Fall Open 2019
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Tossups

Note to players: two answers required
1. **Xavier Gabaix ("gah-BAY") used a "myopia parameter" to find a unique equilibrium where lowering one of these *two* quantities raises the other in the short-run but lowers it in the long-run in a "Behavior New Keynesian Model." A policy rule of thumb relates one of these *two* quantities to a GDP "output gap" and the actual and target levels of the other. "Neo-Fisherism" is the idea that, contrary to received wisdom, raising one of these two quantities *lowers* the other. Per the (*)** Taylor Principle, a unit change in of these *two* quantities leads central banks to induce a larger change in the other. One of these quantities is related to the "nominal" and "real" types of the other by the Fisher Equation. Low levels of one of these *two* quantities incentivize investment over saving, while high levels of the other create "shoe leather costs" and lower purchasing power. For 10 points, name these two quantities, which are, respectively, the prices paid for loans and increases in general price levels.
ANSWER: **interest** rates and **inflation** [accept **real interest** rate or **nominal interest** rate for "interest rate" until BOTH are mentioned; accept any more specific types of interest rates like the **federal funds** rate; prompt on an answer like the zero lower bound for "interest" with "zero lower bound of what?"]
<JG, Economics>

2. **In the Bennett-Chandler approach to TPS, this quantity is equal to the time derivative of the correlation function. Kramers used the Langevin ("lahn-zhuh-VAN") equation to derive this quantity's dependence on solvent viscosity and the frequency of the reactant barrier. This quantity equals a factor of "*k*-sub-*B* times *T* over *h*" times the transition state partition function over the product of reactant partition functions. The shape of concentration profiles depends on the Damköhler number, which can be written as the product of this quantity, residence time, and initial concentration. If there are no barrier recrossings, the (*)** transmission coefficient is always one in an expression for this quantity. In collision theory, this quantity can be written as a product of three terms: cross section, relative velocity and a Boltzmann factor. This quantity has units of inverse seconds for a first order reaction. For 10 points, what quantity is proportional to "*e* to the negative-*E*-sub-*a* over *RT*" by the Arrhenius equation?
ANSWER: reaction **rate constant** [prompt on k; do NOT accept or prompt on "reaction rate"]
<JS, Chemistry>

3. **A folk song from this *modern-day* country was the subject of a set of five variations for wind band written by John Barnes Chance. One of Olivier Messiaen's ("mess-YAN's") leading interpreters is a conductor from this country, who spent his youth in a piano trio with his two elder sisters. A woman composer from this country wrote the 2007 opera *Alice in Wonderland*. A pianist from this country won the most recent iteration of the International (*)** Chopin Piano Competition, which took place in 2015. The folk music of this modern-day country includes a genre performed by a drummer and a singer-narrator, called *pansori* ("PAHN-soh-ree"). A male composer from this country released the 2003 album *From the Yellow Room*, which includes "Kiss the Rain," and the 2001 album *First Love*, which includes "River Flows in You." For 10 points, name this home country of Unsuk Chin, Myung-Whun Chung, and Yiruma.
ANSWER: **South Korea** [or **Republic of Korea**; or **Hanguk**; or **Daehan·minguk**; prompt on Korea]
<KL, Classical Music and Opera>

4. **According to a contemporary account embellishing this polity's military prowess, its warriors lathered their bodies in exotic medicine capable of preventing sword wounds. Thousands of glazed pottery shards were discovered in the 1989 to 1991 excavations of this polity's capital by archaeologist Pierre-Yves Manguin**

("pee-air-EEV mahn-GAN"). This polity's founder was accompanied by 20,000 troops as he embarked on a "sacred journey" to subjugate nearby empires, according to an inscription translated by George Coedès ("say-DESS"). This empire's name appears as Sanfotsi in the *Records of Foreign People,* written by (*) Zhao Rugua. This empire, whose name translates as "shining victory," conquered the kingdom of Pan Pan under the leadership of Dharmasetu. In 1288, the neighboring Singhasari ("SING-guh-SAH-ree") kingdom conquered this empire's capital of Palembang. For 10 points, name this thalassocracy ("thalasso-cracy") which was succeeded by the Majapahit Empire as the dominant kingdom of Sumatra.
ANSWER: **Srivijaya** ("sh'REE-VIJ-uh-yuh") Empire
<INB, Other History>

5. **This noun titles a triptych for the Café Aubette and several "Horizontal-Vertical" textiles by Sophie Taeuber-Arp ("TOY-ber-ARP"). An artist described feeling an "inner vibration" upon hearing this word, and used it to title a series that unusually uses a black background for its tenth and final entry. It's not by Picasso, but a series of progressive abstractions upon a drawing of an animal grazing produced a piece of this title that parenthetically mentions "The Cow." The prefix (*) "Counter-"** was given to a series of diagonal pieces titled for this word by Theo van Doesburg ("DOOS-berk"). The Nazis destroyed the first three entries in a series of this title, which depicts cossacks with lances in its fourth entry. The eighth entry in that series with this title features concentric circles of purple, black, and red in the top left corner and is dominated by diagonal lines and multicolor grids. For 10 points, Wassily Kandinsky considered his abstract series titled for what word more developed than his *Improvisations*?
ANSWER: **composition**s [accept *__compositie__*] (The second and third clue refer to Van Doesburg and Kandinsky, respectively)
<AK, Painting and Sculpture>

6. **A poet with this surname described the dead as "constant in / the white lips of the sea" in a poem which compares their hue to the "cadmium blue" paint used by Paul Cézanne. That poet with this surname claimed that "the unexamined life's no different from / the examined life" in his Pulitzer Prize-winning collection *Black Zodiac.* This is the surname of a poet who wrote of fathers "ashamed to go home" and sons who "grow suicidally beautiful" in a poem set during a football game in his birthplace of (*)** Martin's Ferry, Ohio. A poet with this surname reminisced about a pair of "Indian ponies" in "A Blessing," and described a "bronze butterfly, / asleep on the black trunk" of a tree in a poem that ends by admitting, "I have wasted my life." In addition to poets Charles and James, this is also the surname of a haiku enthusiast who divided a 1940 novel into the sections "Fear," "Flight," and "Fate." For 10 points, give this surname of the author of *Native Son.*
ANSWER: **Wright** [accept Charles **Wright** or James **Wright** or Richard **Wright**]
<INB, Non-epic Poetry>

7. **In an essay that repeats the phrase "I know," a director described this organization as a "clean country within a dirty country." The author of the magazine *Candido* caricatured supporters of this organization as apeish figures with three nostrils. A leader of this organization criticized its "Ordinovist" faction in his Lyons ("lee-YON") Theses. Another leader of this organization died of a stroke while vacationing in Yalta, which was also the site of a memorandum in which he developed the idea of (*)** polycentrism. This organization joined the CLN on the eve of World War II as part of a strategy known as the Salerno turn. In 1991, this party renamed itself as the Democratic Party of the Left. This party pursued a "historic compromise" under the leadership of Enrico Berlinguer ("ber-ling-GWER"), which faltered due to the kidnapping and killing of the leader of the Christian Democrats, Aldo Moro. For 10 points, Palmiro Togliatti ("tol-YAT-tee") was a member of what political party founded by Antonio Gramsci ("GRAM-shee")?
ANSWER: **Italian Communist Party** [or **PCI**; or **Partito Comunista Italiano**]
<AK, European History (Continental)>

8. **Francisco Sanches re-popularized this philosophical position at the tail end of the Renaissance. This position appears in the *subtitle* of a work that notes an "asymmetry" in which "I can live" this position and "I cannot live" it with the image of Othello and Desdemona. *Wittgenstein*, [this position], *Morality and Tragedy* subtitles Stanley Cavell's *The Claim of Reason.* A proponent of this position names a scenario where two sailors fight over a plank. An advocate of this position supposedly needed his friends to keep him from being** (*) **killed by stuff he made no effort to avoid.** Advocates of this position often hit opponents with a set of "modes," like five named for Agrippa. A thinker's version of this position is contrasted with one advocated by Arcesilaus and Carneades, was "outlined" by Sextus Empiricus, and advocated general *epokhē* ("eh-po-KAY"). For 10 points, name this position advocated by Pyrrho of Elis, who proposed "suspending judgment" on all claims.
ANSWER: **skepticism** [accept more specific types like **Academic Skepticism** or **global skepticism**; accept **Pyrrhonian skepticism** until "Pyrrho" is read]
<JG, Philosophy>

9. **Since 1986, a literary festival in this city has ended with an emphatic shouting match. A playwright described "long rainy afternoons" in this city when "an hour isn't just an hour – but a little piece of eternity dropped into your hands." The Broadway premiere of a play set in this city earned Jessica Tandy a Tony for her portrayal of a character originally written for Tallulah Bankhead. An author who grew up in this city borrowed it for the setting of a semi-autobiographical play about Carrie and Anna's incestuous feelings for their brother Julian Berniers, titled** (*) *Toys in the Attic*. A play set in this city expresses its "spirit of life" by interspersing music from a "blue piano." In that play, Allan Grey's widowed wife moves to this city after abandoning her family's Mississippi plantation of Belle Reve. For 10 points, Stanley Kowalski and Blanche DuBois live in which city in Tennessee Williams's play *A Streetcar Named Desire*?
ANSWER: **New Orleans** (Lillian Hellman grew up in New Orleans.)
<NC, Drama>

10. **Mészáros ("MAY-sah-rosh") showed that even when a criterion named for this scientist is exceeded, growth is frozen before the instant of matter-radiation equality. A result named for this scientist implies that the distribution functions of thin disks should only depend on *E* and *L*-sub-*z*. Equilibrium models of galaxies rely on a theorem named for this scientist that says functions of the integrals of motion are solutions to the time-independent collisionless Boltzmann equation. A quantity named for this scientist equals the following: the speed of sound times "root-pi over the product of** (*) **big-*G* and rho."** Gravitational instability causes density fluctuations to grow exponentially when wavelength exceeds a length derived by this scientist. This scientist is the alphabetically-*first* namesake of a law that says radiated power goes as temperature over wavelength to the fourth power. For 10 points, identify this scientist who co-names a formula for blackbody radiation with Lord Rayleigh.
ANSWER: James **Jeans** [accept **Jeans** instability; accept **Jeans** length; accept **Jeans** mass; accept **Jeans**' theorem]
<JS, Physics>

11. **One of these places was attacked by Chaïm ("kah-EEM") Nissim using RPGs provided by the Red Army Faction. The establishment of these places was the main goal of 1974's Messmer Plan. The discovery of impurities in steel components from Le Creusot ("luh croo-SO") led to a widespread inspection of these places. In August 2019, a 730-million euro plan to build one of these places named ASTRID ("astrid") was cancelled. A subsidiary of Areva named Framatome created the EPR, a** (*) **Generation III ("three") design for these facilities** exemplified by one in Flamanville. The potential for a repeat of the 1356 Basel earthquake is frequently used as a rationale to close an aging one of these places in Fessenheim. The defunct Superphénix ("super-fay-NEEKS") was an example of a "fast breeder" one of these places. The EDF manages 58 of these places, including powerful ones at Cattenom ("kat-NON") and Gravelines ("grav-LEEN"). For 10 points, what facilities produce a majority of France's electricity, but are currently being phased out due to the Fukushima disaster?
ANSWER: **nuclear reactor**s [or **nuclear** power **plant**s; prompt on power plants by asking "What kind of energy do they produce?"]

<KS, Geography>

12. **Antigonus I ("the-first") sent three failed expeditions against these people, who politely apologized for killing 4000 of his soldiers. The Namara Inscription is a critical source on these people's writing. A guide named Syllaeus ("sil-LAY-us") was said to have misled Aelius Gallus's expedition against them. A kingdom of these people operated a trade post simply called "The White Village," or Leuke Come ("l'YOO-kay KO-may"), and syncretized Zeus with Dushara. An emperor of this** (*) ethnicity held the Secular Games on the thousandth anniversary of Rome's founding but was overthrown and killed by Decius ("DEE-shuss"). The death of Rabbel II ("the-second") led to Rome expanding its control over these people, whose Sabaean kingdom controlled a significant portion of the ancient spice and incense trades. The "Khazneh" or "Treasury" is a rock-hewn temple built by these people's Nabataean kingdom. For 10 points, name these people, whose territory Romans divided into "Deserta" and "Felix" regions and a region named for Petra.
ANSWER: **Arab**s [accept **Sabaean**s or **Nabataean**s until mentioned]
<JG, European History (Commonwealth, Ancient, Historiography)>

13. **The Altera Cyclone FPGA platform is currently at this version number. Including the test-reset input, the IEEE ("I-triple-E") 1149.1 ("eleven-forty-nine-dot-one") standard for a JTAG ("J-tag") TAP ("tap") has this many signals. Signetics developed a popular multipurpose integrated circuit that is named for this number three times followed by the word "timer." This is the total number of inputs and outputs for a JK flip-flop. A generalization of the y-delta transform is named for the case featuring this many components. Not counting power rails, on each side of the divider this is the standard number of lettered (*) rows of holes of a** breadboard. A multiplexer with 32 inputs will have this many select lines. A breadboard's power rails are either 3.3 or this many volts, since this many volts are outputted in the USB standard. For 10 points, give the resistance in ohms of a circuit with a 10 volt source and 2 amp current.
ANSWER: **five** [or **five** ohms]
<AK, Engineering>

14. **During an archery contest held between a pair of newlyweds in this city, the wife easily shot a silver ring off of her husband's head three times in a row, but her husband accidentally pierced her heart with a poisoned arrow. At a banquet held in this city, a hero disguised as a peasant taunted a monstrous foe for eating an entire roasted swan in a single bite. A hero from this city owned a horse that could clear its walls in a single leap and a whip whose lash restored the horse's energy. During his trip to this city, a once-crippled hero traversed the Black Mire and defeated a bandit whose whistle could level forests. A** (*) legendary ruler of this city was served by Dobrynya Nikitich ("doh-BRIN-yuh nee-KEE-titch"), Ilya Muromets and other *bogatyrs* ("bo-gah-TEERZ"), and shared his name with two of its historical, non-Muscovite "grand princes." For 10 points, Vladimir Fair Sun ruled which city, upon whose "Great Gate" Boleslaw the Brave apocryphally chipped his sword?
ANSWER: **Kiev** [accept **Kyiv**]
<INB, Mythology>

15. **The protagonist of a novel receives some of these objects on loan from a man who tells a story about a bird which "learned to fly without perching" ever since men "learned to shoot without missing." In the lead-up to a celebration centering on these objects, a woman who decorates her stomach with "beautiful black patterns" is severely beaten for cutting the leaves off of a banana tree. The protagonist resolves to "stamp out the disquieting signs of laziness" in his** (*) son as he teaches him how to split these objects. Near the start of the novel, a wealthy man loans 800 of these objects to a young son of Unoka, whose estate later grows to contain a goat shed, three huts for his wives, and a pair of barns filled with these objects. Two teams of teenage wrestlers square off during a festival celebrating the harvest of these objects in Umuofia. For 10 points, what "king of crops" earns Okonkwo much of his wealth in *Things Fall Apart?*
ANSWER: **yam**s

Note to players: description acceptable.

16. **The insurance agent Jack Lee Harelson infamously destroyed one of these places in 2004. Officials ruined many objects taken from one of these places in Trudeau Landing by idiotically storing them in cardboard boxes. Those objects were illicitly taken from one of these places by the ex-prison guard Leonard Charrier. That case and the systematic destruction of one of these places on Kentucky's Slack Farm inspired a law named for them. That law named for these places, (*)** NAGPRA ("NAG-prah"), has led to demands to repatriate the Kennewick Man. On top of environmental and water concerns, the Dakota Access Pipeline was also accused of deliberately destroying these places in Standing Rock. Maria Pearson was called "NAGPRA's Rosa Parks" for protecting these places by demanding that Iowa "give me back my people's bones or quit digging them up." For 10 points, name these unfortunately oft-defiled places which contain the bodies of the ancestors of America's indigenous peoples.

ANSWER: **Native American burial** grounds [accept any answer that describes a **cemetery-like place** or **grave**s used by American **Indian**s; accept answers that give **indigenous American**s until "indigenous" is mentioned; prompt on mounds or plantations with "that also served as what?"; prompt on answers that only give the burial part with "used by whom?"]

17. **In a period that starts on and follows this holiday, pilgrims pour 54 liters of wine on Shimon Bar Yochai's tomb in the *chai rotel* offering. That event in the period after this holiday celebrates the end of a plague that killed 24,000 of Rabbi Akiva's students. North African Jews often make *mofletta* for a meal held after this holiday called the *Mimouna*. This holiday's second day starts a period in which Jews give verbal versions of the "wave offering," that is named for** (*) sheaves of barley, and that ends on Shavuot. The Counting of the Omer begins in this other holiday. On this holiday, Jews often tell a fable that contrasts a "wise son," a "simple son," a "wicked son," and a "son that doesn't know how to ask," and sing a song whose name means "it would have been enough." "Dayenu" is sung on this holiday, in which a child asks "why is this night different from all other nights?" For 10 points, name this holiday, which centers on the *seder*.

ANSWER: **Passover** [or **Pesach**; to be nice, accept **Lag BaOmer** or the Sefirat Ha**Omer** until mentioned]

18. **This musician's final studio album calls for an orchestra of over thirty musicians, including trombonists Urbie Green and J. J. Johnson. A performance by this musician, with saxophone solos by Ben Webster and Lester Young, was part of the 1957 CBS special *The Sound of Jazz*. This musician worked with conductor Ray Ellis on an album that begins with a cover of "I'm a Fool to Want You." Ten days after being released from prison, this musician performed a sold-out concert at Carnegie Hall, but unwittingly stuck a hatpin of (*)** gardenias in her head and passed out. In 1957, this composer of "Fine and Mellow" spent one week recording with Verve Records, and published the output across the three albums *Body and Soul*, *All or Nothing at All*, and *Songs for Distingué* ("diss-tan-GAY") *Lovers*. Her posthumous album *Last Recordings* was released one year after her album *Lady in Satin*. For 10 points, name this raspy jazz vocalist known for songs such as "God Bless the Child" and "Strange Fruit."

ANSWER: Billie **Holiday** [or Eleanora **Fagan**]

19. **DAPK-1 ("dap-K-one") enhances the activity of these proteins by phosphorylating a protein encoded by the *GRIN2B* ("grin-two-B") gene at serine 1303. By lodging between the M3-helix-bundle crossing and the M2-pore loops, dizocilpine ("dizo-SIL-peen") protects these proteins from overactivation. Reelin ("REE-lin") regulates the development of these proteins by increasing the mobility of one of their NR2B subunits. Quinolinic ("quino-linic") acid produces its toxic effect primarily as an activator of these proteins. The**

Alzheimer's medication memantine ("meh-MAN-teen") inactivates these proteins. Depolarization of the postsynaptic cell removes the (*) Mg2+ ("M-G-two-plus") block from these proteins. D-serine and glycine are co-agonists of these proteins permeable to Ca2+ ("C-A-two-plus"). These proteins are important in establishing, but not maintaining, long-term potentiation. These voltage-gated *and* ligand-gated receptors produce slower excitatory postsynaptic potentials than AMPA receptors. For 10 points, name these glutamate receptors activated by *N*-methyl-d-aspartate.
ANSWER: **NMDA receptor**s [or just **NMDA** after "receptors"; accept **NMDAR**s; prompt on <u>glutamate receptors</u>; prompt on <u>receptors</u>]
<JS, Biology>

20. **In a brief metafictional play written in this language, the "fourth passenger" decides to render an "odd encounter" as a "comedy in three acts and in prose." A book written in this language directly inspired the structure of Harry Mathews' masturbation-heavy collection *Singular Pleasures*. A "retrograde" story written in this language begins with the narrator's friend telling him, "You ought to put another button on your overcoat." A book written in this language was considered "as untranslatable as the smell of garlic" by (*)** Barbara Wright, who nevertheless rendered its 99 variations of the same story into English. This language was used to write *Exercises in Style,* as well as a lipogrammatic novel translated by Gilbert Adair that entirely avoids the use of the letter 'e.' *A Void* was written in, for 10 points, what language used by Oulipo ("ooh-lee-PO") writers Raymond Queneau ("kay-NO") and Georges Perec?
ANSWER: **French** [or **Français**]
<INB, Miscellaneous Lit>

Bonuses

1. In a creation myth, Natsilane carves a tree into the shape of this animal, which comes to life and promises never to injure a human. For 10 points each:
[10] Name this apex predator manifested in the Ainu god Repun Kamuy and the Inuit god Aumanil.
ANSWER: killer **whale** [or **orca**; or **blackfish**; or *Orcinus orca*]
[10] Images of whales, thunderbirds, and other brave beasties adorn the tops of these tall cedar structures carved by indigenous people of the Pacific Northwest.
ANSWER: **totem pole**
[10] The folk hero Shewish is a mighty whaler of this Wakashan ethnic group, from which we get the word "potlatch." James Cook mistakenly named these people after their word for "to turn around".
ANSWER: **Nuu-chah-nulth** [or **Nootka**; or **Nuučaan̓uł**; accept **Tseshaht**]
<KL, Mythology>

2. The name of an interval from the music of this archipelago roughly translates to "twin bamboo" and is the basis of an equi-heptatonic scale, according to studies of its music by Daniel Coppet and Hugo Zemp. For 10 points each:
[10] Name this archipelago. Zemp recorded a lullaby sung by an old woman from this archipelago named Afunakwa that was used without permission in the song "Sweet Lullaby" by the French electronica duo Deep Forest.
ANSWER: **Solomon Islands**
[10] Through studying the 'Are'are ("ah-RAY-ah-RAY"), Zemp discovered their classification of instruments was similar to one developed by two scholars working in this country, who later escaped in 1933 due to their Jewish ancestry.
ANSWER: **Germany** [or Federal Republic of **Germany**; or Bundesrepublik **Deutschland**] (that is the widely-used Hornbostel–Sachs classification)
[10] The 'Are'are taught Zemp how to play one of these instruments made of bamboo. The *siku* or *zampoña* is one of these instruments from the Andes that has thirteen holes and can be played by two people at once.
ANSWER: **panpipes** [or **panflute**; prompt on flute]
<AK, World Music>

3. A pre-recorded hologram of this character appears in the Vault after each of his "Crises" are averted. For 10 points each:
[10] Identify this "father of psychohistory." He establishes a colony on Terminus in order to reduce the period of anarchy that follows the collapse of the Galactic Empire.
ANSWER: **Hari Seldon** [accept either name]
[10] Hari Seldon's first two appearances occur during the tenure of Mayor Salvor Hardin in this author's *Foundation* series.
ANSWER: Isaac **Asimov**
[10] In this novel by a different author, Winston Niles Rumfoord materializes in Newport, Rhode Island every 59 days after a chronosynclastic infundibulum ("in-fun-dibulum") converts him into a wave stretched between the Sun and Betelgeuse ("beetle-juice").
ANSWER: The *Sirens of Titan* (by Kurt Vonnegut)
<INB, Long Fiction>

4. Answer the following about elimination reactions, for 10 points each.
[10] Complexes containing this metal formed from Schwartz's reagent rapidly isomerize by undergoing sequences of beta-hydride eliminations and migratory insertions. The solid acid formed from sulfating the hydroxide of this element is used to remove olefins from aromatics.
ANSWER: **zirconium** [or **Zr**]

[10] Alpha-elimination forms these species. These species containing a carbon with two valence electrons can be made persistent by bonding them to a metal with an electron withdrawing group.
ANSWER: **carbene**s [accept persistent **carbene**s; accept Fischer **carbene**s]
[10] In elimination reactions, a molecule loses atoms and forms a new bond of this type. This type of bond formed from the overlap of adjacent p orbitals is found in double bonds but not single bonds.
ANSWER: **pi** bonds
<JS, Chemistry>

5. The archbishop Raymond-Marie Tchidimbo ("chee-deem-BO") was one of the many political prisoners held in this city's Camp Boiro. For 10 points each:
[10] Name this city that was invaded in Operation Green Sea in an action targeting the PAIGC. After his exile from Ghana, Kwame Nkrumah ("ung-KROO-mah") lived in this city.
ANSWER: **Conakry**, Guinea
[10] The targets of Operation Green Sea were Guinea's president, Ahmed Sekou Touré, and this leftist revolutionary who led the PAIGC in fighting for the independence of Guinea-Bissau and Cape Verde.
ANSWER: Amílcar **Cabral** [or Amílcar Lopes da Costa **Cabral**]
[10] The PAIGC was militarily supported by Victor Dreke, an African commander who joined this country's revolution. This country also supported the MPLA in Angola under the leadership of Fidel Castro.
ANSWER: **Cuba** [or Republic of **Cuba**; or República de **Cuba**]
<KS, Other History>

6. These phenomena title a 1967 paper by Hilary Putnam, who argued that their potential multiple realisations cannot be reduced to individual brain states. For 10 points each:
[10] Name these conditions, which functionalists such as D. M. Armstrong argue should be considered in terms of their causal relationships to each other.
ANSWER: **mental states** [or **states of mind**]
[10] Gilbert Ryle's 1949 *The Concept of Mind* begins with a thorough rejection of this rationalist philosopher's mind-body dualism, as espoused in *Meditations on First Philosophy*.
ANSWER: René **Descartes**
[10] Jaegwon ("JAY-gwun") Kim theorises that mental states are higher-order properties with this relationship to lower-order physical states, because changes in mental states require changes in physical states.
ANSWER: **supervenience** [do not accept "superdupervenience"]
<KL, Philosophy>

7. Answer the following about poisonous books, for 10 points each.
[10] A poisoned copy of Aristotle's *Poetics* is discovered during William of Baskerville's investigation of a monastery in this writer's *The Name of the Rose*.
ANSWER: Umberto **Eco**
[10] In 2018, the University of Southern Denmark discovered toxic pigments of this color within three books in their library. One of those pigments of this color is named "Paris" and is partially composed of copper(II) ("copper-two") acetate.
ANSWER: **green** (The other precursor of Paris green is arsenic trioxide.)
[10] Michigan State University maintains a copy of a book by Robert Kedzie that contained hazardous samples of this product that used Scheele's green. Jean-Baptiste Réveillon's ("reh-vay-YON's") factory made this product for Marie Antoinette.
ANSWER: **wallpaper** [prompt on paper]
<KS, General Knowledge>

8. This symphony's second movement, marked "*con alcuna licenza*," begins with a lyrical theme presented by a solo French horn. For 10 points each:
[10] Name this E minor symphony whose opening theme, presented by somber clarinets, is transformed in each movement, and ultimately emerges in the fourth movement in a triumphant E major.
ANSWER: Symphony **No. 5** by Pyotr Ilyich **Tchaikovsky** [or **Tchaikovsky 5** or **Tchaikovsky's Fifth**; or obvious equivalents; prompt on partial answer]
[10] Tchaikovsky's next symphony was also his last, because he died. That symphony shares this emotional title with Beethoven's Piano Sonata No. 8.
ANSWER: *__Pathétique__* [accept *__Grande sonate pathétique__*]
[10] Between Tchaikovsky's Symphonies No. 4 and 5 falls this unnumbered symphony. It was the only multi-movement programmatic piece that he ever wrote.
ANSWER: *__Manfred__* Symphony
<KL, Classical Music and Opera>

9. Answer the following about the reputation of Boston banning controversial literary works, for 10 points each.
[10] The Watch and Ward Society, which held significant influence over censorship in Boston, was founded after a speech by this New York activist. His namesake laws branded texts regarding contraception and other women's health issues as "obscene" and prohibited their distribution.
ANSWER: Anthony **Comstock**
[10] This writer sued the Watch and Ward Society after he was arrested for personally selling copies of his magazine, *The American Mercury*. This "sage of Baltimore" coined the nickname for the Scopes "Monkey Trial."
ANSWER: H. L. **Mencken** [or Henry Louis **Mencken**]
[10] This book by Lillian Smith, about the romance between the white Tracy and the black Nonnie, was banned in Boston and even barred from national mail shipments until the intervention of Eleanor Roosevelt.
ANSWER: *__Strange Fruit__*
<KS, US History>

10. Examples of numbers with this property include *i* and the golden ratio, but not the natural log of two. For 10 points each:
[10] Name this property possessed by numbers that are the roots of non-zero polynomials with rational coefficients. The ring of integers with this property over a number field *K* is denoted *O*-sub-*K*.
ANSWER: **algebraic** [or **algebraic** numbers; accept **algebraic** integers]
[10] The ring *O*-sub-*K* has unique factorization if the number field *K* has a value of one for this quantity. This quantity is the order of the quotient of the group of fractional ideals by the group of principal ideals.
ANSWER: **class number**
[10] The field of rational numbers has a class number of one, meaning every integer can be written in a single way as the product of these numbers. These numbers are divisible only by themselves and one.
ANSWER: **prime**s
<SK, Math>

11. In a poem, this person arrives at a suburb, assumes the guise of "Mr. Hicks," "rides commuter trains," and "serves on various committees." For 10 points each:
[10] Identify this subject of Edward Field's debut poetry collection. This person's empty promises are repeated in the first stanza of a Muriel Rukeyser poem whose twelve lines each begin with the words "He said."
ANSWER: **Icarus** [accept "Waiting For **Icarus**"]
[10] This poet parodied Yeats in a poem that ends as Icarus's "sensible daddy goes straight to town," titled "To a Friend Whose Work Has Come to Triumph." This poet's collections include *Live or Die*.
ANSWER: Anne **Sexton** [or Anne Gray **Harvey**]

[10] This Imagist poet observed a "splash quite unnoticed" in the title Bruegel painting in his poem "Landscape with the Fall of Icarus" He wrote about "delicious" plums, "so sweet / and so cold" in "This Is Just to Say."
ANSWER: William Carlos **Williams**
<INB, Non-epic Poetry>

12. Uh oh, you've been possessed, and there are no Catholic priests around to spritz you with holy water and yell, "the power of Christ compels you!" Answer some questions about some of your other options, for 10 points each:
[10] A nearby mosque might send you someone to perform a *ruqya* ("ROO-k'yuh") by reciting the Throne Verse. They may also blame it on these beings made from "smokeless fire," possessions by which are taken very seriously by Saudi law.
ANSWER: **jinn** [grammatically, jinn are treated like animals, so **jinn** is the collective species-plural and a **jinni** is a singular instance]
[10] A local branch of this country's *Tewahedo* church could send a *debtera* to protect you from evil *buda*, which can also create were-hyenas. A tradition from this country requires its *kahen* priests to spend time as *debteras*.
ANSWER: **Ethiopia** [or Federal Democratic Republic of Ethiopia; accept **Eritrea** or **Djibouti** since "Ethiopian" religious traditions certainly extend there]
[10] Local Chinese or Taiwanese communities might send one of these "youth-diviners" to channel a *shen*, often by beating the crap out of themselves with a studded chain. They often contrast with more restrained *wu* shamans.
ANSWER: **tongji** [or **jitong**]
<JG, Religion>

13. Alfred Jarry dubbed one of these paintings the "brown" version of the other. For 10 points each:
[10] Name *both* of these compositionally similar paintings, painted in 1863 and 1892. The earlier painting depicts a black maidservant standing next to the reclining Victorine Meurent ("muh-RAHN"), while the later painting depicts Tehe'amana sleeping on her stomach.
ANSWER: ***Olympia*** AND ***Spirit of the Dead Watching*** [both answers required; accept ***Manao tupapau*** in place of *Spirit of the Dead Watching*]
[10] This artist painted his fourteen-year-old wife in the *Spirit of the Dead Watching* during his extended stay in Tahiti.
ANSWER: Paul **Gauguin** ("go-GAN") [or Eugène Henri Paul **Gauguin**]
[10] This woman served as the model for the maidservant in Manet's ("MAH-nay's") *Olympia*. Lorraine O'Grady argued that this model's "peripheral" role in *Olympia* left her "outside what can be conceived of as woman."
ANSWER: **Laure** [or **Laura**]
<INB, Painting and Sculpture>

14. A group of conscientious objectors of World War II were subject to this condition in a 24-week University of Minnesota study to produce a textbook on its biology. For 10 points each:
[10] Name this condition that had effects such as increased sensitivity to light and hypochondriasis ("hypo-chondriasis") in a study conducted by Ancel Keys.
ANSWER: **starvation** [accept **malnourishment** or anything relating to **not eating enough**]
[10] Keys's research into starvation revealed many of the same findings as William Gull, the doctor who named this disorder during his treatment of "Miss A." This disorder common in young women is often contrasted with bulimia.
ANSWER: **anorexia** nervosa
[10] Anorexia is highly comorbid ("co-morbid") with this disorder, a subtype of which is often referred to as "bigorexia" ("big-o-rexia") and leads to steroid use. Apps like Facetune are thought to be connected to an increase in the incidence of this disorder, which is linked to very high rates of suicidal ideation.
ANSWER: **body dysmorphic disorder** [accept **BDD** and **body dysmorphia**]
<JM, Psychology>

15. Several relations for isentropic flow feature the following expression: this quantity squared, times one-half of the quantity "gamma minus one." For 10 points each:
[10] Name this quantity that is also squared in the factor used in the Prandtl-Glauert transformation. Choked flow occurs in a de Laval nozzle at the point where this value reaches 1.
ANSWER: **Mach** number
[10] Fluid flow is considered compressible at Mach numbers above 0.3, because it shows significant changes in this quantity. In the expression for the buoyant force, this quantity is multiplied by volume and little-g.
ANSWER: **density**
[10] Outside of the boundary layer of an isentropic flow, the sum of enthalpy and kinetic energy at each point along a single stream is this type of enthalpy. Like similarly named properties, this quantity is subscripted with a zero.
ANSWER: **stagnation** enthalpy
<AK, Physics>

16. One of these groups raised a banner that read "We make butter, not profits" over the Knocklong Creamery, one of the many properties of the Cleeve family that they targeted. For 10 points each:
[10] Name these councils established throughout Ireland in the late 1910s and early 1920s. John Cronin led one of them that took power in Limerick for two weeks and printed its own currency.
ANSWER: Irish **soviet**s
[10] Weeks before the Limerick Soviet's establishment, IRA member Peadar ("PAH-der") O'Donnell led a workers' takeover of one of these places in Monaghan ("MUN-uh-hun"). An infamous one of these places in London was colloquially called "Bedlam."
ANSWER: **asylum**s [or mental **hospital**s]
[10] Most of the Irish soviets formed in this southwestern province of Ireland, which was the main stronghold for anti-Treaty forces in the Irish Civil War.
ANSWER: **Munster**
<KS, European History (Commonwealth, Ancient, Historiography)>

17. Answer some questions about unconventional theatrical stagings, for 10 points each:
[10] *Sleep No More* is a site-specific adaptation of this Shakespeare play that combines its story with the Paisley Witch trials and has scenes like Banquo's murder performed in hour-long loops throughout a converted warehouse.
ANSWER: *Macbeth*
[10] Arthur Miller used the ANTA Washington Square Theater's in-the-round format for this play's inquisitorial staging, which takes place inside the mind of an authorial stand-in contemplating his first wife Maggie's suicide.
ANSWER: *After the Fall*
[10] This Cuban-American playwright's *Fefu and Her Friends* had groups of audience members cycle through four scenes occurring simultaneously. This author of *Mud* was a pioneer of the Off-Off-Broadway movement.
ANSWER: María Irene **Fornés** ("for-NESS")
<JG, Miscellaneous Lit>

18. Activists James and Caroline Ashurst Stansfeld named their child after this person, who attracted followers like Jessie White Mario during his exile in London. For 10 points each:
[10] Name this man who advocated for gender equality, among other things, in his essay "The Duties of Man." During his exile, he attempted to expand his revolutionary movement into the more widespread "Young Europe."
ANSWER: Giuseppe **Mazzini**
[10] While living in Florence, this poet published *Poems before Congress* to express her support for the Risorgimento ("ree-sor-jee-MEN-toh"). She also wrote *Aurora Leigh* and *Sonnets from the Portuguese*.
ANSWER: **E**lizabeth Barrett **Browning** [prompt on Browning]

[10] During Giuseppe Garibaldi's tour of the Americas, he met this Ecuadorian revolutionary heroine, who became known as the "Dame of the Sun" after receiving an award from Peru. Love letters between this woman and her husband were preserved by Daniel Florence O'Leary.
ANSWER: Manuela **Sáenz** [or Doña Manuela **Sáenz** y Aizpuru] (Her husband was Simón Bolívar.)
<KS, European History (Continental)>

19. Reagents for attaching this polymer to drugs are classified into monofunctional, homobifunctional, and heterobifunctional types. For 10 points each:
[10] Name this polymer that is often attached to drugs to mask them from the immune system. For example, this polymer is attached to interferon alpha in drugs used to treat hepatitis C.
ANSWER: **PEG** [or **polyethylene glycol**; or **macrogol**]
[10] In drug delivery, PEG is often used to coat liposomes, which are artificial examples of these small bubble like structures that transport molecules throughout the cell.
ANSWER: **vesicle**s
[10] An important quantity in drug delivery is the ratio of LD50 ("L-D-fifty") to ED50 ("E-D-fifty"), which is known by this term. A similarly named "window" is the range of safe dosages for treatment.
ANSWER: **therapeutic** index [or **therapeutic** ratio]
<AK, Biology>

20. This story's epigraph appends a quote from Tennyson's "In Memoriam" describing life as being "as futile, then, as frail!" to its author's question, "Is this the end?" For 10 points each:
[10] Name this story subtitled for the "korl statue" crafted by the puddler Hugh. At its start, the narrator admits that he can't explain why he chose the "half-forgotten story of Hugh" over the "myriad of these furnace-hands."
ANSWER: "**Life in the Iron Mills**; Or, The Korl Woman"
[10] Rebecca Harding Davis drew attention to the "virtual slavery" of immigrant laborers with her story "Life in the Iron Mills," which appeared in this publication. It also published Julia Ward Howe's "The Battle Hymn of the Republic."
ANSWER: The ***Atlantic** Monthly* [or The ***Atlantic***]
[10] This author was so moved by "Life in the Iron Mills" that he invited Davis to his Concord home to help propel her literary career. Herman Melville dedicated *Moby-Dick* to this author of *Mosses from an Old Manse*.
ANSWER: Nathaniel **Hawthorne**
<INB, Short Fiction>