent Sacheen Littlefeather, who participated in the Alcatraz occupation, to represent him at the 1973 Academy Awards.

ANSWER: Marlon **Brando**

<American History>

3. Answer the following about Irish political scientist Benedict Anderson, for 10 points each.

[10] Anderson is best-known for arguing that early European incarnations of this type of ideology were spurred on by “print capitalism.” Ideologies of this type promote the governance of a region by namesake people groups, even if those areas are not yet countries.

ANSWER: **nationalism** [or word forms like **nationalists**]

[10] Anderson’s book on nationalism is named for *Imagined* places of this type. Ferdinand Tönnies (“TUR-neese”) used the word *Gemeinschaft* (“guh-MINE-shoft”) when differentiating these things from societies.

ANSWER: **community** [or **communities**; accept **Imagined Communities**; accept **Community and Society**]

[10] Anderson wrote a 2013 book on *The Age of* this phenomenon, whose cultural consequences are discussed in Arjun Appadurai’s *Modernity at Large*. Popular books on this world-wide process include Thomas Friedman’s *The World is Flat*.

ANSWER: **globalization** [or word forms like **globalize**; accept *The Age of Globalization*]

<Social Science>

4. The hepatoduodenal (“HEP-uh-toh doo-ODD-uh-nul”) one of these structures surrounds the hepatic portal vein. For 10 points each:

[10] Name these structures that connect bones to other bones. A pair of cruciate (“KROO-shee-it”) structures of this type are found in the knee.

ANSWER: **ligaments**

[10] The hepatoduodenal ligament and falciform ligament are found in this organ. This organ also produces bile and may be affected by cirrhosis (“sir-OH-sis”).

ANSWER: **liver**

[10] Patients with cirrhosis may have an elevated ratio of aspartate transaminase to the transaminase of this molecule, which is part of the Cahill cycle. This amino acid with a methyl side chain is derived from pyruvate.

ANSWER: alanine [or Ala or A]

<Biology>

5. This author wrote “I want to tell you the truth, and already I have told you about the wide rivers” in her essay “Notes from a Native Daughter,” which is about her home of Sacramento. For 10 points each:

[10] Name this American essayist of *The White Album* and *Slouching Towards Bethlehem*.

ANSWER: Joan Didion

[10] This author asked, “What could a city girl like me do but major in human behavior?” in a prose poem titled “Notes of a Native Daughter.” Esperanza Cordero grows up in Chicago in a novel by this author.

ANSWER: Sandra Cisneros (The novel is *The House on Mango Street*.)

[10] This author wrote about his father dying of tuberculosis in “Notes of a Native Son.” His father also inspired the preacher Gabriel Grimes in this author’s novel *Go Tell It on the Mountain*.

ANSWER: James Baldwin [or James Arthur Baldwin]

<American Literature>

6. Carl Philip Emanuel Bach’s second name was given in honor of this composer, his godfather. For 10 points each:

[10] Name this composer whose three thousand plus works include the *Paris Quartets*. This non-Handel composer of *Water Music* wrote a collection intended for mealtime performance entitled *Tafelmusik*.

ANSWER: Georg Phillip Telemann

[10] Telemann wrote 500 chorale harmonizations for students of this instrument. J. S. Bach walked over 250 miles to hear Dietrich Buxtehude perform on this instrument, which uses stops to control airflow in its pipes.

ANSWER: pipe organ

[10] Telemann also wrote six sonatas for two of these instruments, for which C. P. E. Bach wrote the “Hamburger” Sonata. Johann Quantz taught this “transverse” instrument to Frederick the Great.

ANSWER: transverse flute

<Classical Music>

7. Wooden racks known as *hjell* are primarily used to preserve this commodity, whose “stock” and “clip” varieties differ in whether salt is used in the drying process. For 10 points each:

[10] Name this commodity, a greedy creature once referred to as “British gold.” Engineer Halldór Hallfreðsson was the only fatality during three namesake 20th-century wars fought against the U.K. over rights to this commodity.

ANSWER: Atlantic cod [accept Cod Wars; accept Gadus morhua or þorskur or Þorskastríðin; prompt on fish; prompt on stockfish and clipfish]

[10] For centuries, cod has been an important resource for this Atlantic island country governed by the Althing parliament after Viking settlement in 874 AD.

ANSWER: Iceland [or Ísland]

[10] Cod was also essential for this ethnic group, whose members dominated the whaling industry from settlements by the Ebro. In 1615, Icelandic sailors killed a group of them in the so-called “Slaying of the Spaniards.”

ANSWER: the Basques [accept euskaldunak; accept vascos]

<European History>

8. The Three-Self Patriotic Movement remains one of five officially sanctioned exceptions to this policy, which originally manifested in the destruction of mosques and churches by the Red Guard. For 10 points each:

[10] Name this policy that prevents about ninety million individuals from engaging in forms of “spiritual anesthesia.” Recently, this policy has resulted in the destruction of numerous steeple crosses in Henan (“huh-nahn”) province. A description is fine.

ANSWER: **atheism** in **China** [accept descriptive answers indicating any sort of **Chinese anti-religious** campaigns; prompt on state-sponsored **atheism** by asking “in which country?”; prompt on **Chinese religious** policy]

[10] Chinese anti-religious campaigns have focused on followers of this religion, such as the *Huizú* (“hway-dzoo”). Most Uyghurs in Xīnjiāng (“shin-jong”) province are members of this religion’s Sunni denomination.

ANSWER: **Islam** [or Sunni **Islam**]

[10] The traditional Chinese folk religion is often named for this Chinese term that is translated as “god” or “spirit.” This Chinese term refers to both the individual “human spirit,” and the “spirits” associated with the natural world.

ANSWER: **shén** (“shun”) [accept **Shénism**; accept **shén-jiào**] (The Chinese character is 神.)

<Religion>

9. Richard Morris Hunt included himself and the sculptor Karl Bitter as figures representing humanity’s progress in the Beaux-Arts (“boh-ZARR”) great hall for one of these buildings. For 10 points each:

[10] Name these buildings, one of which includes The Breakers. The Pacific American Decorative Company repeated a motif of the number 13 across one of these buildings to appease ghosts killed by Winchester rifles.

ANSWER: **mansions** [accept equivalents such as **manors**, **castles**, **estate**, or **manses**; accept the Winchester **Mystery House**; prompt on **house** or **home** by asking “what type of home?”]

[10] The Breakers is located in this state’s city of Newport. Coffee milk is enjoyed in this state’s capital of Providence during its iconic WaterFire festival.

ANSWER: **Rhode Island**

[10] This other Vanderbilt mansion nestled in the Blue Ridge mountains is the largest private property in the United States. Frederick Law Olmstead’s gardens for this property became the site of the first forestry education program in the world.

ANSWER: **Biltmore** Estate

<CE/Geo/Other/Pop Culture>

10. This object was originally referred to simply as “perturber” due to its possible effect on the orbits of extreme trans-Neptunian objects. For 10 points each:

[10] Name this hypothetical super-Earth-sized planet that would likely be 20 times as far from the sun as Neptune is.

ANSWER: **Planet Nine** [prompt on **Jehoshaphat**; prompt on **George**; prompt on Planet **Fatty**; prompt on **Planet X**]

[10] This Caltech professor proposed the existence of Planet Nine with Konstantin Batygin in 2016. His team’s notable discoveries include the existence of the dwarf planet Eris in 2005.

ANSWER: Michael E. **Brown**

[10] Brown is known as the “killer” of this object, which was downgraded from planethood after an IAU resolution in 2006 that formally defined the term “planet.”

ANSWER: **Pluto**

<Other Science>

11. This fashion designer collaborated with the Nazis during their occupation of France, though she is better remembered for innovations such as introducing the little black dress. For 10 points each:

[10] Name this fashion designer. This French designer’s eponymous fashion label became extremely popular in the years after World War I, and more recently was headed by Karl Lagerfeld until his death in early 2019.

ANSWER: Coco **Chanel** [or Gabrielle Bonheur **Chanel**]

[10] Chanel No. 5, which comes in a simple glass bottle, is a famous example of this type of product. Ambergris was once a popular ingredient in these cosmetic products, whose scents are composed of various “notes.”

ANSWER: **perfumes** [or **fragrances**, or *eau de **parfum***; accept ***eau de toilette*** or ***eau de cologne***]

[10] Chanel wasn’t the only designer of little black dresses: a black gown by this designer became famous when Audrey Hepburn wore it in *Breakfast at Tiffany’s*. This man created much of Hepburn’s on- and offscreen wardrobe.

ANSWER: Hubert de **Givenchy** (“zhee-von-SHEE”)

<Other Arts>

12. This book is the best-known example of adoxography, a genre in which it was preceded by Faustino Perisauli's *On the Triumph of Stupidity*. For 10 points each:

[10] Name this encomium whose title character claims descent from Plutus and the nymph Neoteris. It closes with the admonition that "no man is wise at all times."

ANSWER: *In **Praise of Folly*** [or *The **Praise of Folly***; or ***Moriae Encomium***; or ***Stultitiae Laus***]

[10] Desiderius Erasmus punned on the name of his friend Thomas More for the title of his *Moriae Encomium*, or *In Praise of Folly*. Erasmus and More represented a "Christian" version of this Renaissance movement, which emphasized reading classical, man-centered texts.

ANSWER: Christian **humanism**

[10] A far less Christian humanism was promoted by this later thinker's atheistic "Religion Of Humanity." The first to use "sociology," he suggested that civilizations go through fetishistic, polytheistic, and monotheistic substages within the Theocratic stage.

ANSWER: Auguste **Comte**

<Philosophy>

13. An author with this ethnicity wrote about Louise learning to perceive nonlinear time from the alien Heptapods in "Story of Your Life." For 10 points each:

[10] Name this ethnicity shared by an author who recounted "a Girlhood Among Ghosts" in her novel *The Woman Warrior*.

ANSWER: **Chinese**-American (Those authors are Ted Chiang and Maxine Hong Kingston.)

[10] This is the first kind of animal to be brought to life using origami in Chinese-American author Ken Liu's short story "The Paper Menagerie." A boy drives away one of these animals with a burning branch in *The Jungle Book*.

ANSWER: **tigers**

[10] In an early work of Chinese science fiction, Tamataro aspires to create a hot-air balloon to reach this object. This object is "no drinker of wine" according to a Li Bai poem titled "Drinking Alone by" this object's light.

ANSWER: **moon** [or **yuè** or **yuèliàng**; accept "Drinking Alone by **Moonlight**"] (The work is *Tales of the Moon Colony* by Huangjiang Diasou.)

<World/Other Literature>

14. This law states that J equals negative D times $\nabla \phi$. For 10 points each:

[10] Name this law that assumes a steady state to calculate the flux of a substance.

ANSWER: **Fick's** first law

[10] Fick's laws model this phenomenon, in which molecules move from regions of high to low concentration.

ANSWER: **diffusion**

[10] Fick's second law is a PDE that uses this operator, often written as ∇^2 . It is the divergence of the gradient.

ANSWER: **Laplacian** [or **Laplace** operator; prompt on **delta**]

<Physics>

15. This man built on the methods of the Göttingen School in his 1829 book on the First Serbian Uprising, which directly analyzed accounts provided by the philologist Vuk Karadžić ("KAH-ruh-jitch"). For 10 points each:

[10] Name this prolific German historiographer. This spurner of a teleological theory of history attempted to elucidate the shared experiences between various European nations in his *History of the Latin and Teutonic Peoples*.

ANSWER: Leopold von **Ranke** ("RON-kuh")

[10] In his quest to write history "how things actually were," Ranke recommended the use of this general type of source. These sources are firsthand accounts that provide direct information on a topic.

ANSWER: **primary** sources [accept **original** sources]

[10] In *The Popes of Rome*, Ranke popularized the name for this specific religious period that saw the creation of the Index of Forbidden Books following the Council of Trent.

ANSWER: **Counter-Reformation** [accept **Catholic Reformation**; accept **Gegenreformation** or **Anti-Reformation** or **Contrareformatio** or **Reformatio Catholica**; prompt on **Catholic Revival** or **Reformation**; do not accept or prompt on “Protestant Reformation”]

<European History>

16. In a novel by this author, Samad demands to remove the Harvest Festival from the school calendar because he believes it is pagan. For 10 points each:

[10] Name this contemporary English author of *White Teeth*.

ANSWER: Zadie **Smith**

[10] The first section of *White Teeth* has an epigraph from this author’s novel *Where Angels Fear to Tread*. Smith’s novel *On Beauty* is based on *Howards End*, a novel by this author of *A Passage to India*.

ANSWER: Edward Morgan **Forster**

[10] Critic James Wood has described Smith’s writing as a “hysterical” type of this style. John Braine’s novel *Room at the Top* and other works by the Angry Young Men have been classified as the “kitchen-sink” type of this style.

ANSWER: **realism** [accept **hysterical realism** or **kitchen-sink realism**]

<British Literature>

17. With the help of Loki, a giant wearing eagle’s plumage steals some of these objects from Idunn. For 10 points each:

[10] Name these objects. In his eleventh labor, Heracles is tasked with taking one of these objects from the garden of the Hesperides (“heh-SPAIR-ih-deez”).

ANSWER: golden **apples**

[10] In Norse mythology, the Æsir maintain their youth through the golden apples of Idunn, so they are outraged when those apples are stolen by this giant. This giant is the father of Skadi.

ANSWER: **Thiazi** [or **Thjazi**]

[10] After the Æsir kill Thjazi and recover the apples, Odin attempts to appease Skadi by turning Thjazi’s eyes into one of these things. To resolve a paradox, Zeus turns Laelaps and the Teumessian fox into two of these objects.

ANSWER: **constellations** [or **asterisms**; accept **stars**]

<Mythology>

18. Answer the following about series of paintings by Claude Monet, for 10 points each.

[10] Among Monet’s most famous works are his paintings of these plants, many of which he painted at his home in Giverny (“zhee-vair-NEE”). Several of his paintings of these plants show them underneath a Japanese-style bridge.

ANSWER: **water lilies** [accept **nymphéas**; prompt on **lilies** or **flowers**]

[10] Over 30 works by Monet painted at different times of the day study how the various lighting conditions affected depictions of this French city’s cathedral.

ANSWER: **Rouen** (“roo-AWN”)

[10] All 19 of Monet’s paintings of this building have the same viewpoint, which was from his room at St. Thomas’s Hospital. In those works, this building’s towers are shown rising above a nearby river.

ANSWER: Houses of **Parliament** [or the **Palace of Westminster**; prompt on **Westminster**]

<Painting/Sculpture>

19. The Redlich–Kwong and Peng–Robinson equations are corrections to this statement. For 10 points each:

[10] Name this equation of state usually expressed as PV equals nRT .

ANSWER: **ideal gas** law

[10] The energy of a monatomic ideal gas is equal to the product of the number of moles, the gas constant R , the temperature T , and this constant factor.

ANSWER: **3/2** [or **three-halves**]

[10] This equation gives the entropy of a monatomic ideal gas. It is naturally expressed in terms of the thermal de Broglie (“duh BROY”) wavelength.

ANSWER: **Sackur–Tetrode** equation

<Chemistry>

20. Answer the following about the accomplishments of the Ottoman sultan Selim the Grim, for 10 points each.

[10] At the Battle of Chaldiran in 1514, Selim crushed the forces of Ismail, the founder of this Persian dynasty that rivaled the Ottomans for the next two centuries.

ANSWER: **Safavid** dynasty

[10] In 1517, Selim defeated and conquered this Egyptian sultanate ruled by a namesake caste of Caucasian soldiers with slave origins.

ANSWER: **Mamluk** sultanate

[10] Selim’s conquest of the Mamluks enabled him to control routes to this holiest Muslim city, the home of the Kaaba.

ANSWER: **Mecca** [or **Makkah**]

<World History>