

2021 ACF Winter

Packet J by Carleton A, Georgia Tech A, Iowa State A, Oxford A, UNC A

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Tossups

1. A word in this poem's title appears in its text only once, paired with "merged," after a description of the "mad coupling of hope and force." Explicit images in this poem like "the bitten mouth," "the hungering teeth," and "the entwined bodies" caused criticism of its 19-year-old author. In W. S. Merwin's translation, sea imagery in this poem includes places "deserted like the wharves at dawn" and a river that "mingles its stubborn lament with the sea." This 1924 poem, which notes "the memory of you emerges from the night around me," repeats that "it is the hour of departure" and "in you everything sank!" This poem follows "Tonight I can write the saddest lines" as the final entry in its collection. For 10 points, name this poem that, in a Pablo Neruda collection, follows "Twenty Love Poems."

ANSWER: "A **Song of Despair**" [or "La **canción desesperada**"]

<World Literature>

2. Shiv Sena vowed to "throw [this company] into the Arabian Sea" after Bechtel and its International CEO Rebecca Mark funded Maharashtra's Dabhol Power Plant. Spam filters train on a corpus of emails from this company, which got a loophole in the Commodity Futures Modernization Act. This company created shortages in the electricity crisis that led voters to recall California Governor Gray Davis. *The Smartest Guys in the Room* compares chicanery at Tyco and WorldCom to this company's similar "mark-to-market" accounting under CEO Jeff Skilling, which led Congress to pass the Sarbanes-Oxley Act. This company's auditors at Arthur Andersen hid its "pump and dump" schemes. For 10 points, the Bush ally Kenneth Lay led what Houston energy titan that went bankrupt in 2001?

ANSWER: **Enron** [or **Enron** Corporation; accept **Enron** International or **Enron** Energy Services or **Enron** Oil and Gas or **Enron** North America or **Azurix**; accept **Enron** Corpus; accept **Enron**: *The Smartest Guys in the Room*]

<American History>

3. The speed of this process is often measured as the transition path time between two wells. Errors in this process lead to the cytoplasmic splicing of the Hac1 mRNA, which occurs after Grp78 dissociates from Ire1p. The kinetics of this process are measured with a stopped-flow apparatus to generate a Chevron plot. This process moves downhill along a funnel-shaped free-energy landscape through molten globule intermediates. This process would take longer than the age of the universe if it occurred by blind search, a result called Levinthal's paradox. This process involves the formation of salt bridges, hydrogen bonds, and disulfide bridges. Errors in this process form prions. For 10 points, name this process assisted by chaperones, in which a chain of amino acids assumes its three-dimensional conformation.

ANSWER: protein **folding**

<Biology>

4. This city names a wide-bored oboe that has been supplanted in popularity by the "conservatoire" design. Arnold Rosé was the leader of two orchestras in this city for over fifty years while also leading his namesake string quartet. The reclusive conductor Carlos Kleiber's thirty concerts with an orchestra in this city spanned his longest association with any orchestra. This city's State Opera is the recruiting source for the members of its major orchestra, which plays in the "Golden Hall." Pieces like "Tales from [this city's] Woods" are often played by its Philharmonic during an annual New Year's Concert, whose last encore is always the *Radetzky March*. For 10 points, name this city home to both Johann Strausses, the younger of whom depicted its river in the *Blue Danube* waltz.

ANSWER: **Vienna** [or **Wien**; accept **Vienna** Philharmonic or **Wiener** Philharmoniker; accept **Vienna** State Opera or **Wiener** Staatsoper; accept **Wiener** oboe; accept "Tales from the **Vienna** Woods"]

<Classical Music>

5. This deity is described as “the bleeding god” in a poem that ends after a resurrected seeress tells Odin to leave Hel. In the *Gesta Danorum*, this deity is represented as a demigod with impenetrable skin who vies for the child of King Gewar. The largest sports club in Iceland is named for this deity’s beautiful hall Breidablik (“BRY-dah-blick”). The dwarf Litr was kicked onto this deity’s ship Hringhorni as it caught on fire. The giantess Thökk refused to weep for this deity, forcing him to stay in the underworld until after Ragnarök. After this deity dreamed of his own death, his mother forced every object in the world to swear not to harm him, but forgot to extract an oath from one plant. For 10 points, name this Norse deity who was killed by Loki with a mistletoe spear.

ANSWER: **Baldr** [or **Balder**; or **Baldur**]

<Mythology>

6. This quantity varies according to a parabolic profile in GRIN devices in order to reduce modal distortion. Due to a lower value of this quantity, propagation is suppressed in cladding. This quantity is lower for the fast axis of a waveplate. The imaginary part of a complex-valued form of this quantity is equal to the extinction coefficient. In non-magnetic materials, this quantity is equal to the square root of the material’s relative permittivity. The arcsine of the ratio of two values of this quantity gives the critical angle beyond which total internal reflection occurs. The product of this quantity and the sine of a ray’s angle is constant across an interface according to Snell’s Law. For 10 points, name this quantity that equals the ratio of the speed of light in a vacuum to its speed in a given medium.

ANSWER: **index of refraction** [or **refractive index** or **refraction index**]

<Physics>

7. In this novel, a telegraph operator who works in a theater notices that his business partner doesn’t cast a shadow after he sees a group of naked women in the street. A woman in this novel uses her status as “Hostess-Queen” to rid Frieda of a cursed handkerchief that she used to smother her child. A man in this novel is warned that he will die by slipping in sunflower oil shortly after he leaves Patriarch’s Ponds. While in an insane asylum, this novel’s protagonist discusses his broken heart with Ivan Homeless, who was thrown out of MASSOLIT. An author in this novel is told “manuscripts don’t burn” after he tries to set his book about Pontius Pilate on fire. For 10 points, Satan disguises himself as Woland and pays a visit to Soviet Moscow in what satirical novel by Mikhail Bulgakov?

ANSWER: *The **Master and Margarita*** [or **Master i Margarita**]

<European Literature>

8. This country’s first *prima ballerina*, who often partnered Anton Dolin, wrote the book *Giselle and I* about her signature role. A choreographer from this country, who followed an *arabesque* with a *developpé* and *pas de bourrée* in his namesake “step,” used a “clog dance” in his staging of *La fille mal gardée*. A dancer from this country who often partnered Rudolf Nureyev was the *prima ballerina assoluta* for a company here founded by Ninette de Valois. A dancer from this country, Margot Fonteyn (“fon-TAIN”), often performed in a Russian ballet based on a literary work from this country, which features the “Dance of the Knights” and is by Sergei Prokofiev. For 10 points, Frederick Ashton and the Royal Ballet are from what country, as is the play that inspired the ballet *Romeo and Juliet*?

ANSWER: **United Kingdom** [or **UK**; or Great **Britain**; accept **England**] (The ballerina in the first line is Alicia Markova.)

<Other Arts>

9. An unnamed character created by this author becomes obsessed with private correspondences between Captain Everard and Lady Bradeen while working at a telegraph office. In another story by this author, the protagonist believes that there is a catastrophic “fate” lying in wait for him, so he refuses to fall in love with May Bartram. A boy created by this author claims that he was expelled from boarding school for merely having “said things” to people he liked. This author of “In the Cage” and “The Beast in the Jungle” wrote a work in which a pale-faced man with very red hair causes Mrs. Grose to faint. That novella by this author is set in Bly and ends when Flora’s brother Miles dies in the governess’s arms after he cries “Peter Quint—you devil!” For 10 points, name this author of *The Turn of the Screw*.

ANSWER: Henry **James**  
<American Literature>

10. The 1775 work *The Conjuror* shows a painter who was born in this country sitting on the knee of an older artist. That artist born in this country painted a woman turning away from a jewelry box towards her sons. An artist from this country was inspired by *Paradise Lost* for his “Milton Gallery.” Soldiers from this country are commemorated by Danish sculptor Bertel Thorvaldsen’s *Lion Monument*. It’s not the UK, but an artist from this country, who painted *Cornelia Pointing to her Children as Her Treasures*, was one of two female founders of the Royal Academy. A painter who was born in this country depicted an incubus squatting on a woman in *The Nightmare*. This was the birth country of the painters Angelica Kauffman and Henry Fuseli. For 10 points, the artistic treasures of the Vatican were defended by what country’s namesake “Guard?”

ANSWER: **Switzerland** [or **Swiss** Confederation; or der **Schweiz** or **Schweizerische** Eidgenossenschaft or Confédération **suisse** or Confederazione **Svizzera** or Confederaziun **svizra** or Confoederatio **Helvetica**; accept **Swiss** Guard or Pontificia Cohors **Helvetica**]  
<Painting/Sculpture>

11. The historian Guy Le Strange produced a map of this city based on medieval sources such as the works of Benjamin of Tudela. This city’s planning was aided by the formerly Zoroastrian astrologer Naubakht. The western terminus of the Great Khorasan Road was in this city, whose core was a “Round City.” This city, whose design was inspired by that of Fīrūzābād (“fee-ROO-zuh-bahd”), had its first paper mill established by the Barmakids. Early designs for automatic machines were created by three brothers in this city who published the *Book of Ingenious Devices*. The Translation Movement took place in this city, where the Palace of the Golden Gate was constructed for Caliph al-Mansur. A 1258 Mongol sack of this city ended the Islamic Golden Age. The House of Wisdom was located in, for 10 points, what Abbasid capital?

ANSWER: **Baghdad**  
<World History>

12. *Two answers required.* One of these people bought the other a 6.1-carat pink Harry Winston ring now valued at around ten million dollars. In a music video, these two people are shown in fake paparazzi footage sunbathing on a yacht. Kevin Smith claimed to have invented a word associated with these two people while he directed them in the film *Jersey Girl*. A character played by one of these people tells a character played by the other “it’s turkey time, gobble gobble” in an oft-mocked scene from the rom-com *Gigli* (“GEE-lee”). A 2021 sighting of these celebrities in Montana confirmed that they had rekindled their early 2000s-era relationship after one of them separated from Alex Rodriguez. For 10 points, name these celebrities who starred respectively in the films *Argo* and *Selena*, and who were given the collective nickname “Bennifer.”

ANSWER: Ben **Affleck** AND Jennifer **Lopez** [accept in either order; accept **J-Lo** or Jennifer Lynn **Lopez** in place of “Jennifer Lopez”; accept Benjamin Géza **Affleck**-Boldt in place of “Ben Affleck”; prompt on **Bennifer** until read] (The music video in the second sentence is for Lopez’s song “Jenny from the Block.”)  
<CE/Geo/Other/Pop Culture>

13. A poem by this author describes how “intendant Caesars rose and / left” and “saints-to-be / slipped away sighing” when the ocean whispered, “I am the solitude that asks and promises nothing.” In another poem by this author, a mother sees “a million eyes, a million boots in line” while she looks for “marble well-governed cities” on the title object. This poet notes how “everything turns away / quite leisurely from the disaster” in a poem that describes “white legs disappearing into the green / Water.” This author of “In Praise of Limestone” claimed “about suffering they were never wrong, the old Masters” in a poem that discusses Brueghel’s *Landscape with the Fall of Icarus*. For 10 points, name this poet of “The Shield of Achilles” and “Musée des Beaux Arts.”

ANSWER: W. H. Auden [or Wystan Hugh Auden]

<British Literature>

14. This many atoms of oxygen are linked together in its red or epsilon allotrope. This many carbons make up a bidentate ligand found in Crabtree’s catalyst, which is usually abbreviated COD. A cyclic anion with this many carbons unusually takes on a D<sub>4h</sub> geometry in a first-order Jahn–Teller effect. Complexes with this many ligands can take on a bicapped trigonal prismatic or square antiprismatic configuration. It’s not six, but a cycloalkane with this many carbons takes on crown, chair-boat, chair-chair, boat-boat, and tub conformations. Low-spin complexes with this many d electrons take on a square planar geometry. The linear alkane with this many carbons has 18 hydrogens. Because this is the combined number of electrons in one s and one p subshell, most non-metal atoms seek to have this many valence electrons. For 10 points, give this number of carbons in octane.

ANSWER: eight [or 8] (The ligand is 1,5-cyclooctadiene.)

<Chemistry>

15. The decline of the “early” form of this concept and rise of its “modern” form are discussed in a 2020 book by David Stasavage. This concept titles a book that exploits a natural experiment in 1970 that introduced identical institutions in 20 Italian regions. It’s not communism, but this concept is attacked for leading to an increase in time preference rates in a Hans-Hermann Hoppe book that likens it to a “God that Failed.” Social capital is key to *Making [this concept] Work* according to a book by Robert Putnam. Countries defined by this concept are less likely to wage war against each other according to a namesake “peace theory.” For 10 points, a trip conceived to study the American prison system was turned into an 1835 text on what concept written by Alexis de Tocqueville?

ANSWER: democracy [accept democratic peace theory; accept *The Decline and Rise of Democracy* or *Making Democracy Work* or *Democracy: The God That Failed* or *Democracy in America*]

<Social Science>

16. Constants describing this phenomenon can be measured by fitting a sine curve through data plotting the ratio of transverse velocity and distance against longitude. Observations of nearby objects can be used to infer properties of this phenomenon by calculating the Oort constants. Large-scale structures undergo this phenomenon at the pattern speed, which differs from the rate at which individual objects undergo it. Observed structure would naively be destroyed by this phenomenon in the winding problem, which led to the development of Lin–Shu density wave theory. Curves named for this phenomenon unusually show velocity that does not decrease with distance, a fact used by Vera Rubin to infer the existence of dark matter. For 10 points, name this phenomenon, the motion of a galactic disk around its center.

ANSWER: galactic rotation [accept more specific answers such as the rotation of the Milky Way; accept galaxy rotation curves; prompt on answers that indicate objects orbiting around a galaxy]

<Other Science>

17. This country extended male suffrage in a 1933 “Revolution” over its hydropower plant in Encamp. In 1934, the Lithuanian conman Boris Skossyreff (“SKOH-see-ref”) declared himself king of this country, whose economy relied on low-quality tobacco. The “Blacks” invaded this tiny country in an allegory of Nazi antisemitism by Max Frisch. Like Switzerland, this neutral free port granted women’s suffrage in the 1970s, when it opened the Arinsal ski resort. The Counts of Foix (“fwah”) once ruled the paréage (“pah-ray-AHZH”) that divided this country, whose 1993 constitution transferred power from its two Caps d’Estat (“cops duh-staht”) to its General Council of the Valleys. Charlemagne’s Marca Hispanica evolved into this Catalan-speaking principality. For 10 points, the Bishop of Urgell (“oor-ZHELL”) and President of France are Co-Princes of what microstate in the Pyrenees led from “la Vella?”  
ANSWER: **Andorra** [or Principality of **Andorra** or Principat d’**Andorra**; accept **Andorran** Revolution] (Andorra imported better-quality foreign tobacco and manufacturers had to burn an equal amount of the domestic crop.)  
<European History>

18. A 2019 book by Katrina Forrester argues that one of this thinker’s books is largely irrelevant because it presupposes long-past historical conditions. A book by this thinker argues that all citizens possess “two moral powers” that include a “conception of the good.” This thinker’s treatment of humans as “atomistic individuals” is often critiqued by communitarian thought. A book by this thinker holds that people with different moral codes can achieve social stability via “overlapping consensus.” This thinker described the “original position” in a thought experiment in which citizens construct society from behind a “veil of ignorance.” For 10 points, name this American liberal philosopher who equated justice with fairness in the book *A Theory of Justice*.  
ANSWER: John **Rawls** [or John Bordley **Rawls**] (Katrina Forrester’s book is *In the Shadow of Justice*.)  
<Philosophy>

19. *Description acceptable.* “Defenders” from one of these conflicts inspired societies of “Carders” and “Ribbonmen” who were mocked in songs like “Croppies Lie Down.” The pirate queen Grace, who was called the “nurse to all [these conflicts],” was captured while she raided the Geraldines in 1577, between two of them led by Askeaton’s Earls of Desmond. Veterans of one of these conflicts fought a reprise of its Battle of Vinegar Hill in Sydney’s 1804 Castle Hill convict rebellion. Charles Cornwallis defeated French aid to a “Society of United” men during one of these conflicts in 1798 that ended with Wolfe Tone’s death and the 1800 Acts of Union. The Fenian Brotherhood tried to ignite these conflicts, which failed to halt Protestant control of Munster and Ulster. For 10 points, what risings sought to drive British colonizers from a Gaelic island?  
ANSWER: **Irish** rebellions [or **Irish** uprisings or **Irish** revolts or **Irish**-British conflicts or similar; accept **Irish** independence or similar; accept Society of United **Irishmen** or **Irish** Republican Brotherhood; accept **Fenian** Brotherhood or Bráithreachas na bh**Fíníní** or **Desmond** Rebellions before read; accept Muintir na h**Éireann**; prompt on **rebellions** or **insurrections** or similar; prompt on **Gaelic** or **Celtic** rebellions or similar] (The pirate was Grace O’Malley or Gráinne Ní Mháille.)  
<Other History>

20. This was the primary text cited by Figurists such as Joachim Bouvet as evidence that other religions were connected to Christianity. Cary Baynes translated this religious text into English from Richard Wilhelm’s translation. Gottfried Wilhelm Leibniz interpreted this text through his work on binary numbers. A set of eight motifs in this text includes ones named for water, wind, flame, mountain, earth, and thunder. A widely used ordering of parts of this text is named for King Wén. Fifty yarrow stalks or three coins are often used to determine which part of this book to read. This book consists of ten wings that discuss the eight trigrams and 64 hexagrams within it, which are composed of symbols meaning *yin* and *yang*. For 10 points, name this Chinese book of divination.  
ANSWER: **I Ching** [or **Yijing**; accept **Book of Changes** or **Classic of Changes**]  
<Religion>

21. *Description acceptable.* The “bottleneck hypothesis” claims that this process is limited by the ability to acquire knowledge of functional categories. Maximilian Berlitz taught this process with the “direct method.”

“Preproduction” is the first of five stages of this process according to Stephen Krashen’s “input hypothesis.”

Mnemonics like OSASCOMP are sometimes learned by people undergoing this process, which is facilitated by “organic learning” in the Pimsleur Method. This process is more difficult for adults than an analogous process done during the “critical period” between ages two and thirteen. This process can be hindered by the existence of “false friends” and helped by cognates. For 10 points, identify this process that is facilitated by companies like Duolingo and Rosetta Stone.

ANSWER: **second language acquisition** [accept **L2** or **foreign language** instead of “second language”; accept **learning** in place of “acquisition”; accept **learning a language** or **learning English**; do not accept or prompt on “language acquisition”]

<Social Science>

## Bonuses

1. In the long run, we are all crab. For 10 points each:

[10h] Identify this term coined by L. A. Borradaile that describes the phenomenon in which various unrelated crustaceans all evolved into a crab-like shape. This process has occurred at least five times in natural history.

ANSWER: **carcinization** [accept word forms like **carcinize**]

[10e] Carcinization is an example of this form of evolution, in which similar features arise in distinct clades. In another example of this phenomenon, whales evolved a fish-like body shape despite being mammals.

ANSWER: **convergent** evolution

[10m] Convergent evolution leads to the formation of structures described by this adjective. These structures have similar functions but do not arise from a common ancestor, like a bird wing and a bat wing.

ANSWER: **analogous** structure [or **analogy**]

<Biology>

2. Answer the following about the mythical Ayar Brothers, for 10 points each.

[10e] Among the Ayar Brothers is Manco Cápac (“KAH-pack”), the semi-mythical founder of this civilization. After he killed the rest of the brothers, Manco Cápac became the first governor of this civilization’s capital, Cusco.

ANSWER: **Inca** [or **Incans**; accept **Quechua**]

[10m] The Ayar Brothers and Sisters lived in one of these locations called Tambo Toco. In Greek mythology, the Kouretes (“KOO-ray-tays”) made noise to drown out the crying of a child hidden from his father in one of these places.

ANSWER: **caves** [or **caverns**; prompt on **holes** or **hills**; prompt on **tampu**] (The child was a baby Zeus.)

[10h] Two of the Ayar Brothers, Ayar Uchu and Ayar Auca, experienced this fate while travelling to Cuzco. It’s not instant death, but weasels hunt a type of monster that inflicts this fate and hatches from rooster eggs.

ANSWER: **petrification** [accept equivalents like being **turned to rock** or **stone**] (The other monster is a cockatrice.)

<Mythology>

3. The Hokuzan and Nanzan kingdoms were conquered to establish this kingdom. For 10 points each:

[10h] Name this kingdom founded by Shō Hashi of Chūzan. This kingdom, which built fortresses called “gusuku,” was eventually conquered and absorbed into the Satsuma domain.

ANSWER: **Ryukyu** Kingdom [or **Ruuchuu-kuku**]

[10e] The three kingdoms that were unified to form the Ryukyu Kingdom were named for their locations on this island. This largest Ryukyu island was the site of the last island-hopping battle, which followed one at Iwo Jima.

ANSWER: **Okinawa** Island [or **Okinawa-hontō** or **Okinawa-jima**; accept **Uchinaa** or **Fuchināa**; accept Battle of **Okinawa**]

[10m] The Ryukyu kingdom was annexed because it refused to provide troops for an invasion of this kingdom in the Imjin War. People of this dynastic kingdom ruled by Seonjo (“sun-joh”) were sometimes kidnapped to the Ryukyu Kingdom.

ANSWER: **Joseon** kingdom [or **Chosŏn** kingdom or Great **Joseon** State or Dae-**Joseon** gug; prompt on **Korea** or **Korean Kingdom**; do not accept or prompt on “Korean Empire”]

<World History>

4. Answer the following about the fantastical female French author Rachilde (“rah-SHIELD”), for 10 points each.  
[10h] Rachilde was a Symbolist and a member of this other literary movement that embraced transgression in writing. Joris-Karl Huysmans’s (“wees-MONS’s”) novel *À rebours* (“ah ruh-boor”) exemplifies this movement.

ANSWER: **Decadent** movement [or **décadentisme** or **décadisme**; accept word forms like **Decadence**]

[10m] Rachilde was inspired by this other Decadent author to write a novel about the dominatrix Mary Barbe. In a novel by this author, four libertines hold a giant orgy in a castle.

ANSWER: Marquis de **Sade** (“sahd”) [or Donatien Alphonse **Francois**, Marquis de Sade] (The novel is *The 120 Days of Sodom*.)

[10e] Rachilde’s breakthrough novel, titled “Monsieur [this figure],” was banned in Belgium for pornography. Leopold von Sacher-Masoch, who names the word “masochist,” wrote a novel titled for this Roman goddess of love “in Furs.”

ANSWER: **Venus** [accept *Monsieur **Vénus*** or ***Venus** in Furs*; do not accept or prompt on “Aphrodite”]

<European Literature>

5. During the War of the Spanish Succession, Anna Beek (“bake”) profited from these objects, which are displayed in a huge gallery commissioned by Pope Gregory XIII at the Vatican Museums. For 10 points each:

[10m] Name these objects created by Abraham Cresques’s Majorcan school, which influenced their Dutch creators Willem Blaeu (“BLUH-oo”), Hessel Gerritsz, Gemma Frisius, and Abraham Ortelius. Martin Waldseemüller made a universal one.

ANSWER: **maps** [accept **cartography**; accept **globes** or **atlases** or **sea charts** or **nautical charts** or **portolans** or **planispheres**; accept **map** projections; accept Waldseemüller **map**; accept *Theatrum **Orbis Terrarum***; accept Gallery of **Maps** or Galleria delle **carte** geografiche; prompt on **charts** or **chartēs** or **graphs** or **surveys**]

[10e] This University of Leuven scholar, who created a 1569 world map, led the “golden age of Netherlandish cartography.” This engraver, who coined the term “atlas,” names a widely-used but controversial map “projection.”

ANSWER: Gerardus **Mercator** [accept **Mercator** projection]

[10h] Like Mercator, this cartographer depicted a giant Southern Continent in his 1513 world map on gazelle-skin parchment. Pseudohistorians claim that this Ottoman admiral knew about ancient exploration of Antarctica.

ANSWER: **Pirî** Reis [or Ahmed Muhiddin **Piri**; or Hacı Ahmet Muhittin **Pirî** Bey; prompt on **Reis** or **Bey**]

<European History>

6. Answer the following about countries that changed their flags in response to similar flags, for 10 points each.

[10h] This country added a crown to its flag after attending the 1936 Olympics and discovering that its flag had been identical to Haiti’s civil flag, as both were blue and red horizontal bands.

ANSWER: **Liechtenstein** [or Principality of **Liechtenstein** or Fürstentum **Liechtenstein**]

[10m] This African country planned to adopt a red, yellow, and green flag before changing the green to blue because of similarity concerns, only for their new flag to look like Romania’s. This country was formerly led by Idriss Déby.

ANSWER: **Chad** [or Republic of **Chad** or République du **Tchad** or Jumhūriyyat **Tšād**]

[10e] A referendum to change this country’s flag, which had been criticized for being too similar to nearby Australia’s, drew many submissions involving the silver fern and the kiwi bird.

ANSWER: **New Zealand** [or **Aotearoa**; accept **NZ**]

<CE/Geo/Other/Pop Culture>

7. The use of this method is inappropriate when the “parallel trends” assumption is violated. For 10 points each:  
[10h] Name this econometric method which compares the change in the dependent variable in two groups, one of which received the treatment and one of which did not, in an attempt to remove selection bias.

ANSWER: **difference-in-differences** [accept **DiD** or **diff-in-diff** or **diff-diff**]

[10e] In a 1994 paper, David Card and Alan Krueger used difference-in-differences to investigate whether increasing this quantity increases unemployment. Economics textbooks often describe this quantity as a price floor in the labor market.

ANSWER: **minimum wage** [do not accept or prompt on “wage”]

[10m] Another major econometric method is a “discontinuity design” based on this technique, which compares outcomes just above and below some cutoff. In 2SLS (“2-S-L-S”), this technique is used to generate predicted values during the “first stage.”

ANSWER: **regression** [accept two-stage least-squares **regression** or linear **regression** or nonlinear **regression** or multiple **regression** or **regression** discontinuity design; prompt on **RDD**]

<Social Science>

8. Tetramethylsilane, or TMS, defines a chemical shift of zero parts per million in this technique. For 10 points each:  
[10e] Name this form of spectroscopy that applies an external magnetic field to sample compounds, often to determine their structure or properties.

ANSWER: **NMR** spectroscopy [or **nuclear magnetic resonance** spectroscopy; accept “spec” in place of spectroscopy; prompt on **MRI** or **magnetic resonance imaging** by asking “what more general chemistry technique is that based on?”]

[10h] The constants symbolized T-one and T-two characterize the time for this process in NMR, which comes in spin-spin and spin-lattice forms.

ANSWER: **relaxation** time

[10m] Deshielding in NMR may be caused by this effect, in which an electronegative group pulls charge through connecting bonds. Even in the absence of resonance, this effect can lower the  $pK_a$  (“P-K-A”) of a carboxylic acid.

ANSWER: **inductive** effect [or **induction**]

<Chemistry>

9. Answer the following about widows in African literature, for 10 points each.

[10h] The widow Ramatoulaye writes about her dead husband Modou in an epistolary novel by this Senegalese author, who wrote about the breakdown of a cross-cultural marriage in *Scarlet Song*.

ANSWER: Mariama **Bâ**

[10e] The widow Helen works on a sculpture garden in this author’s play *The Road to Mecca*. Morris’s letters to a white girl anger Zachariah in *Blood Knot*, a play by this South African author of “*Master Harold*” ...and the Boys.

ANSWER: Athol **Fugard** [or Harold Athol Lannigan **Fugard**]

[10m] The widow Hosna kills Wad Rayyes in Tayeb Salih’s novel *Season of Migration to the North*, which is a deliberate inversion of this other novel. Chinua Achebe’s essay “An Image of Africa” attacks this novel as racist.

ANSWER: **Heart of Darkness** (by Joseph Conrad)

<World Literature>

10. Hubert Parry's anthem *I Was Glad*, which was written for these events, contains an interlude where the Scholars of Westminster sing "Vivat Rex" or "Vivat Regina." For 10 points each:

[10e] Name these events that customarily include singing the anthem *Zadok the Priest*. In 1953, Healey Willan wrote *O Lord our Governour* for the most recent of these events, which traditionally occur at Westminster Abbey.

ANSWER: **coronations** of British monarchs [accept **coronation** of Queen Elizabeth II; accept **crowning** in place of "coronation"; accept English or British king or queen instead of "monarch"]

[10m] Queen Victoria's coronation in 1837 was the only time this choral piece has been used at a British coronation. This piece, which closes Part II of the larger work it appears in, contains the melody "long D, low A, B, A."

ANSWER: "**Hallelujah**" chorus [prompt on *Messiah* by George Frideric Handel]

[10h] British coronations typically include the singing of this Latin hymn that is closely associated with Pentecost. Gustav Mahler included a setting of this hymn as the first part of his *Symphony of a Thousand*.

ANSWER: "**Veni Creator Spiritus**" [accept "**Come, Creator Spirit**"]

<Classical Music>

11. An incident in which the veteran Max Westphal lifted his remaining arm at a 1920 demonstration may have inspired this artist's poster *Never Again War!* For 10 points each:

[10h] Name this German artist, the first woman to be elected to the Prussian Academy of Arts. Her series of etchings and lithographs depicting the effects of war include *The Weavers* and *The Peasant War*.

ANSWER: Käthe **Kollwitz**

[10e] Kollwitz's sculpture *Mother with her Dead Son* reflects her depression after her son Peter died in this war.

Kollwitz's friend Otto Dix depicted his experiences in this war in his 1923 painting *The Trench*.

ANSWER: **World War I** [or **WWI** or the **First World War** or the **Great War**]

[10m] The aftermath of World War I informed Otto Dix's *The War* and Max Beckmann's *Departure*, both artworks in this form. World War II may have inspired a Francis Bacon work in this form showing "figures at the base of a Crucifixion."

ANSWER: **triptychs** [prompt on **polyptychs**]

<Painting/Sculpture>

12. Katherine Philips's poem "Friendship in Emblem" uses the image of "Compasses that stand above," a metaphorical conceit taken from this poem, which asks "So let us melt, and make no noise." For 10 points each:

[10m] Name this poem published in 1633 that states, "If they be two, they are two so / As stiff twin compasses are two." This metaphysical poem concludes, "Thy firmness makes my circle just, / And makes me end where I begun."

ANSWER: "A **Valediction: Forbidding Mourning**"

[10e] "A Valediction: Forbidding Mourning" is by this metaphysical poet, who included "Death Be Not Proud" in his collection *Holy Sonnets*.

ANSWER: John **Donne**

[10h] Philips's poem "Friendship's Mysterys" alludes to this other Donne poem, whose line "a well-wrought urn becomes / The greatest ashes" provides the title for an essay collection by Cleanth Brooks.

ANSWER: "The **Canonization**"

<British Literature>

13. The Irish theologian John Punch was the actual coiner of a phrase attributed to this philosopher that is usually stated as “entities should not be multiplied beyond necessity.” For 10 points each:

[10e] Name this medieval philosopher who wrote during the 14th century. This man’s namesake philosophical “razor” argues that simpler explanations are usually more correct than complicated ones.

ANSWER: William of **Ockham** (“OCK-um”) [or **Occam**; accept **Ockham**’s razor]

[10h] As a nominalist, Ockham held that these entities, which represent qualities exemplified by different things, do not exist in reality. Boethius introduced the “problem” of these entities to medieval thought.

ANSWER: **universals** [accept the problem of **universals**]

[10m] Ockham was a leading thinker of this philosophical movement popular in medieval universities, which emphasized textual analysis. Saint Anselm is considered the “father” of this movement.

ANSWER: **scholasticism** [accept word forms like the **scholastic** movement]

<Philosophy>

14. Holonomic constraints depend only on time and these quantities. For 10 points each:

[10h] Name these quantities that define points in configuration space. Partial derivatives with respect to these quantities are related to total time derivatives by the Euler–Lagrange equations.

ANSWER: **generalized coordinates** [prompt on **coordinates** or **position**]

[10e] Rotationally symmetric systems will often use this quantity as a generalized coordinate to express the Lagrangian. This quantity is measured in radians.

ANSWER: **angle** [accept **angular** displacement or **angular** position]

[10m] If the Lagrangian does not depend on a given generalized coordinate, then there must be one of this type of quantity associated with that coordinate as a result of Noether’s theorem.

ANSWER: **conserved** quantities [accept **constants** or **integrals** of motion; accept **conservation** laws or more specific answers such as **conservation** of generalized momentum]

<Physics>

15. Bernardo de Gálvez led a revolutionary-era Spanish campaign to conquer a British colony on this body of water, whose “forgotten story” is told in Mike Bunn’s *Fourteenth Colony*. For 10 points each:

[10e] Name this large body of water settled by Canarian Isleños and Filipino “Manilamen” near Bayou Saint Malo. The pirate Jean Lafitte raided Barataria Bay in this marine basin, where Spain built the Cabildo of New Orleans.

ANSWER: **Gulf of Mexico** [or **Golfo de México**; accept **Gulf Coast** campaign; accept Lake **Pontchartrain** or Lake **Borgne** or Lake **Salvador** or **Chandeleur** Sound]

[10m] A thin strip of the Gulf Coast lay south of these disputed riverine lands named for a Tunica-speaking people. *Fletcher v. Peck* upheld the contracts that fraudulently sold these Mississippi and Alabama land tracts in the 1790s.

ANSWER: **Yazoo** lands [accept **Yazoo** people or **Yazoo** River; accept **Yazoo** land fraud or **Yazoo** land scandal]

[10h] During the Yazoo land fraud, the “Baron de Bastrop” sold Ouachita River lands, where one of these places became the first federal reservation and later a tiny national park. This type of place attracted settlers to Saratoga.

ANSWER: hot **springs** [or warm **springs**; accept mineral **spas** or **bathing** or **baths** or **Bathhouse Row** or **mineral water** or **crazy water** or **hydrotherapy** or similar; accept Hot **Springs**, Arkansas or Hot **Springs** National Park; accept Saratoga **Springs**; prompt on **water** or similar; prompt on **sanitarium** or health **resorts**]

<American History>

16. Answer the following about recent trends in African fashion, for 10 points each.

[10m] At the 2018 New York Fashion Week, Ashley Alexis Macfarlane debuted Omi Woods’s new range of these colorful West African pullover garments, which were often worn by members of the Black Arts Movement.

ANSWER: **dashikis**

[10h] Along with a smaller western neighbor, this country is home to a “society of ambience makers and elegant people” called La Sape, in which people dress up as dandies. A leader of this country popularized a long-sleeved jacket called an abacost.

ANSWER: **Democratic Republic of the Congo** [or **DRC** or **Congo-Kinshasa** or **République démocratique du Congo** or **RDC**; accept **Zaire**; prompt on **Congo**; do not accept or prompt on “Republic of the Congo”]

[10e] Founded in 2014, the Johannesburg-based firm Simon and Mary creates a line of these hats termed “military.” These red, cylindrical hats, which often have a black tassel on the top, are named for a Moroccan city.

ANSWER: **fez** [or **tarboosh**]

<Other Arts>

17. Samuel Noah Kramer wrote that “History Begins” with this culture, crediting it with the first laments, lullabies, legal precedent, juvenile delinquents, farmer’s almanac, and aquarium. For 10 points each:

[10m] Name this culture that settled Shuruppak, Eshnunna, and Nippur by the Early Dynastic period after the Ubaid period. This culture, which spoke a language isolate, had a “Renaissance” under Shulgi’s Third Dynasty.

ANSWER: **Sumerians** [accept *History Begins at Sumer*; accept **Sumerian** Renaissance or Neo-**Sumerian** Empire; prompt on **Fertile Crescent** or **Mesopotamians** or **Bilād ar-Rāfidayn** or **Ārām-Nahrīn** or **Bēt Nahrīn**; prompt on **Ur III** by asking “what culture founded Ur?”; do not accept or prompt on “Babylonians” or “Akkadians” or “Assyrians”]

[10h] This Sumerian city, which the ancients considered the world’s oldest, contained Enki’s cult center, the E-Abzu or “House of Deep Waters.” Silt accumulated in the Persian Gulf south of this city, where Amar-Sin built a ziggurat.

ANSWER: **Eridu** [or **Irītu**; accept Tell **Abu Shahrain**; accept **Eridu** Genesis] (Eridu was once located on the sea, but the silt eventually shifted it over 100 miles inland.)

[10e] The “Eridu Genesis” and *Sumerian King List* record the creation of Eridu, Sippar, and the other oldest cities before this event. This likely-ahistorical event appears in the ancient myths of Atra-Hasis, Utnapishtim, and Noah.

ANSWER: **flood** [or **deluge** or **inundation** or equivalents; accept **flood** myth or Great **Flood**; prompt on **rain** or **storms**]

<Other History>

18. In an essay titled “Memoranda on [these objects]” the author argues that using these objects in theatre allows for the playwright to “express those profound hidden conflicts of the mind.” For 10 points each:

[10e] Name these objects worn by the actors in the play *The Great God Brown* in order to dramatize the divided consciousness of their characters. Theatre is often symbolized by two of these objects with exaggerated expressions.

ANSWER: **masks** [accept “Memoranda on **Masks**”]

[10m] This author wrote “Memoranda on Masks” and the expressionist play *The Great God Brown*. Yank, who is called a “filthy beast,” is a ship worker who undergoes mental deterioration in this author’s play *The Hairy Ape*.

ANSWER: Eugene **O’Neill** [or Eugene Gladstone **O’Neill**]

[10h] In this expressionist play by Elmer Rice, Mr. Zero is called a “slave to a contraception of steel and iron” while he operates the title object in Elysian Fields.

ANSWER: *The **Adding Machine***

<American Literature>

19. The orientations of the boundary and normal vectors in this theorem follow the right-hand rule. For 10 points each:

[10m] Name this vector calculus theorem, of which Green's theorem is a special case. This theorem relates the surface integral of the curl of a vector field to its line integral around the boundary.

ANSWER: **Stokes'** theorem [or the Kelvin-**Stokes** theorem]

[10e] Green's theorem is equivalent to Stokes' theorem when the surface is restricted to one of these structures. The set of points where z equals zero defines one of these two-dimensional structures labelled "xy."

ANSWER: **plane** [accept xy-**plane**]

[10h] Élie Cartan generalized Stokes' theorem to the integrals of these constructs over the boundary of a manifold. The exterior derivative acts on one of these constructs and yields another with degree that is one higher.

ANSWER: **differential forms** [accept **k-form** or any other letter in place of "k"; prompt on **forms**]

<Other Science>

20. The Virgin Mary supposedly landed in this place after she was blown off course while sailing across the Mediterranean. For 10 points each:

[10h] Name this location that contains twenty monasteries which date back over twelve centuries. This place includes the monasteries of Saint Panteleimon and Great Lavra.

ANSWER: Mount **Athos** [or **Agion Oros**; accept the **Athonite State**]

[10e] Mount Athos is notable for its prohibition on the entry of these people, except for the Virgin Mary. That restriction on these people was intended to protect the chastity of the monks.

ANSWER: **women** [accept **girls** or **female** people or equivalents]

[10m] In 1913, the Russian military invaded Mount Athos in a dispute over *imiaslavie*, the position that this concept is the same as God. This concept is called "hallowed" in the Lord's Prayer.

ANSWER: **name** of God [accept thy **name**; prompt on **God** or **YHWH** or **Yahweh** or **Jehovah**]

<Religion>

21. An affair in this novel produces the perpetually sick Baby, who wants to eat a roast lizard before she learns that doing so will make ants crawl around inside her. For 10 points each:

[10h] Name this novel that depicts rebels like Major Madu and the poet Okeoma. In this novel, Ugwu receives an education and learns to make jollof rice after he becomes the houseboy of the revolutionary intellectual Odenigbo.

ANSWER: ***Half of a Yellow Sun***

[10m] *Half of a Yellow Sun* was written by this Nigerian author, who described growing up with mainly stories about British children in a TED Talk about "The Danger of a Single Story." She also wrote *We Should All Be Feminists*.

ANSWER: Chimamanda Ngozi **Adichie**

[10e] Adichie's former mentee Akwaeke Emezi criticized her brand of feminism for omitting these people. Adichie also defended J. K. Rowling, who has been called an "exclusionary radical feminist" for her views on these people.

ANSWER: **trans** women [or **transgender** women or **transgender** people; prompt on **LGBTQ** or **queer** or **nonbinary**; prompt on **women** or equivalents] (Rowling has been called a trans-exclusionary radical feminist, or TERF.)

<World Literature>